

# FINAL REPORT

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# MOST

**MOBILITY MANAGEMENT STRATEGIES FOR THE NEXT DECADES**

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## **ANNEXES (IN SEPARATE DOCUMENTS)**

- Annex I:** Complete Report on Implementation and Evaluation Results of all MOST Partners
- Annex II:** Complete Report on Implementation and Evaluation Results: Cross-Cluster Comparisons of Partners and Conclusions
- Annex III:** Full Report on the Framework for Mobility Management - European Level
- Annex IV:** Full Country Reports on Framework conditions for Mobility Management on a National Level
- Annex V:** Overview on Accession Countries' assessment of the Applicability of MOST conclusions and recommendations
- Annex VI:** Questionnaire Total Quality in Mobility Management

This report has been written by members of the Management Committee (AMOR, CH2MHill, ILS, ISB-RWTH Aachen, LV, UoW). Major Contributions stem from the Scientific Board of MOST (ESTC), NEA and partners in Work Package 2 (ACCESS, CDV Brno, CERTU). The basis for big parts of the report have been individual reports by all research and demonstration sites.

The individual authors and their contact details can be found in chapter 8 of this report.



**Mobility Management Strategies for the next Decades**

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# 1 Executive Summary

MOST stands for "Mobility Management Strategies for the Next Decades" and was a research and demonstration project funded by the European Commission, DG Energy and Transport (TREN), under the 5th Framework Programme. MOST was operational between January 2000 and December 2002.

MOST aimed to further develop and to spread the concept of Mobility Management in several ways:

- Consolidating the know-how developed in previous national and EU-projects like MOMENTUM, MOSAIC, INPHORMM,<sup>1</sup>
- Analysing existing Mobility Management strategies, especially on their impacts,
- Developing innovative Mobility Management strategies, especially in new fields,
- Initiating Mobility Management in regions of Europe where it is not so well established,
- Developing and applying a European monitoring and evaluation strategy that enabled comparisons of all MOST research and demonstration sites and allowed to draw general conclusions,
- Analysing framework conditions to Mobility Management and, on this basis, formulating policy and implementation strategies and scenarios,
- Producing a framework and recommendations for the design and implementation of future Mobility Management applications,
- Spreading the concept of Mobility Management through sophisticated dissemination, training and exploitation strategies, and by using synergies with ECOMM and EPOMM.<sup>2</sup>

<sup>1</sup> **MOMENTUM**, "Mobility Management for the Urban Environment", the forerunner project to MOST (1996-1998, Transport RTD programme within 4<sup>th</sup> framework programme of the European commission). Within the framework of this EU-project a survey of the present state of mobility management strategies in Europe was conducted. Second main focus of the project was the implementation of demonstration projects (mobility centres, company mobility plans) at 12 different sites. As a third step, preparation measures for brochures and conferences were initiated. Together with MOSAIC, a manual on Mobility Management was published.

**MOSAIC**, "Mobility Strategy Applications In the Community" (1996-1998, Transport RTD programme within 4th framework programme of the European commission). Like MOMENTUM, MOSAIC was a forerunner project to MOST. It created a common conceptual understanding of Mobility Management strategies and tested it at demonstration sites. Together with MOMENTUM, a manual on Mobility Management was published.

**INPHORMM**, "INformation and Publicity Helping the Objective of Reducing Motorised Mobility" (1996-1999, Transport RTD programme within 4th framework programme of the European commission). This research project investigated how transport information and publicity/marketing campaigns can influence people's awareness, attitudes and travel behaviour and encourage cycling, walking, the use of public transport and other environmental friendly modes.

<sup>2</sup> **ECOMM**, "European Conference on Mobility Management". Yearly conference by EPOMM to promote Mobility Management.

**EPOMM**, "European Platform on Mobility Management". The platform to promote Mobility Management, kicked-off in 1999 by 7 member states with financial contribution by the European Commission, DG TREN.



Unlike previous research and demonstration projects, MOST has advanced beyond looking at traditional thematic fields and target groups for Mobility Management (e.g. education and employees) and has applied Mobility Management strategies to *new* thematic fields and target groups. New fields were for example tourism, temporary sites and site development. New target groups were for example the unemployed, disabled people and local residents. The demonstration sites have shown that Mobility Management can help increase the quality of mobility related services on offer, can change attitudes and can influence modal choice towards sustainable alternatives.

This final report describes the work conducted in MOST and summarises the major findings of three years of research and demonstration in one comprehensive document.

### ***Mobility Management - the conceptual framework for MOST***

In **chapter 2** an overview of MOST, its demonstration sites and its structure is given, including a definition of the common concept of Mobility Management (from the EPOMM<sup>3</sup> website:

**Mobility Management is primarily a demand-oriented approach to promote and enhance sustainable mobility. Its aim is to support and encourage a change of attitude and behaviour towards sustainable modes of transport. It involves new partnerships and a set of tools, which are usually based on information, communication, motivation, organisation and coordination, and require promotion.**

The demonstration sites of MOST were grouped into six thematic fields:

- educational institutions (schools, universities),
- tourism (rural areas or cities),
- health institutions (hospitals, centres for outpatients or disabled persons),
- site development (new or restructured sites like leisure or business parks),
- temporary sites / events (cultural and sports events, construction sites),
- mobility centres and mobility consulting (for companies, cities or whole regions).

Mobility Management strategies have been developed, implemented, measured and tested by the over thirty demonstration sites within MOST (see Appendix in this report for a table overview of each site). The sites differed in the scope of their local projects and, hence, their roles in MOST. Roughly, they can be attributed to three groups: demonstrators (the largest projects), case studies, information providers (very small parts in MOST).

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<sup>3</sup> See [www.epomm.org](http://www.epomm.org)



### ***The methodological background of MOST***

The methodologies used in MOST are described in **chapter 3**. The approach was two-fold: for **impact** assessment data were collected to assess changes in mobility awareness and behaviour. Second point was the investigation of the **process** of the implementation of Mobility Management.

A Monitoring and Evaluation Toolkit, the MOST MET, was developed to ensure comparability of results and to guide the demonstration sites with their monitoring and evaluation strategies. The impact assessment was undertaken monitoring five distinct categories of impacts:

- changes with respect to **knowledge** of implemented Mobility Management services and instruments,
- changes with respect to **usage** of these services and instruments,
- changes with respect to **acceptance and satisfaction** with the implemented services and instruments,
- changes with respect to the **mobility behaviour** of individuals,
- changes on a broader **systems level** (e.g. reduction of congestion, environmental impacts).

The implementation process was investigated by using an adapted total quality management tool that was developed by MOST. This helped to achieve an understanding of barriers and supportive factors for Mobility Management and helped to better interpret the results of the impact assessment. The tool served to investigate: leadership and project coordination, project design and strategy, human resources management, partnerships and financial resources, processes and implementation.

### ***The MOST demonstration sites***

**Chapter 4** gives an overview of each MOST partner with respect to implementation and results. The tables in the **Appendix** (part of this report) serve as an even quicker reference. The main results of each site can be summarised as follows:

**Educational Institutions** (see section 4.1): Limburg (BE) and Surrey (UK) showed that promotion of cycling and walking services for school children works well, under the condition, that safety concerns of parents are taken into account (e.g. by organising walking or bike pools). Car free action days or weeks motivate pupils and parents in a playful way to reconsider their mobility behaviour (in Surrey, 30 % changed their travel behaviour) and are very popular among parents (75 % participation). During car free action weeks in Limburg a doubling of the amount of pupils using bicycles could be achieved. Longer-term experiences show a reduction in car usage between 6 and 16 %, but sometimes reach up to 42 %. In Barcelona, 50 % of the university students appreciate the usage of the internet for mobility advice.

**Tourism** (see section 4.2): Visitors can be motivated into using modes of transport other than the private car, when good advance information and coordination of modes for the leisure trips is provided (e.g. in Zug (CH), where only 14-23 % of the visitors came by car). Malaga (Spain) and even the rather remote Sintra (Portugal) demonstrated that new public transport services for tourists work well: dedicated tourist bus lines (with improved facilities for easy intermodal change) attract rising numbers of customers (6000 tourist bus passengers monthly for a new bus line in



Malaga, 10% increase in the usage of a shuttle bus in Sintra). Approaching tourists before they arrive in a city or town is extremely difficult, consequently tourists must be provided with information by many different channels which requires the involvement of tourist offices and hotels. Specific smart cards for public transport hold a high potential (increase from 4.000 to 140.000 in usage within a year in Malaga).

**Health Institutions** (see section 4.3): A lesson learned from Sandwell (UK), Namur (BE) and Graz (A) is that designing and applying Mobility Management services require qualified and motivated staff, good internal and external coordination (stakeholders). Discounted public transport passes for hospital employees in Sandwell helped to increase the share of public transport by 14 %. There was a huge potential for electric scooter use (after a free test month, 38 % purchased a scooter). A full time mobility co-ordinator works as well as a working group of enthusiastic dedicated individuals. Navarra (Spain) and Sarajevo showed how barriers to transportation for disabled persons can be removed (e.g. adaptation of 35 % of the buses in Navarra), but there is still a lot more to do to make them autonomously mobile.

**Site Development** (see section 4.4): New sites which attract visitors can manage to substitute car based trips by PT or even walking and bicycling. At Karlstad university (Sweden) cycle usage increased slightly from 41 to 43 % among and from 5 to 7 % among students. The business park in Malaga could report a reduction in car usage by 15 %, with a heavy increase in the usage of the improved bus services (from 5.000 to 45.000 monthly bus passengers within 4 months). Interest in car pooling is high (48 %) and is expected to lead to a further mode shift from solo car usage. In Weissenburg (D), car-free residential areas benefit from car-sharing offers to the residents: only 9% of the residents used car sharing before they moved into the new site compared to 30 % afterwards. 19 % of households gave up their car after moving, 90 % of these are families with children.

**Temporary Sites and Events** (see section 4.5): Temporary events can act to stimulate the introduction of long-lasting services. In Porto (Portugal), a growing proportion of the tourists seeking information at the tourism office also utilise the mobility advice offered (from 11 to 15 % of those entering the tourism office within 3 months). In Rome, three of the eight new pilgrims bus lines (originally only for the holy year 2000) were so well accepted that they are still in operation to serve regular tourists, inhabitants and commuters. Good promotion and a single ticket led to an increase from 39.000 to 360.000 monthly passengers. In Leipzig, in-advance information and a mobility centre directly on site during construction work on tramlines successfully helps to keep complaints of passengers at a normal level and to cope with information requests 3 times as high as usually. In Rotterdam, good coordination of public transport, shuttles, access restrictions and combined tickets reduced car usage by 38 % on the day of the Rotterdam marathon with an increase in public transport usage of 60% compared to a normal day.

**Mobility Centres and Consulting** (see section 4.6): Lund (Sweden) showed that comprehensive city-wide mobility management plans can create a sustainable-mobility-friendly atmosphere. 9 % of the inhabitants replaced car trips by more sustainable modes, resulting in a 1% reduction of car km per year compared to an increase of 1-2 % in former years. The ten exemplary Health Bikers who decided not to use their cars, reduced the distances they travelled by car by 5.600 km within one year, and 56 % continued biking after 12 months. A fitness test showed an



improvement of 10 % in condition. Rome uses synergies to coordinate mobility services for a large number of companies. In Nottingham, mobility services for a new target group, the unemployed, have been explored successfully. The satisfaction with the combined job and mobility consultancy was almost 100 % and 35% of the users indicated that taking PT was the prerequisite for them to get to a job interview on time. Prague conceptualised the first mobility centre in an accession country - based on the experiences of other mobility centres involved in MOST (Bologna, Graz, Münster, Wuppertal). These mobility centres reported an average of 30% for public knowledge of mobility centres and continuously rising customer numbers.

More details about each individual site can be found in the **Annex I** to this report, which also includes an Index to allow for quick references to certain key terms.

### ***Comparisons between MOST sites***

**Annex II** elaborates on the results of the comparisons between different thematic fields, whereas **chapter 6** summarises the key conclusions. The goal was to extract common success factors and to explain why some strategies had less success. The following categories have been compared: managing and structuring the implementation process, the benefits of quality management, services, and target groups.

**Managing and structuring the implementation process:** The Mobility Management instruments (mobility plan, consultants, coordinators, managers, centre and office) have been elaborated by the preceding projects MOMENTUM and MOSAIC. They were defined as essential parts of a mobility management scheme. The MOST sites utilise them, but hardly ever apply them in these distinct definitions. Certain strategies in managing the implementation of Mobility Management proved to be more important than others: Starting-off with a baseline study in form of personal interviews not only helped to gather the required "before" data, but mainly served to gain support, motivate participation and create a feeling of ownership for the planned measures. Good coordination of important stakeholders, including user groups, was a crucial prerequisite for smooth implementation among many partners. Even if no full-scale mobility centre is implemented, a well accessible and visible location should be established to serve as a headquarter of Mobility Management.

**The benefits of quality management:** Mobility Management can benefit from Quality Management. A total quality management tool was adapted for mobility management purposes (see **Annex VI** for the questionnaire used). Findings from the in-depth analyses of a selection of MOST sites helped to identify barriers to a smooth Mobility Management implementation process and ways to overcome the barriers. Lack of coordination, of allocation of clear responsibilities or of communication between affected departments, mobility providers, administration and target groups were common problems. E.g. in Sandwell hospital differences in how management and staff perceived participation and information were exposed. In Bremen, neighbouring residents felt left out of the planning process, which then contributed to delays.

**Services:** They have been grouped according to the common concept of Mobility Management (information and advice, consultation, awareness raising, sales and reservations, transport organisation). As MOST found these not to be sufficient, motivation was added. Triggering and maintaining motivation of those involved is



crucial – for Mobility Management personnel as well as for the end users. The majority of the services implemented in MOST can be linked to "information and advice" and public transport. This highlights a large potential for future development of Mobility Management, given that its intermodal, integrated and comprehensive approach is vital for achieving sustainable mobility.

**Target Groups:** MOST has proven that Mobility Management services can be designed to address the needs of a variety of target groups. Different approaches are necessary to motivate and stabilise a change in mobility awareness or behaviour. For example, pilgrims to the Holy Year in Rome were successfully attracted to special bus lines by a good marketing campaign; employees at the Sandwell hospital gathered in cycling groups to travel to work; families in Zug were motivated by action days based on fun and competitions.

***Conclusions: Which Mobility Management strategies are successful? How can barriers be encountered?***

All conclusions and recommendations based on the comparisons between the sites of different thematic fields are summarised in **chapter 6**. They are targeted at practitioners and can be used as general recommendations for future mobility management projects on the local or regional level.

The **initiation of a Mobility Management project** should start with the formation of an appropriately qualified and staffed working group with clear responsibilities allocated to it. It should be led by one main key actor who has the resources (i.e. time, finance and official support) to take initiatives, to involve all relevant partners and to coordinate the activities on a day-to-day basis. To involve different stakeholders from the beginning and provide for good coordination among them is a key factor for success. This ensures representation of different viewpoints, thus minimising the risk of objections at a later stage. It can also be beneficial for providing information, assistance or political support. Users play a special role: they guide you in the selection of the most appropriate services. A mission and vision statement is also very helpful at the beginning. It should incorporate a clear definition of the problem to be tackled and be built on consensus by all stakeholders. The statement will accompany the promotion of the project and the whole implementation process.

In order to **plan the specific strategy** it is recommended that a base line study is carried out so that current mobility behaviour and future needs can be identified. The base line study results (together with the mission and vision statement) help to define the specific project objectives. These objectives should be quantified and measurable, and can be set for different levels of change: **knowledge** of a service (e.g. % of citizens knowing of a mobility centre), **usage** (e.g. no. of students using a university bus service from the city centre), **satisfaction** (e.g. satisfaction with the city buses among commuters), individual **behaviour** (e.g. car usage among employees travelling to work), system **impacts** (e.g. travel time during peak hour from city centre to airport). These objectives will help to clearly target the project, to define the most effective strategies for tackling them and to set a benchmark against which project results can be measured. Later in the implementation process, it will help to adjust Mobility Management measures and instruments based on the initial progress towards



the objectives. The base line study also serves to sensitise local politicians or PT providers as to the necessity of implementing Mobility Management.

When designing the Mobility Management project, it is essential to specifically regard the target groups, for whom the Mobility Management **services** are implemented. When approaching staff and employees of companies, PT related services and work place travel plans seem to work well. For young pupils, accompanied travelling in groups by bike or on foot can address the fears of the parents with respect to traffic safety and ‘stranger danger’. Tourists and visitors can primarily be supported in a more sustainable choice by improving PT services: providing combined tickets or establishing specific services like a tourist bus. Services that proved successful for residents were car sharing or access restrictions for cars combined with improved PT services.

Progressing from the base line study, a **mobility plan** then specifies concrete actions, responsibilities, schedules etc. It should be used regularly to measure progress and it needs to be reasonably flexible (e.g. to be able to adapt in case of unforeseen developments). It is recommended to have a fixed **site location** as a headquarter, from where Mobility Management is coordinated. It can be open to the targeted user-groups for suggestions or complaints. The additional services of such a mobility centre need specific promotion, as people are often not aware that it offers more than the ordinary PT hotline. The implementation of a mobility centre serves the demand for a one-stop-service for all aspects of mobility.

Continuous **assessment activities** should be taken to measure the progress against the objectives, to modify and improve the project, to compare forecast impacts to actual results and to assess cost effectiveness of the actions taken. These activities comprise the user needs analysis before the implementation as well as monitoring (compilation of data before and even during implementation), and evaluation (analysing and interpretation of actual results after Mobility Management is up and running). Success is once again measured by looking at different levels of change: knowledge, usage, satisfaction, individual behaviour or system impacts.

Apart from measuring these concrete results, a further assessment of the implementation **process** helps to analyse strengths and weaknesses in 1) the project leadership and coordination, 2) project design and strategy, 3) human resources management, 4) management of partnerships and finances, or 5) putting into practice of planned steps (see also chapter 3 for more details).

### ***Applicability of Findings to Candidate Countries***

The recommendations of MOST were discussed with transport experts from the following candidate countries to the European Union: Czech Republic, Hungary, Latvia, Lithuania and Poland. In general, the MOST recommendations also seem to be valid for these countries. In the accession countries, there is a higher focus on infrastructural solutions to transportation problems as a means of coping with the rapid growth in car ownership and traffic levels. Funds are hardly ever provided for soft measures as those of Mobility Management. This seems illogical – as Mobility Management is very cost-effective and should go hand-in-hand with any infrastructural measure in order to promote it and make better use of it. This focus on



infrastructure clearly confirms that Mobility Management is still fairly unknown, just as there is a lack of awareness on the usefulness of soft measures. The experts also report that the awareness of politicians on the relatedness of mobility, health and environmental issues is still quite low and that there is a lack of expertise and skills in Mobility Management, and a lack of knowledge of good practice examples.

According to the assessment of the experts, implementation of Mobility Management would be facilitated if a supportive framework would exist. This includes legislation as well as a network of experts with competences in Mobility Management or collections of best practice examples (see for example EPOMM). Financial support would be beneficial, if the provision of funds could be linked to the promotion and application of Mobility Management<sup>4</sup>. MOST has contributed to an achievement in Prague, where the first mobility centre in an Eastern country will be opened by 2004: Based upon intense exchange with the four experienced mobility centres in MOST, Prague set up a concept and assessed the feasibility of its implementation. (**Annex V** contains detailed viewpoints of those "external" experts, who were not partners in MOST).

#### ***European framework conditions for Mobility Management***

MOST has analysed the **framework conditions for Mobility Management across Europe**, as this is often the essential factor for success. The focus is on factors that influence Mobility Management on the local, national and the European level. They reach from initiation to application, and are beyond the control of anybody implementing Mobility Management. **Chapter 5** gives an overview of the different framework conditions and **Annex III and IV** provide more details on the European and National level. They highlight good policy examples and draw comparisons. The need for action to improve the framework conditions is outlined.

The analysis has been carried out within five broad categories of framework conditions:

- Political and programmatic conditions
- Legal, regulatory and fiscal/pricing conditions
- Financial conditions, availability of funds and financial support for Mobility Management projects
- Educational conditions
- Organisational conditions

Overall, the framework for Mobility Management has reached a visible and supportive level at the European level. The principle of subsidiarity limits the role of the European authorities, but the support within policy statements, research programmes and qualification of practitioners should be kept on a high level. In policy terms, the complementarity and equal importance of demand-oriented measures such as Mobility Management within transport and related policies (e.g. environment, health, energy) could be more explicit.

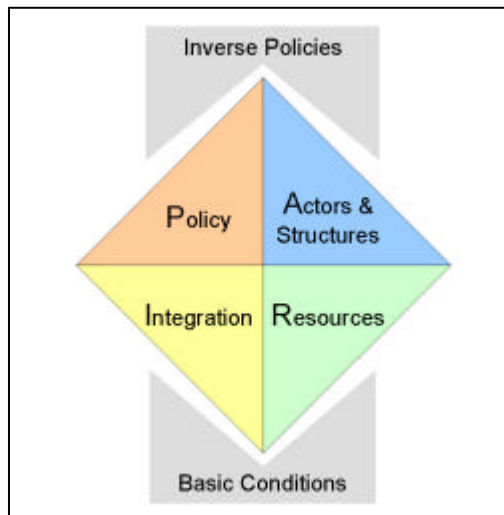
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<sup>4</sup> The CIVITAS II initiative (6<sup>th</sup> framework programme of the EC, 2002-2006, 1.6.2 Sustainable Surface Transport, published on 17.12.2002) offers a good starting point.

On a national level there are broad differences not only across Europe but also in relation to the different domains (political, legal, financial etc.). During the last years progress has been made and framework conditions changed. Policies of the national authorities are a main factor and countries, where there are initiatives on the national level, have progressed quite fast (e.g. the UK, Italy, Sweden or – in continuity – the Netherlands). While there are few direct legal requirements, in some countries developments in environmental and planning law strongly support the implementation of Mobility Management. Funding for mobility management is usually not clearly dedicated and the situation on educational qualification and specific organisational structures is still in an early stage.

On a local level it was found, that political conditions strongly shape the other factors. If the commitment is high, other conditions will follow positively.

The **P.A.I.R. scheme** has been developed within MOST as an outcome of the policy research. It helps to identify the crucial factors of success with regard to framework



conditions. The P.A.I.R. scheme can help to identify strengths and weaknesses. It is process-oriented, follows the principles of quality management and contains six domains. Four of these, namely 'Policy', 'Actors and Structures', 'Integration' and 'Resources' are concerned with the core conditions, which have a direct influence on Mobility Management. The remaining two, 'Inverse Policies' and 'Basic Conditions' show their impact in a more indirect way. Nevertheless, these are of equal importance for a successful implementation of Mobility Management. The P.A.I.R.-scheme gives structure to the **policy recommendations** which have been developed by the MOST project

(see chapter 5.5). These recommendations address policy makers and guide them in their efforts to detect the most important barriers and support structures for Mobility Management in their city, region or country, before they identify areas for action according to the degree of *urgency* and *difficulty*.

### ***Insights of MOST and Outlook - essentials for developing Mobility Management further***

Finally, **chapter 7** lists and discusses the essential findings of MOST, reflecting on previous projects as well as looking forward.

The evidence from MOST has shown that Mobility Management is a widely applicable concept, which is very flexible and adaptable to local circumstances. It is an effective strategy, as the results on impacts of Mobility Management in MOST clearly show. Comprehensive monitoring and evaluation of the projects' impacts but also of the process of implementation are keys to success, as they provide the basis to spread successful best practices for future mobility managers.



Some of the possible fields for future research could be long term impacts, the quantification of costs and benefits, consideration of the information society technologies, further utilisation of quality management and the Mobility integration of Mobility Management into comprehensive transportation programmes.

The MOST project will continue to run its web site:

<http://mo.st>



## 2 MOST: Mobility Management Strategies for the next Decades

Being mobile is an essential feature of modern life in Europe. It is necessary for carrying out business, going shopping, visiting friends or going to school. It can also be a source of enjoyment in times of leisure. On that basis, it can be argued that the organisation of one's daily mobility pattern is a personal matter and why should there be a need for organised mobility management. The answer is quite simple, if numerous people are travelling by car to the same place and at the same time, the result is often an increase in congestion, pollution, accidents, personal stress and anxiety. Consequently, transport-related problems still rank high on the list of concerns within European cities. A better way of organisation is necessary, both for the individual (with a need for an intricate door-to-door transfer) and for cities and regions. Traditional 'hard' solutions, such as infrastructure improvements and regulations alone are not sufficient to cope with these problems: what is needed is a combined 'soft' and 'hard' approach.

Mobility management is increasingly regarded as the 'soft' alternative as it is an innovative demand-oriented approach based on information and organisation, which uses new partnerships to jointly provide quality mobility services for specific target groups. The MOST project can be used as an example to show how mobility management strategies can be applied to 'real life' situations.

MOST stands for "Mobility Management Strategies for the Next Decades" and is a research and demonstration project funded by the European Commission, DG Energy and Transport (TREN), under the 5th Framework Programme "Competitive and Sustainable Growth". MOST has built on the basic findings of several previous projects including MOMENTUM, MOSAIC and INPHORMM.<sup>5</sup> It was designed to further develop the concept of mobility management and to expand the current scope of experience. MOST (which stands for 'bridge' in many Slavic languages) reached out for new partnerships and extended mobility management to new subject areas and new regions where it was less known. It aimed to deepen the understanding of success

<sup>5</sup> **MOMENTUM**, "Mobility Management for the Urban Environment", the forerunner project to MOST (1996-1998, Transport RTD programme within 4<sup>th</sup> framework programme of the European commission). Within the framework of this EU-project a survey of the present state of mobility management strategies in Europe was conducted. One main focus of the project was the implementation of demonstration projects (mobility centres, company mobility plans) at 12 different sites. As a third step, preparation measures for brochures and conferences were initiated. Together with MOSAIC, a manual on Mobility Management was published.

**MOSAIC**, "Mobility Strategy Applications In the Community" (1996-1998, Transport RTD programme within 4<sup>th</sup> framework programme of the European commission). Similar to MOMENTUM, MOSAIC was a forerunner project to MOST. It created a common conceptual understanding of Mobility Management strategies and tested it at demonstration sites. Together with MOMENTUM, a manual on Mobility Management was published.

**INPHORMM**, "INformation and Publicity Helping the Objective of Reducing Motorised Mobility" (1996-1999, Transport RTD programme within 4<sup>th</sup> framework programme of the European commission). This research project investigated how transport information and publicity/marketing campaigns can influence people's awareness, attitudes and travel behaviour and encourage cycling, walking, the use of public transport and other environmental friendly modes.



and failure factors through better evaluation and showed ways of integrating mobility management into general transport policy on all levels.

More than thirty demonstration sites from thirteen countries in Europe including accession countries and other neighbours to the East are working together in MOST. The project was managed by seven organisations: CH2MHill, Madrid (E), ISB – RWTH, Aachen (DE), Langzaam Verkeer, Leuven (B), ILS, Dortmund, (DE), NEA, Rijswijk (NL), University of Westminster, London (UK) and FGM-AMOR, Graz (A), who was also the project coordinator.

The project began in January 2000 and was completed in December 2002. Special emphasis is placed on spreading the results and experience from MOST throughout Europe. Regular newsletters have served as a quick source of information, and the MOST project website <http://mo.st> will continue to stay in operation for at least another year.

## 2.1 Work Packages

MOST was designed to formulate conclusions and recommendations for future applications of Mobility Management. Four horizontal work packages were designed to ensure that the project had a consistent scientific approach. The work packages also tackled some overarching research questions like long-term impact assessment, the development of monitoring and evaluation tools and standards, the investigation of policy frameworks and implementation strategies or the transfer of knowledge and experience.

The subject areas of the work packages were:

- **WP 1: Conceptual Framework.** Development of an overall conceptual structure to harmonise the approach within the project taking into account the state-of-the-art.
- **WP 2: Policy and Implementation.** Identification of successful practices and development of recommendations for policies and implementation methods on the local, regional, national and European level.
- **WP 3: Monitoring and Evaluation.** Provision of tools for impact assessment under different circumstances in order to set standards for future mobility management applications.
- **WP 4: Dissemination and Exploitation.** Building bridges to new partners by enhancing awareness of mobility management among stakeholders in the field of transport; promoting results to potential replicators and a broad public.



## 2.2 Thematic Fields of Demonstration and Research: The MOST Clusters

MOST was also designed to test and demonstrate the feasibility of Mobility Management services in practice. In more than thirty cities throughout Europe, mobility management was tested in different settings. These sites were grouped into six thematic fields, the so-called clusters, providing an opportunity to apply mobility management strategies to new fields and develop innovative schemes and tools. Local authorities, public transport companies and site managers were instrumental in utilising mobility services to solve their transport-related problems.

- **Cluster 1: Educational Institutions.** The travel behaviour of different age groups (from elementary school to university) was the main target (Limburg, Barcelona, Surrey)
- **Cluster 2: Tourism.** Mobility management was employed as a means to solve specific traffic related problems at tourism attractions to support the quality of life and the economic basis of the areas (Málaga, Sintra, Camden, Zug, Islantilla).
- **Cluster 3: Health Facilities.** The cluster demonstrated how to involve patients, visitors and staff of hospitals in the development of mobility management strategies (Sandwell, Namur, Navarra, Graz, Sarajevo).
- **Cluster 4: Site Development.** The planning process of new sites was used as an opportunity to include mobility management strategies right from the start (Bremen, Karlstad, Málaga, Münster, Zlín).
- **Cluster 5: Temporary Sites.** The application of mobility management serves as an instrument to prevent temporary traffic problems due to large events or disruptions to the transport system (Leipzig, Porto, Athens, Rotterdam, Rome).
- **Cluster 6: Mobility Consulting /Centres.** A cross-sectional investigation was carried out to test central elements of any mobility management scheme under different circumstances (Nottingham, Lund, Rome, Prague, Torino, Graz, Münster, Wuppertal, Bologna).

The MOST sites implemented Mobility Management services and monitored their impacts. The Mobility Management strategies were tested in practice and the results are reported in chapter 4 of this report or, in detail, in Annex I.

The sites differed in the scope of their local projects and, hence, their roles in MOST. Roughly, they can be attributed to three groups: demonstrators (the largest projects), case studies, information providers (very small parts in MOST). Naturally, evaluation was more intensive for the sites with larger projects than for the smaller ones.



## 2.3 Definition of Mobility Management in MOST

The MOST project represents a large scale, ambitious and comprehensive test of Mobility Management concepts within new travel markets, new user groups, and new situations. All sites shared a common problem: the dominance of the car within cities – both large and small. Mobility management services were designed to encourage car users to try alternative modes or to join in order to form car pools.

The work of all the sites was based on the common concept of Mobility Management, as defined by the previous projects MOSAIC/MOMENTUM and EPOMM (see <http://www.epomm.org>, definition slightly adapted).

**Mobility Management is primarily a demand-oriented approach to promote and enhance sustainable mobility. Its aim is to support and encourage a change of attitude and behaviour towards sustainable modes of transport. It involves new partnerships and a set of tools, which are usually based on information, communication, motivation, organisation and coordination, and require promotion.**

The following services are an integral part of the common concept of Mobility Management.

**Information and advice** services are the 'core' services of Mobility Management.

Information services are the provision of all types of information about the use of sustainable modes to existing and potential users. Information should not only be associated with public transport, but it should also involve the other sustainable modes too: information on cycling (routes and facilities), walking (routes and safety), car sharing, car-pooling, taxis, etc.

The difference between information and advice lies in the intensity of interaction. Usually, information requires a simple question and answer. Advice is more intense, requiring more interaction, processing and interpretation of the information on the part of the service provider.

**Consulting** comprises in depth advice to customers. It is going a step further than information and advice and includes surveying the initial situation, processing the information, assessing alternatives and finally preparing recommendations. Consulting services can be offered to individuals and households or in relation to particular sites, for example, to the employees of a particular company.

**Awareness** includes all the activities which draw peoples' attention to Mobility Management and the existence of sustainable modes and their potential to fulfil individual mobility needs. These activities are based on the fact that choices (e.g. for the home to work journey) are often made just once and after that other alternatives are hardly ever considered. A strong focus is on social marketing to promote the alternatives to (solo) car use.

Also, it might be useful to provide information aimed at increasing the awareness of adverse traffic impacts on the environment and the city (e.g. pollution, social costs of congestion, extensive land use, etc.).

**Education** is a special part of awareness services. Various educational approaches can help young people to see the advantages and disadvantages of all



modes of transport and can give a positive impression of sustainable modes. As many MOST sites tried to positively encourage potential users to try alternatives to solo car driving, it was regarded important to include **"Motivation"** explicitly in this service type.

The services in the category of **Transport Organisation and Co-ordination** involve the organisation of new forms of sustainable transport or the co-ordination and improvement of existing services. As Mobility Management is targeted at specific user groups, the transport services will also need to be targeted: this is especially true for collective transport such as night buses, disco buses, taxis, car pools etc. Collective transport services are particularly important for site-based organisations. Co-ordination is a crucial factor for the integrated use of (sustainable) transport facilities.

**Sales and reservation of transport related products** are important services in order to provide easy access to sustainable transport modes: public transport tickets and reservations, car sharing memberships, lifts in a car pooling scheme, bicycle (equipment) rental, and even tickets for events or providing insurance as a further option (e.g. third-party and theft insurance for cyclists).<sup>6</sup>

These services are usually offered utilising the following instruments:

A **Mobility Manager** is the key link between the policy level and those who apply Mobility Management. She/he coordinates different Mobility Management activities on a higher level and takes strategic decisions in order to promote and push Mobility Management.

A **Mobility Consultant** consults target groups and/or clients with respect to some of the following aspects: practical advice, financial advice, training in Mobility Management. She/he raises awareness about alternatives to car-dependent mobility and infrastructural transport planning and shows the positive consequences of Mobility Management.

A **Mobility Coordinator** is involved in practical work at a site (e.g. doing surveys and on this basis developing services). She/he ensures support among target groups and/or management and coordinates between all players incl. the own organisation (owners, management, employees) as well as the local authority, transport suppliers, unions, commercial associations etc.)

A **Mobility Plan** usually concerns a site, but is also possible for quarter of a city or one specific TG, requires analysis of travel patterns of TG and of transport situation; on this basis elaborates a plan with specific concrete goals, setting a time plan and detailing exact measures and methods of implementation

A **Mobility Centre** is the operating unit at the urban/regional level, where Mobility Services are initiated, organised and provided. The establishment of a Mobility Centre is an important milestone and serves as a crystallisation point for Mobility

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<sup>6</sup> The common concept in MOSAIC/MOMENTUM distinguished six categories of services. For the purpose of the MOST project, the last category ("**Transport related products and services**") has been merged into this category because they address very similar issues.



Management. There are two basics for a Mobility Centre: a multi-modal approach in the provision of services individual access for the public via personal visit, phone, fax, e-mail, information terminals or online services.

**Mobility Office:** At the site level, mobility services are only offered to site users. Here, the operating unit is a Mobility Office, which differs from a Mobility Centre because services are not offered to the general public. Its form can vary from a simple help desk in a company, which employees can reach by phone, to a 'drop-in' advice centre with its own room.

A conceptual framework for MOST was set up basing on these principles of Mobility Management, and target groups were identified. In order to support the sites in the implementation process, guidelines and implementation checklists were set up. These followed a step-wise approach, covering steps like

- How to set up a Mobility Management project team
- How to do a baseline study to investigate the needs of user groups
- How to integrate new services into existing services
- How to define project objectives, tasks and responsibilities
- How to start putting measures into practice.

According to this, services and instruments to be applied by the MOST sites were agreed upon in advance. This was a very important prerequisite for the common understanding of Mobility Management, the harmonisation of the approaches that the sites realised and in particular for the common monitoring and evaluation of all sites.

Chapter 3 describes the methodologies used to evaluate successful approaches with respect to beneficial impacts and efficient strategies used.



### 3 Methodology: Assessing results and the implementation process in MOST

This chapter focuses on the work packages "Policy and Implementation" (WP2) and "Monitoring and Evaluation" (WP3) and describes their scientific approach. The main question to answer is: How can the Mobility Management strategies be evaluated, that were chosen by the MOST sites to achieve positive changes towards more sustainable mobility? The project team chose a two-staged approach to measuring and evaluating the results of each site and/or situation.

**Monitoring and evaluating results:** The first 3 questions to be answered serve to assess the impact of Mobility Management and hence are considered result evaluations (the basic task of WP 3): did the MOST-sponsored or other Mobility Management measures meet the objectives set forth by each site? Did the Mobility Management measures have an impact on knowledge, use and acceptance of sustainable modes? Did the Mobility Management measures have an impact on individual mobility behaviour (or even on collective mobility behaviour regarding the whole system)? The cluster leaders<sup>7</sup> helped their sites to design their monitoring and evaluation activities (e.g. questionnaires, surveys, interviews, counts etc). Once the sites had obtained some results, these were then analysed and tested against a list of questions that were contained within the monitoring and evaluation strategy.

**Investigating the process:** The second stage focused on evaluating the process of implementing Mobility Management. Each site within the MOST project experienced different problems and therefore their needs were not the same. Due to the variety of sites it was essential to develop a means of investigating their different approaches to Mobility Management. This process evaluation (a main task of WP 2) can further be used to explain any 'differences' in the impacts which could be achieved at the individual sites: How did sites undertake the process of implementation and how did they address barriers they may have encountered?

These 2 types of evaluation will be described in more detail in the following subchapters.

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<sup>7</sup> Each thematic field, the Cluster, was assigned a leader, who was the responsible link between the MOST management and research team and the demonstration partners at the site level.



### 3.1 Monitoring and Evaluation of Results

The objective of monitoring and evaluation is to measure the impacts of Mobility Management in order to address several points:

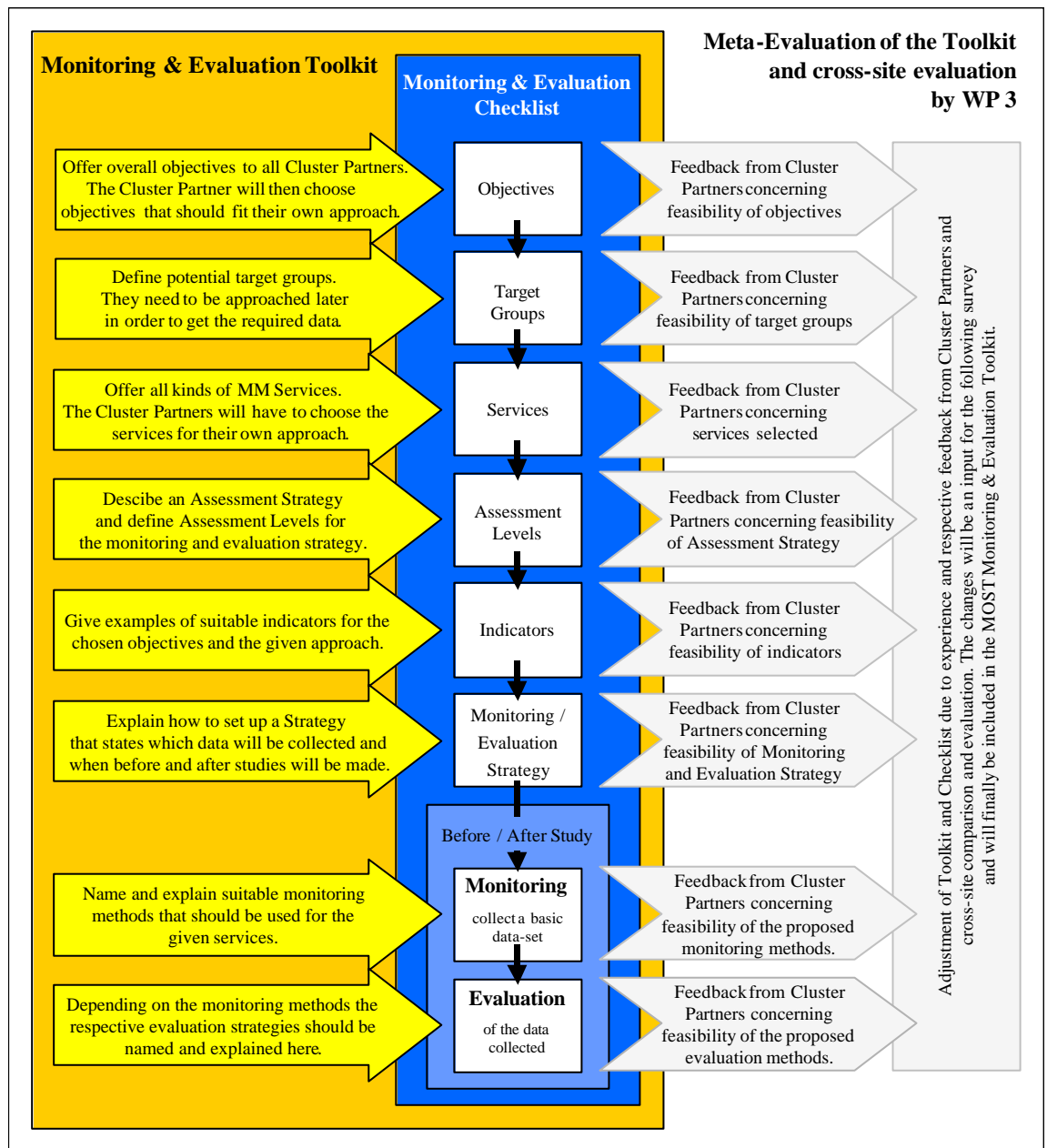
**To measure progress against objectives.** The basic goal of evaluation is to find out whether the applied strategies have resulted in any changes in mobility awareness or mobility behaviour, and if the project is meeting its original objectives.

**To assess the effectiveness of the strategies applied.** The next question to be addressed is whether the input relates to an adequate output and outcome - and whether different strategies might be more suitable or more effective.

**To track results over time and modify programme or objectives.** Mobility Management programme managers are using the results of evaluations to improve management of their projects. This involves an assessment of how well the programme and its services are fulfilling the original objectives. Careful monitoring over time enables the project team to identify any problems early on in the process and so enable amendments to be made, where necessary.

One of the main objectives within MOST was to develop a coherent framework for monitoring and evaluating Mobility Management. With the Monitoring and Evaluation Toolkit (MET), MOST developed a very thorough and rigorous set of evaluation guidelines. The aim was to support practitioners in the self-evaluation of their site project. The MET was available to all the sites, yet it was up to the individual sites how (or if) they used the toolkit. Each aspect of a site project could be evaluated and generalisations between sites as well as comparisons between the different thematic fields could be made.

The following figure shows the structure of the MET. The individual parts are explained in the text below.



**Figure 3.2.1-1: Monitoring and Evaluation Checklist of the MET (Monitoring and Evaluation Toolkit)**

As shown in the figure above the core part of the toolkit is a Monitoring and Evaluation Checklist that guides the user through all the steps in undertaking a research project (the various steps are described in more detail below). The toolkit begins by defining the objectives and ends with the evaluation of the implemented measures and services.



### Formulation of Objectives

The first step was to recall the objectives that the site set up during the implementation phase in the beginning of MOST. In addition, the sites were asked to write down which Mobility Management Instruments they planned to introduce in order to fulfil these objectives. At a later stage in the process, the objectives could be compared with the actual achievements. For some sites this proved to be an effective way of assessing their success.

The following table provides an overview of the local objectives set by the individual sites in MOST:

Objective	Sites
Study or Plan for Future Mobility Management Measures	Surrey, Athens, Sarajevo, Prague, Zlin, Turin
Increase Awareness or Promote Mobility Management Options	Barcelona, Camden, Islantilla, Graz, Rotterdam, Rome, Nottingham, Wuppertal
Develop New Mobility Services	Sintra, Islantilla, Rome, Malaga PTA, Münster
Enhance the Mobility for selected Target Groups, increase opportunities for alternative mode choices	Islantilla, Malaga, Navarra, Porto, Leipzig, Nottingham, Münster, Bologna, Wuppertal
Increase Use of Sustainable Modes	Limburg, Karlstad, Zug, Malaga, Namur, Rome
Reduce Trips or Car Use	Barcelona, Camden, Sandwell, Namur, Rome, Bremen Málaga PTA
Address Traffic and Air Quality Problems	Camden, Malaga, Sandwell, Rome, Lund

**Table 2.4-1**

The different services, which were developed and implemented by the sites, were chosen to meet these objectives. At the same time, the definition of local objectives was an important preparation of the evaluation of the impacts of Mobility Management. Progress and outcomes could be measured against the local or overall objectives, which were identified at the beginning of the project.

### Specification of Target Groups

The target group for Mobility Management measures can either be ‘end users’ (of the transport system) or ‘decision makers’. Both groups of individuals should be kept informed about the progress of the local Mobility Management approach. It is important to have contact with the target groups on a regular basis so that the project team can receive feedback during the various phases of the project, in particular such feedback proves to be essential during the implementation, monitoring and evaluation stages.

### Choosing Mobility Management Services

Based on objectives and target groups this step comprises of a list and short description of all Mobility Management Services that are planned. This should help the sites to clarify for themselves what exactly they plan to do and where synergy effects between different services could be achieved.



### Applying Assessment Levels

In order to specify what should be assessed in Monitoring and Evaluation, the Monitoring and Evaluation Toolkit offers a number of different Assessment Levels.

- **Knowledge Level:** to check whether or not people know about mobility management at all and, if so, which services are known best.
- **Usage Level:** to check whether or not people actually use mobility management services and, if so, which services are used and how often.
- **Acceptance Level:** to check whether or not people followed mobility management suggestions and, if so, which services they were satisfied with.
- **Individual Behaviour Level:** to check whether or not people changed their travel behaviour and, if so, what did they change (mode choice, time choice, destination choice, trip frequency etc.).
- **System Impact Level:** to check the changes in traffic flow, mode choice, emissions and energy consumption etc.

For clarity purposes, the differentiation between these levels was introduced so that the assessment of Mobility Management measures could be carried out more easily. The individual site decided (in cooperation with their Cluster Leaders), which of the five distinct levels were best to assess their project’s performance. This task was completed for each Mobility Management measure and service implemented. For each assessment level, indicators for change were identified and suitable methodologies were selected in order to gather the required data (see Table 3.1-1)

Assessment Level	Indicator
<b>Knowledge Level</b> knowledge of Mobility Management measures and / or particular services	number / percentage of people knowing about Mobility Management measures and services
<b>Usage Level</b> actual usage of Mobility Management services, intensity of usage per user	number of contacts, i.e. inquiries, bookings and sales
<b>Acceptance Level</b> attitude towards Mobility Management measures, acceptance of Mobility Management suggestions, satisfaction with Mobility Management	number/ kind of Mobility Management suggestions observed / not observed, user satisfaction
<b>Individual Behaviour Level</b> changes in travel behaviour	Comparison of before / after behaviour (mode choice, time choice, destination choice, trip frequency ...)
<b>System Impact Level</b> changes in traffic flow, modal split, emissions, energy consumption	comparison of before / after situation (rider-ship, vehicle miles travelled, noise levels, pollutants ...)

**Table 3.1-1: Assessment levels and corresponding indicators (examples)**



It is important to mention that changes on any level are valuable. Spreading the knowledge of a service is the pre-requisite in order that it may be widely used and looking at the level of satisfaction of an existing service helps to optimise this service. To be able to demonstrate real behaviour changes or even system impacts is particularly important when justifying funding for similar projects e.g. from the local or national government.

Based on the experiences of the MOST sites who used the Monitoring and Evaluation Toolkit, the assessment levels were improved as shown in figure 3.1-2.

### **Specification of Indicators**

In addition to the chosen objectives, there are certain indicators that can be used to show the level of change achieved by each site (see Table 3.1-1 above). As the concept of monitoring was fairly new to the majority of sites, the Monitoring and Evaluation Toolkit identified various methods sites could use to collect their data (e.g. written/mailed surveys, telephone surveys, personal interviews, panels), and a set of example surveys is also attached in its annex. Both work package and cluster leaders supported the sites at the stage in their project when they needed to select their monitoring methodology. Some MOST sites even relied on external support by professionals, such as universities or private consultants.

In order to allow a comparison between individual sites, the sites were asked to collect a minimum set of data. This basic set of data consisted of the following: knowledge of Mobility Management, usage of services, satisfaction with services, trip information of target group (trip purpose, trip time, trip distance, transport mode, reason for chosen transport mode and reasons for a possible future change of mode). Depending on the individual project each site could add further data, where available.

### **Setting up a Monitoring and Evaluation Strategy**

A Strategy Paper was set up to support the sites in developing their own monitoring and evaluation approach. It was designed to remind sites about their original plans and included information about the type of "before" and "after" data<sup>8</sup> they planned to collect or – if no "before" data was available – how the impacts should be determined with retrospective questions.

### **Conducting Monitoring**

In order to be able to show a change through the offered Mobility Management services, the sites were asked to collect both "before" and "after" data. Therefore, the sites were asked to undertake two surveys or to cover the before situation with retrospective questions in case the implementation of the services had already started.

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<sup>8</sup> In order to analyse changes on any given assessment level, it is necessary to compare data, which has been gathered before Mobility Management was put into practice to data after Mobility Management was put into practice. In case it is not possible to get "before" data, retrospective questions can be used, e.g. in a questionnaire, that is sent out afterwards but asks the interviewee to report about his travel behaviour before that.



## Carrying out Evaluation

Analyses of the data that the sites had collected during the 2.5 years, showed two sets of findings. On the one hand the results were able to show how successful the implemented Mobility Management measures were in practice. On the other hand, they could be used to explain the reasons why some sites did not achieve what they wanted to e.g. some of the barriers they encountered. Also, comparisons between all sites within and between the different thematic fields were carried out for the MOST project in order to find the most successful Mobility Management measures.<sup>9</sup>

In practice, fifteen out of 32 sites used the Monitoring and Evaluation Toolkit for their monitoring and evaluation assessments.<sup>10</sup> Those sites who applied the Monitoring and Evaluation Toolkit to their projects were quite positive about its use as a tool for assessing Mobility Management strategies in real situations. Suggestions for improving the Monitoring and Evaluation Toolkit have been made by those who used the tool and these have been integrated in an updated version of the Monitoring and Evaluation Toolkit that was published at the end of the MOST project.

Based on the experiences of the MOST sites who used the Monitoring and Evaluation Toolkit, the MOST-MET was improved for the final public version as follows:

1. The step of setting up a Monitoring and Evaluation Strategy (Step VI) that was required within MOST due to the simultaneous setting up of the MET and the start of Mobility Management Measures at the sites could be eliminated.
2. The experience made with the provided Assessment Levels showed a need for further Levels, allowing a distinction between the assessment of Mobility Management Services, offered and used travel options and the realised changes in travel behaviour. The updated Monitoring and Evaluation Toolkit, which will be available via the MOST web site (<http://mo.st>) after the approval by the EC, accounts for these different levels

(Please refer to the graphs on the next pages for the revised structure and assessment levels).

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<sup>9</sup> In case certain evaluation methods need further description for the reader's understanding, this is provided in the context of the gained results (esp. in Annex II to this report, chapter 2).

<sup>10</sup> The reason why not all partners applied it is mainly their smaller size (being case studies or followers)

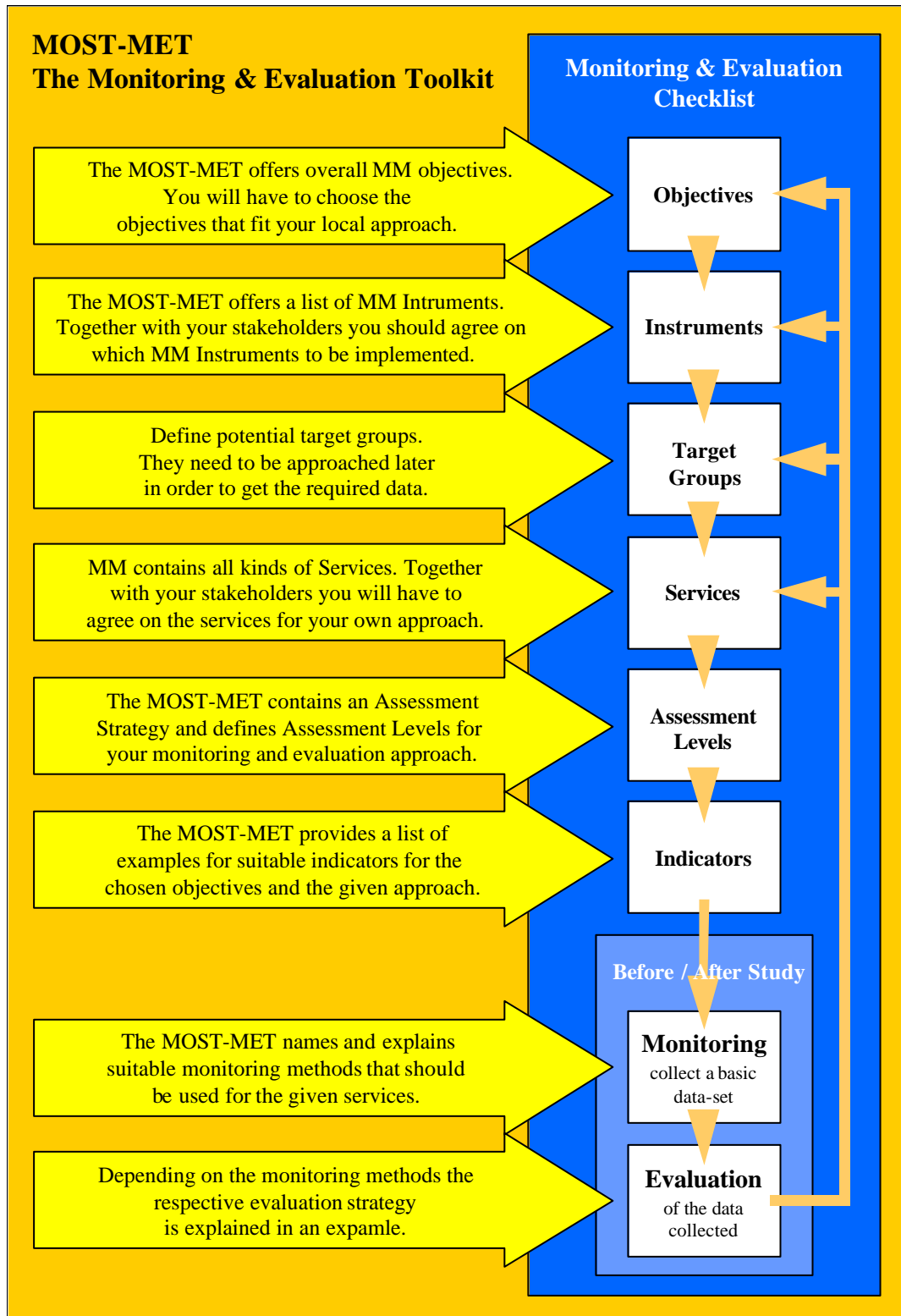


Figure 3.1-3: MOST-MET - Improved structure



Assessment Levels		
Framework Conditions	<b>S</b>	<b>Spatial Framework Conditions</b> Level S deals especially with locally specific conditions that are similar for all users. The traffic and travel patterns of potential users of the Mobility Management Services strongly depend on these framework conditions.
	<b>P</b>	<b>Personal Framework Conditions</b> Level P is concerned with information about the personal situation of the individual interviewee. It helps to distinguish individuals by Target Group and is meant to collect information on the interviewee's travel patterns. The information collected here should help to estimate the interviewee's possibilities to change the current travel behaviour and the respective transport mode.
Mobility Management Services	<b>A</b>	<b>Knowledge of Mobility Management Services</b> First pre-requisite for the use of Mobility Management Instruments and Services is the knowledge of their existence. This knowledge or awareness about Mobility Management Instruments and Services can be established through marketing activities in a rather short-term scale. Hence, <b>Level A</b> is used to check whether or not people know about the local mobility management approach at all and, if so, which instruments and services are known best.
	<b>B</b>	<b>Usage of Mobility Management Services</b> Mobility Management offers Instruments and Services to the end-users. The number of people using these services give an estimation on their attractiveness and tailored supply. <b>Level B</b> is used to check whether or not people actually use Mobility Management Services and, if so, which services are used and how often.
	<b>C</b>	<b>Satisfaction with Mobility Management Services</b> Only when the addressed end-users are satisfied with the offered Mobility Management Services there is a chance that they will follow the received information or advice. <b>Level C</b> is used to check the whether or not people are satisfied with the offered Mobility Management Services and how they could be improved to meet the users needs.
Travel Services	<b>D</b>	<b>Acceptance of Travel Options</b> Satisfaction with a Mobility Management Service is a pre-requisite for the acceptance of alternative travel options. But there might still be reasons against their acceptance. Especially personal circumstances might stand against objective advantages. <b>Level D</b> is used to check whether or not people accepted the proposed travel options.
	<b>E</b>	<b>Experimental Individual Travel Behaviour</b> The willingness to try an alternative transport mode leads to a trial or experimental change in one's travel behaviour. <b>Level E</b> is used to check whether or not people changed their individual travel behaviour to try a (recommended) travel alternative.
	<b>F</b>	<b>Satisfaction with Travel Option</b> Satisfaction with a tested travel alternative is a pre-requisite for a repeated and hopefully permanent use of that alternative mode. <b>Level F</b> is used to check whether or not people are satisfied with the tested alternative transport modes and how they could be improved to meet the users' needs.
Mobility Behaviour	<b>G</b>	<b>Permanent Individual Travel Behaviour</b> The overall aim of Mobility Management is a modal-shift towards sustainable transport modes in the long-run. <b>Level G</b> is used to check whether or not people changed their travel behaviour and, if so, what they changed (mode choice, time choice, destination choice, trip frequency etc.).
	<b>H</b>	<b>System Impact</b> Only the permanent change in travel behaviour will result in changes in the transport system. Either in respect to site-related traffic or even in respect to the city level. <b>Level H</b> is used to check the changes in traffic flow, mode choice, emissions and energy consumption etc.

Figure 3.1-4: MOST-MET - Complemented Assessment Levels



## 3.2 Evaluation of the Implementation Process

During the first two years of the MOST project, a lot of information was collected concerning different aspects of all mobility management applications (via the implementation toolkit - an internal working tool, the introductory questionnaire, implementation progress descriptions, seminar presentations and day to day comments). This information allowed to recollect about thirty different stories about how mobility management projects were conceptualised, how the implementation process was planned, what stakeholders were involved and how the strategies were actually monitored and evaluated. From this information, similarities and differences between the sites could be identified.

But it remained difficult, to gain insight into specific local barriers to a smooth implementation process. Approaching and assessing sites under such a perspective required a detailed, self-critical analysis and the readiness to discuss a sites' own strengths and weaknesses. Therefore, it was decided that a thorough assessment of some voluntary sites was needed and this assessment should be built on a common framework.

The next step was to choose an appropriate framework model. Within the 'Measurement Methods' literature, a number of alternative models exist. After careful examination, the 'EFQM-Excellence' Model, developed by the European Foundation for Quality Management, was selected because of the following reasons:

- It is set up as a practical tool to help organisations establish an appropriate management system by measuring where they are 'on the path to excellence', helping to identify and understand their gaps, and stimulating solutions.
- Management is treated as a dynamic process which is interesting because of the rather 'young' nature of mobility management and the differences between the MOST sites and their familiarity with mobility management.
- The method provides a framework for benchmarking different projects.
- It can be used as a self assessment model where managers, employees and users are actively involved.
- It is not a standardised method meant to be modified and adapted for different sectors of activities - e.g. Mobility Management - as well as for various kinds of organisations from non-profit to public organisations.

The EFQM analysis accords to the following principles: all important stakeholders of the organisation or project are actively involved in the assessment exercise (be it that their opinion is asked for (through a written survey or a face-to-face survey) or as a group (in a round table) or a combination of both. The most important stakeholders are the clients, the target groups, the day-to-day personnel and the management staff.

A set of nine critical factors of success or assessment criteria are determined that are valid for each company or sector; some of them are related to the process (the first five criteria), and the remainder are related to results (the last four criteria). All nine criteria are further developed into concrete sub criteria. The contents of these sub criteria depend on the specific context of the company or the sector. A scoring scheme



is applied in which scores are given to each sub criterion and to all nine assessment criteria or modules (cf. Table 3.2-1).

Processes	Module 1. Leadership – project co-ordination Module 2. Project design and strategy Module 3. Human resources management Module 4. Partnerships and financial resources Module 5. Processes (putting the measures into practice)
Results	Module 6. Customer results Module 7. People results Module 8. Society results Module 9. Key performance results

**Table 3.2-1: Modules of the EFQM model**

Within MOST we concentrated on the first five management quality criteria (module 1-5), namely those with respect to the process side of the sites, as the result evaluation was completed for all sites by WP 3, as described in the previous chapter 3.1.

### 3.2.1 Application of total quality management to mobility management

The EFQM-analysis was adapted for MOST to be applicable for Mobility Management. It consisted of a five-step procedure:

**Step1: Composition of a group of key stakeholders within the Mobility Management project to be actively involved in the assessment (the assessment panel) of their site.** A selection of at least four key stakeholders within the mobility management application was retained

- Someone who is responsible for the overall co-ordination of the mobility management activities in the city or at the site. This can be the mobility manager or the initiator of the project.
- Someone who works on the mobility management project on a day-to-day basis. This could be the mobility co-ordinator, the mobility consultant(s) or other persons.
- A representative of the target group of the mobility management activities
- Representatives of other key players in the mobility management application, such as the clients (e.g. the public transport provider, the site owner, the local government etc.) or other important stakeholders.

**Step2: An individual self-assessment** of the mobility management project by the members of the assessment panel by means of a written survey round. All panel members were asked to express their (dis)satisfaction with respect to the five modules. Each of these modules had been elaborated into nineteen subcriteria and a further



sixty-five concrete items or questions. (A copy of the questionnaire is included in Annex VI).

**Step3:** The WP2-partners collected all the completed questionnaires from step two and compiled all the panel member responses. A rough **analysis of the answering patterns** was made, looking at points of consensus and disagreement between partners and points prepared for discussion during the round table meeting. At this stage, a scoring mechanism was applied to rank the results of the written survey round on the nineteen subcriteria and five modules. These scores were translated into plusses and minuses in the following way.

	Average score between	This aspect of implementation was in the project, according to its main project stakeholders:
--	0-20%	Not successful, not treated too well, improvements are needed
-	20% -40%	Not really satisfying, capable of improvements
+/-	40% -60%	More or less satisfying
+	60% -80%	Successfully implemented, well looked after
++	80% -100%	Absolutely successful, an example for other projects

**Table 3.2.1-1: Transformation of scores**

**Step4:** Organisation of a moderated **round table meeting** with the assessment panel members. The results of the self-assessment, especially the average scores given by the panel members on all the management quality criteria (translated into plusses and minuses) and the points for discussion (main differences in opinions from the written survey round between the key-players) were introduced by the moderator. The aim of the round table meeting was to encourage the panel members to discuss, in some depth, the quality of the mobility management process during the lifetime of MOST. The following questions were asked for all five modules:

- Overall assessment of the site project
- What barriers were encountered and what steps were taken to try and overcome the barriers?
- What elements can be seen as factors of failure?
- What were the factors of success?
- How important is the management aspect in the project?
- Are all sub criteria contained within the modules relevant or are there other important factors?

**Step5:** A **report** was set up in a predefined format so that the results of the five case studies could be compared. The moderator then sent it back to the panel members for revision.



### 3.2.2 Selection of the five sites for the process analysis

As mentioned before, an in depth assessment of the mobility management processes for all MOST sites was not feasible. We decided to assess five sites, which were identified from the following selection criteria:

- They should differ in framework conditions (i.e. different countries)
- They should differ in the target groups
- There should be both site based and city wide mobility management applications
- Different thematic fields in MOST should be covered.

The following sites were selected:

<b>Limburg, Mobility Management in Mozaiekschool</b>	<b>Sandwell Hospital</b>	<b>Bremen Rhodarium</b>	<b>Porto Loja da mobilidade</b>	<b>Lund, Bus Rider project</b>
C1 education	C3 health	C4 site development	C5 temporary sites	C6 mobility centres & - consultancy
Belgium	UK	Germany	Portugal	Sweden
Site based	Site based	Site based	City wide	City wide
Pupils/parents	Staff	Visitors	Visitors/inhabitants	Commuters by car

**Table 3.2.2-1: Selected sites for EFQM-analysis in MOST**

C: Cluster (thematic field in MOST)

During the second half of June 2002, all five EFQM-cases took place. (More details and the results can be found in Annex I and in chapter 4 of Annex II)

### 3.3 Comparisons between sites of different thematic fields

The MOST project represents a large group of sites comprising a wide variety of Mobility Management instruments and services, a variety of sites (i.e. demonstrator, case study, information provider)<sup>11</sup>, a wide range of target groups, differences in resources available and a range of Mobility Management experiences. Such a large number of sites within a project has both advantages as well as disadvantages. The

<sup>11</sup> The sites differed in the scope of their local projects and, hence, their roles in MOST. Roughly, they can be attributed to three groups: demonstrators (the largest scopes), case studies, information providers (very small parts in MOST).



advantage is that it allows a comprehensive approach to Mobility Management and for generalisation of the findings on this basis. The disadvantage is that it results in the inability to apply a single, standardised monitoring and evaluation approach that would allow for consistent and comparable evaluative results to be generated from all the sites.

The process evaluation leads to conclusions concerning different approaches to the implementation of Mobility Management (with respect to management process, instruments, services and target groups). Especially interesting is how these process aspects relate to the objectives and framework conditions of the site and to the results achieved. Therefore, the MOST sites were compared with each other according to the following different categories:

- objectives and measurable changes
- managing and structuring the implementation process as well as barriers and how they were overcome (taking up the common concept of Mobility Management, especially the Mobility Management instruments: mobility managers, consultants and coordinators as well as plans, offices and centres)
- services implemented (including Information and Advice, Consulting, Awareness and Education, Transport Organisation and Co-ordination, Sales and Reservations)
- target groups (students and pupils, staff and employees, tourists and visitors, disabled people (physical / mental) / residents (unemployed / car free housing).

These categories were found to be the most interesting for practitioners and, to a lesser extent, policy makers.

Comparisons have been realised in an expert panel composed of the Cluster leaders, quality control and WP 3 partners of MOST (Monitoring and Evaluation). They were done for sites within the same thematic field as well as between different fields. The processed data and results of all individual MOST sites served as inputs for drawing general interpretations and conclusions. Finally, the responsible contact persons at the sites were consulted to secure the outcome of the expert panel.

The results of the individual sites will now be discussed in chapter 4. A series of comparisons between sites of different thematic fields can be found in Annex II, however the key outcomes are summarised in chapter 6.

## 4 Implementation and Results of the individual MOST sites

In this chapter, the Mobility Management strategies tested, implemented and evaluated by the MOST sites are summarised (subchapters on Objectives and Implementation). For each thematic field or "Cluster", evaluation results are then reported in a subchapter. Sites are compared with each other with respect to successful strategies or barriers encountered (subchapters on Results, Comparisons and Conclusions).

For a quick table overview on the strategies and results of all MOST sites, please refer to the Appendix, which is part of this document (pp. xx ff.). For even more details, please refer to Annex I in a separate document.

The map below shows the locations of the MOST sites and their thematic field.

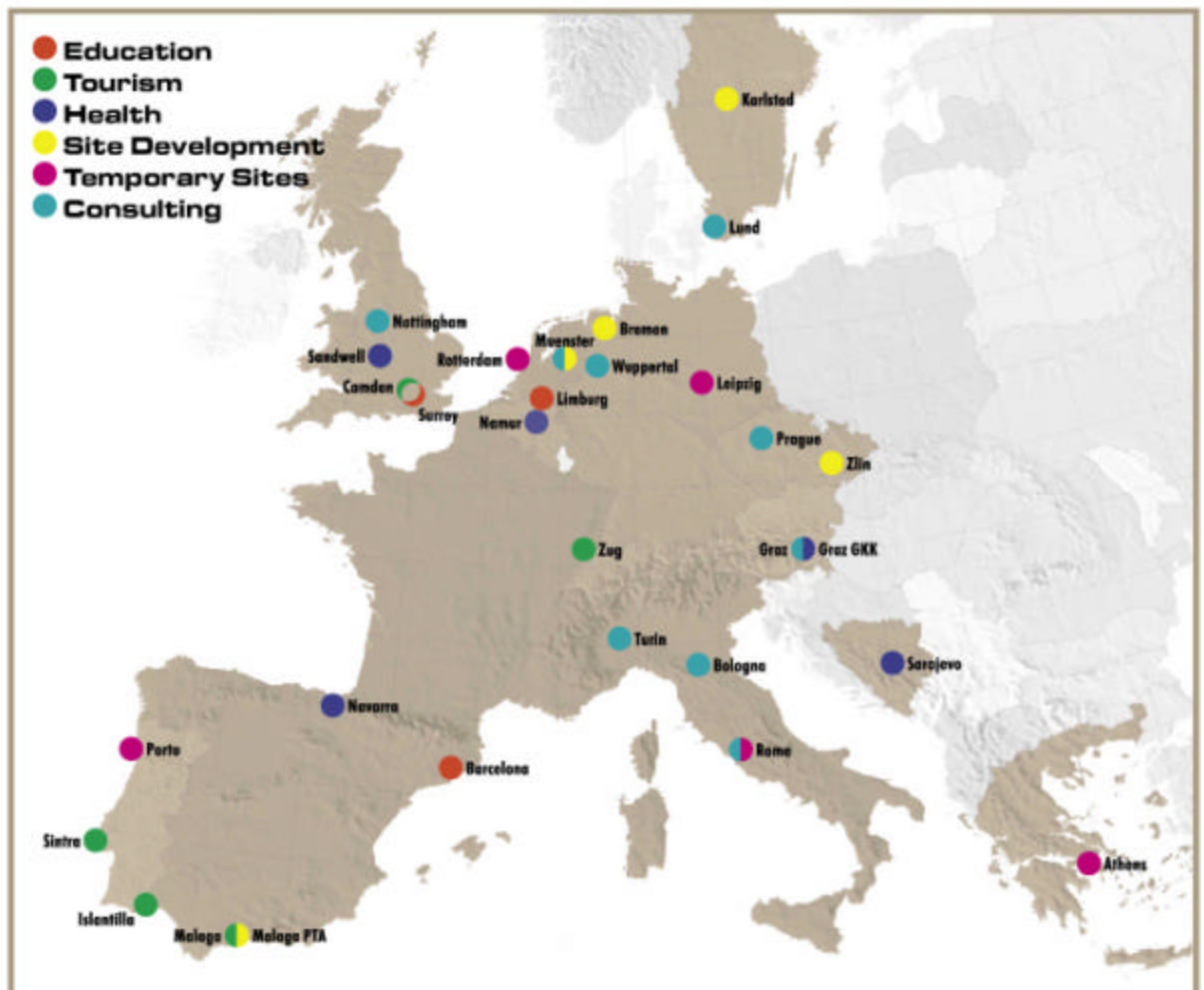


Fig. 4-1: Locations of the MOST sites



As already mentioned, the MOST research and demonstration sites differed also with respect to the scope of their local projects and, hence, their roles in MOST. Roughly, they can be attributed to three groups:

- demonstrators (the largest scopes)
- case studies
- information providers (very small parts in MOST).

In most cases, the information providers did not do extra monitoring and evaluation activities but reported about experiences based on existing data which they usually collect on a regular basis.

## **4.1 Cluster 1: Educational Institutions**

Travel to educational institutions is relatively easy to target, as there is the same destination of travel and similar time schedules for large numbers of people each day. Since the children of today are the policy makers of tomorrow it is obvious to try and influence mobility behaviour at a young age. The Cluster Educational Institutions focuses especially on the younger target groups with a variety of ages from 3 year old children to 23 year old students. It provides the opportunity to directly influence the mobility behaviour of children and to focus on methods of educating and motivating these age groups. By this, important cornerstones on the children's way to a more sustainable mobility as adults is laid.

### **4.1.1 Educational Institutions: Objectives and Implementation**

#### **Car Free School Days –Province of Limburg (Belgium, Demonstrator)**

Over the last few years the traffic density at the school gates in Flanders has increased enormously. More pupils are driven to school by car which means that their independence decreases. The MOST demonstration focused on developing a range of mobility management services to influence the modal choice of parents, pupils, teachers and management of elementary schools (age 4-12 years) towards sustainable transport modes in home-school traffic. These services are tested in a pilot area of 8 municipalities and their elementary schools (about 70) in the Province of Limburg (Belgium). The measures or projects range from information and advice to consultation, mobility education, awareness raising activities and transport organisation.

At the start of MOST, the mobility consultant tried to introduce the whole range of services to all 8 municipalities and their schools at once. After a midterm review, it was decided to revise the strategy and introduce 4 packages of services or projects in a



step-by-step way, starting with a low threshold ‘easy’ project and end up in an integrated project based on a strong partnership.

<p>Project 4: school agreements</p> <p>Project 3: school travel plan</p> <p>Project 2: bicycle pool</p> <p>Project 1: car-free school days</p>	
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The **first (low threshold) project** concerns an awareness raising campaign, namely ‘car free school days’ held each year. During one week in the month of May, the school encourages pupils, parents and teachers to come to school in an environmentally friendly way. To motivate the pupils, ‘school saving action’ was developed within MOST. This is a game played during one week: if a pupil travels to school in a sustainable way s/he will receive a point/sticker for every morning they do this. Once a card is full it’s put on a *snake banner*. At the end of the week, the school has saved a whole banner, whilst winning a few prizes along the way. During this week, all kind of mobility education activities are organised at school. The results of this week in terms of mode shift are measured by raising hands on one day a week before, during and after the action week.

The **second project** aims to increase the use of the bike through organising bicycle pools. Such pools consist of small groups of children cycling to school along fixed routes, under the guidance of adults (mostly volunteering parents). The children wear a fluorescent jacket. We speak about a second step as the concern about safe and sustainable transport modes amongst pupils and parents is introduced on a continuous basis, not only during any one week.

To increase the level of partnership and to work on different aspects in an integrated way, a school travel plan is set up as a **third project**. This plan consists of a series of measures: education, information, transport organisation and infrastructure. The municipality, the school board, the principal, teachers, pupils and parents participate to increase the number of independent trips among children in home to school mobility. A baseline survey asking for the mobility behaviour of the parents and pupils is part of the setting up of this school travel plan.

For the **fourth project**, the municipality and the schools can enter into a school agreement. This is a contract signed by the municipality on the one hand and the school, its board; teachers and parents on the other. Both sets of partners agree clear lines of responsibility to make home-school trips safer and more sustainable. We speak about a true partnership here with the aim to arrive at an agreed upon target within a given time framework.

The role of the mobility consultant in these four projects is to provide schools, municipalities, teachers and parents with manuals, leaflets, personal talks and telephone conversations about the different possibilities to work on mobility management at elementary schools (age 4-12). In the initial phase, the mobility consultant is the driving force behind the mobility management activities in the schools. A lot of his



time is spent actively consulting and coaching parents, school boards and municipalities. After some time, a working group within the school, mostly driven by parents takes over the co-ordinating role and the consultant is asked to help on specific tasks such as setting up a school travel plan, etc.

Although the role of the external consultant becomes less important once mobility management activities have been introduced within the school, a kind of continuous support remains necessary. This was one of the conclusions of the EFQM-round table meeting held with all stakeholders of a mobility management project at a school in the city of Hasselt (one of the 8 participating municipalities). The need for this continuous support is due to the fact that almost all mobility management related activities at schools are planned and implemented by people (parents, teachers, etc) who do this on a voluntary basis. This approach is assessed very positively by all project stakeholders (including the municipality and school board) as there is a strong user orientation both in the design and implementation phase; the volunteering parents and teachers are part of the target group: they know exactly what the needs and problems are, and they get lots of direct feed-back by other parents and pupils. However, the lack of a professional mobility management team at the school can cause problems of discontinuity in the project-co-ordination (parents leave the school when their children leave). Moreover, motivational problems in the team of volunteers sometimes occur as the work never stops. Last but not least, at the school level there is no time, budget or interest to monitor the impact of the activities in the long term. From the positive feed-back from parents and children, the schools have a strong belief that they are doing good work with their actions but they can't prove it.

### **Chilworth Safe Routes to School- Surrey County (United Kingdom, case study)**

Parents with children that go to different schools are faced with the problem of a difficult travelling environment between the schools. The schools – a Junior, an Infant and a Nursery school – are on separate sites about 1.6 km away from each other. Parents are keen to walk and cycle to school but due to the difficult travelling conditions, the different physical capabilities of children of different ages and the fact that school starting and finishing times are only suited to car journeys, their choice to walk or cycle is limited. The specific goal of the 'linked journeys' project taken up in MOST was (1) to quantify the extent to which all these factors actually affect the modal choice and (2) to take action to widen the choice of transport and to promote non car modes.

This specific issue of linked journeys between schools fits into the overall concept in the UK of Safe Routes to School. Within Surrey County Council, the Environment Department is responsible for the Safe Routes to School programme, which is part of Surrey's Local Transport Plan ((LTP) 2001/02 to 2005/06). In this LTP, the following objectives are taken up concerning school travel in the county of Surrey, with over 500 schools: *'the aim is to increase the proportion of school children and students travelling to school and college by non-car modes from 44% in 1999 to 50% in 2006, 65% in 2011 and 80% by 2016.'* There is a team within the Environmental Department of the County Council headed by a mobility manager that guides schools in Surrey to set up a school travel plan, aiding in surveys and questionnaires, putting results on charts, etc in order to meet the targets of the LTP.



The most important target groups of the linked journeys project are the school pupils, their parents and the transport decision makers within the school (teachers, governors and Parent's Associations). The instruments and services used for this mobility management project are: a mobility plan to which all local stakeholders are signed up, the introduction of products to improve the travelling environment such as road crossings, consultation with all different stakeholders to establish priorities, organisation and co-ordination to produce harmony of actions between the different schools, information and advice on the benefits of making the school journey without a car, and awareness and education to increase people's skills and confidence when walking and cycling.

The first step in the implementation process was a survey of all parents at the three schools to better understand the reasons for the actual mode choices made. This before survey showed that most parents drive their children to school (about 66% in infant school and about 52% in junior school); walking (mode share of 30%) is also quite popular, particularly amongst infant children; in junior schools a substantial number of children use the bus (29%) and about 16% walk to school. Although many parents drive their children to school, almost half of them say they would actually prefer it if their child could walk to school. Moreover, most parents who walk seem quite happy in doing so. The main reason why parents don't let their child walk to school is because they live too far away from the school. However, about 20-25% of the children who are driven to school actually live within walking distance (less than 1 mile as measured in a straight line). The main reason why these parents say they use their car is that it is quick and they need to combine their journey with other trips (e.g. going to work and dropping children off at other schools).

In order to gain better insight into specific dangerous places along the routes to school and to establish priorities, the mobility manager organised focus groups with the parents in the school. At those occasions, information and advice about cycling and walking buses, car pooling etc was provided by the mobility manager, but also via other different channels in the schools. The pupils also received mobility education and learned how to walk and cycle safely. The following priority actions and at the same time the mean realisations within MOST came out of this consultative round:

- parents started fund-raising for a new pre-school club on the infant school site, which will tackle one of the main linked journey issues.
- walking and cycling buses, car pooling and speed awareness actions are set up
- an action week to test out all these new products was planned in July 2002.

### **Barcelona (Spain, case study)**

The Politechnical University of Catalonia (UPC) and more specific the Campus Nord situated in the centre of Barcelona generates a lot of traffic, especially car-traffic. Mobility Management measures and services were to be introduced to increase the number of sustainable modes of transport travelling to the site. MOST was aimed at facilitating a greater orchestration of mobility management plans in the city of Barcelona and at the university campus.

The mobility manager situated at the City Council of Barcelona is in charge of this project. At the beginning of the project different goals and objectives were set out, namely:

- the development and implementation of new transport services such as developing a car-pooling system in order to reduce the number of private solo car users;



- to improve the management of existing resources and to create new ones;
- to make people aware of other transport modes.

Instead of focussing exclusively on the carpool matching service, during the MOST-project it was decided to introduce a complete mobility package to the students, teachers and other UPC staff. With this mobility package it's possible to plan your trip to the UPC with any mode of transport (Public transport, on foot, bike, etc.).

The most important target groups are the students, teachers of the UPC and other staff coming to the university campus. During the preparation of the project the following services were chosen to achieve the goals: information and advice about public transport, new transport organisation and coordination and promotion and awareness raising about the environmental impacts on traffic among the UPC students.

Some results from the survey conducted before the implementation of measures and services started, show us that 28.8% of the students come by car, 6% by motorbike, 54.3% by public transport, 1.3% by bike and 9.7% on foot to the university campus. The modal split for teachers (and other university staff) was as follows: 57% of teachers and 55% of University staff use the car, 31% of teachers and 34% of university staff use public transport to travel to work.

Looking at the car occupancy of both target groups we learn that 64% of the students come by car on their own, 20% travel with 2 persons, whereas only 9% of the car users travel with three persons. The results for teachers and other university staff show that unofficial car pooling already exists: 54% of the car users travel alone, 23% travel with 2 persons and 16% with 3 persons.

On the question whether they would change to car sharing if a matching service was offered the answers for students and university staff (incl. teachers) are: 26,2% of the students would use this service, 41.5% only if it was a requirement. Amongst the teachers and staff, the percentage that is willing to make use of the new car pool system is only 6% and 19% under certain conditions. Note that the UPC had already implemented some services such as a car parking restriction to limit car users. There has also been the development and distribution of an information leaflet (2001) to the students to promote the use of public transport.

#### 4.1.2 Educational Institutions: Results, Comparisons and Conclusions

Common to the three sites within the education cluster was the aim to increase the use of sustainable modes of transport in home-school traffic. *Surrey* and *Limburg* with pupils and parents as a target group focused more towards cycling and walking. In contrast, *Barcelona* targeted university students and staff, focused in the first place on car pooling then the promotion of public transport. In *Surrey* there was the more concrete goal of working out linked journeys between three specific schools.

To increase the use of more sustainable modes of transport in home-school/university, the following range of measures/services were offered by the three sites:

- **awareness raising activities** in the form of an action week to promote sustainable transport (Limburg) and to test newly introduced measures (Surrey)



- **information and advice** to all stakeholders involved; in Surrey and Limburg leaflets, posters and manuals were available. In Barcelona, an information package was given to the students and university staff.
- **transport organisation** ranging from walking buses and bicycle pools in Limburg and Surrey to car pool measures in Barcelona
- In Limburg and Surrey, there was considerable attention for **active consultation** with parents and schools management on safe and environment friendly ways to school
- **Traffic and mobility education** was another important service offered in services towards elementary schools in Surrey and Limburg.

For some of these activities, hard and/or soft results are available. We give an overview, starting with some site specific results.

## Limburg

**Results of awareness raising campaigns.** In *Limburg*, the car free school week with the saving action game was tested first in 2000 with 15 primary schools taking part. In 2001 30 primary schools or about 40% of all schools participated in the game, reaching 8050 pupils and parents and 585 teachers. 26 schools (or 37%) participated in 2002, reaching 5580 pupils and parents and 380 teachers. The modal shift towards sustainable modes during the action days ranged from a 23%-increase to sometimes more than doubling the percentage of sustainable transport modes used one or two weeks before. In some schools almost all pupils came during the action week by bike, on foot or by public transport. The monitoring method used was by "hands-up" counting. In addition, a survey amongst 355 parents (=response of 82%) in two schools one month after the school saving action days showed a high knowledge level: 90% knew about the action week, 75% had participated in the car free school week. 25% of the participants said that after the action week, they had often come to school in a sustainable way. From one of the schools, we could compare the mode shares after the school saving action in June 2002 with the mode shares of 9 months earlier (October 2001): we observed here a decline in the car use from 68% to 63.2%. However, this has to be regarded carefully, as it might have been caused by seasonal effects.

## Surrey

In July 2002 an action week took place at the sites of the three schools in *Surrey*. To evaluate this action week, a questionnaire was sent out to about 190 families. There was a response rate of 20%. Most responding parents (90%) said they had heard about the Action Week. So, the leaflets sent to the parents hadn't missed their goal. Moreover, the children appeared to have passed on information they received at school about the initiatives such as the Action Week. About 62% of the parents thought that the Action Week was very effective to promote sustainable transport modes. Still, it did not make everybody think about their own travel behaviour; only six people thought about it a little (20%) and only four people (13%) a lot. When asked what the parent's attitudes were towards car use and reducing car use for school travel; only 6 parents believed they had no role to play in reducing car use. Just over half of the parents said they would, in principle, be willing to let their child walk, cycle or join a car-share scheme. Half of the parents also believed it was possible for



them to do so. Twelve parents said it was very likely that their child would walk, cycle or carpool in the future. All of the parents were very positive about the Action Week. However, it also appeared that this doesn't mean that they intend to change their travel behaviour. Most of the parents said they had discussed travel issues with others as a result of the action week. A few parents also said that they had changed their school travel behaviour as a consequence of this action week.

## Barcelona

In *Barcelona* leaflets were spread among the staff and students to introduce the carpool matching system. On the corporate web of the UPC, a trip planner is provided for the staff and students in order to promote and increase the use of PT, bike and shared car use. A face-to-face interview with 100 students and staff members, who tried out the test version of the trip planner, gave the following results with respect to the acceptance of this info-tool: more than 50% rate the importance of mobility information via the UPC-web as important. Especially the need for information on PT-use was rated very high. Almost all respondents gave a high rating to the accessibility of the new web-information offered and 32% would include the web site in their personal favourites box, another 50% would wait for a more elaborated version of the trip planner before adding it to their favourite websites.

## Comparisons and General Conclusions

**Results of transport organisation activities.** Within MOST only the introduction of the bike pool project in *Limburg* was the object of assessment. In 7 out of 8 participating MOST municipalities bicycle pool projects started. It involves 17 schools and about 340 pupils who started bike pooling on a daily basis. From a qualitative survey amongst the bike pool co-ordinators in these 17 MOST-schools, we calculate that roughly 42% of these bike pooling pupils would probably have come to school by car without the bike pool. The survey also revealed that the driving forces within the schools most of the time were the parental associations and the parents that volunteer in guiding pupils to school by bike. This same factor of success was at the same time also a weak point: as pupils grow older and leave school, the volunteering parents guiding bike pool groups also disappear. This explains the considerable discontinuity in the organisation of bike pools in schools.

**Results of active consultation and information provision.** Although no hard results can be given, the following qualitative realisations can be attributed to these activities:

- Consultation meetings with parents at school meetings (*Surrey*) gave rise to the establishment of residents' working groups to help to realise safe routes to school in a very co-operative atmosphere.
- As a result of the more in-depth consultation in the schools in *Surrey* and *Limburg*, some teachers implemented more mobility education in the classrooms;
- In *Limburg*, in 11 schools a school travel plan is being set up (project 3). A school agreement has been signed in 2 out of 8 MOST municipalities and their schools.

To conclude, the following list of recommendations can be given from the cluster on educational institutions:



- In elementary schools, **involving parents and teachers** from the very beginning of the mobility management projects both in the design and implementation of the mobility management activities is important. The way to do this is by helping these people in organising an awareness raising campaign (a car free school week in *Limburg*, an action week in *Surrey*), by providing them with advice and information (leaflets, a game, a video, etc. ). Next to this, **actively consulting** parents, school boards, teachers and municipalities (via information evenings, focus groups, coaching) have proven to be important to bring about a change in the mentality and receive a large amount of public support.
- Introducing mobility management within a school using a **step-by-step approach** has proven to be successful. The more ‘formal’ school travel plan (*Limburg*) or mobility plan (*Surrey*) is an important instrument to work on safe and sustainable home-school transport but it is more likely to be successful as a third step in the implementation process after awareness raising activities and the introduction of new ways of transport organisation (as first and second step). This was the experience both of the mobility manager in Surrey and the mobility consultant in Limburg.
- **Monitoring and evaluation** activities proved to be difficult to set up for two reasons: (1) the non professional mobility management team at the school site and (2) the very complex travel patterns of parents and pupils. The volunteering parental groups at school sites are not equipped, nor have the time to set up a long term monitoring method. Because they get a lot of direct informal feed-back from other parents, they believe that their efforts are worthwhile. An insight into the actual impact of their activities, however, would sustain them and motivate them to continue. The travel patterns of parents and pupils rely a lot on weather conditions, on changes in family composition and working conditions of the parents etc. Therefore, the ideal monitoring method should be able to register mode shares during a longer period (daily-during at least 1 or 2 months) before and after activities take place and that at the same time this doesn’t burden the mobility management team at the school site too much. The County of *Surrey* is currently working on such a system to measure progress in all the schools in Surrey.

## 4.2 Cluster 2: Tourism

For a great number of European cities, particularly in southern countries, tourism is one of the main sources of income. But besides this positive effect that tourism has in their economies acting as an economic driving force, tourism has some negative side effects such as traffic congestion, air and noise pollution, and degradation of the urban landscape which eventually undermines the tourist attraction potential of these cities.

In many cases, the massive influx of tourists during peak periods results in an increase in the population that is difficult to handle, particularly with regard to mobility needs.

MOST has supported five tourist cities in the development of different pilot projects in the tourism sector. These five pilot experiences have tested the validity of Mobility



Management to solve traffic problems generated by tourist transport demand in very different scenarios and using a variety of approaches.

## 4.2.1 Tourism: Objectives and Implementation

### Málaga (Spain, demonstrator)

Málaga faces a number of urban mobility challenges. During the peak tourist season, the influx of visitors can reach one million people, doubling the population of the metropolitan district and placing considerable strain on the region's transport infrastructure and environment.

The Urban Municipal Agency of the Municipality of Málaga has overall responsibility for the project "Mobility Management Strategies for Málaga Tourism" studied under the Tourism Cluster of MOST.

The broad aims of the Urban Municipal Agency (UMA) were to study the problems associated with the existing transportation system, and to identify and examine potential Mobility Management solutions to alleviate the problems associated with the tourist transport demand. The specific objectives of the UMA were to increase public transport use, increase intermodality, and to reduce the negative impacts of private vehicles.

To address these aims, and to further define the nature of their target groups, the UMA commissioned the City of Málaga Tourist Mobility Management Plan. The development of the Mobility Plan involved the assessment of existing transport infrastructure, an extensive survey of over 3500 tourists at the region's main transport points (the airport, railway stations, cultural sites, etc), and Delphi Interviews with experts of the transport and tourist sectors of Málaga and the Costa del Sol region.

This baseline research defined the existing mobility problems and identified the present and future needs of the target groups to assist in the provision of a strong foundation for effective Mobility Management initiatives. The initiatives that were implemented during MOST are described below:

**Tourist Bus** – this measure sought to address the lack of PT available to tourists visiting the area, as well as providing an incentive for them to visit the city's tourist attractions. The dedicated tourist bus services began operation in July 2001. The service is operated by a private operator and usage data available from July 2001 to May 2002 indicates that the initiative has been successful, with an average of 6165 tickets being sold each month during that period.

**Tourist Maps and Leaflets** – Another information dissemination service, this one is designed to provide comprehensive and systematic information about every transport mode in Málaga. The document shows a map of tourist points of interest, walking itineraries, connections with Approximately 30 000 copies of the tourist leaflets were distributed at all tourist information points (including those at the main transport interchanges). 15 000 tourist maps were printed and distributed in August 2002.



**Smart Card Project** – The public transport operator in the city of Málaga (Empresa Malagueña de Transporte, EMT) introduced this service in collaboration with the UMA. The service has a number of Mobility Management benefits, including the ability to provide for the needs of specific user groups, and the potential to enable integration of intermodal tariffs thereby encouraging intermodality. The trial use of the card has been a success, with data available from August 2001 to July 2002 showing that the number of cards in circulation has risen from less than 4 000 to over 140 000 during that period.

The Municipality of Málaga has tried to address the transport problems in the City of Málaga and the Costa del Sol region by combining the provision of infrastructure with Mobility Management measures.

This approach will, in principle, tackle what is perhaps the greatest barrier to the implementation of Mobility Management initiatives in the Costa del Sol region - the lack of alternative transport infrastructure to surrounding tourist destination from Málaga. Without an effective public or collective transport network to provide a viable alternative to cars, Mobility Management initiatives that encourage modal shifts are limited in their ability to produce results. Until better rail links and bus services are provided, tourists will continue to use private or rental vehicles to reach their holiday destinations.

Another barrier to the implementation of Mobility Management initiatives includes delays in the formation of a planned Regional Transport Authority. The experience of other regions in Spain is that these bodies are generally able to provide Mobility Management services efficiently and effectively.

The work of the Municipality is ongoing and the projects and initiatives will continue after the MOST project is complete. The original objectives of the UMA – to increase PT usage, increase intermodality, and reduce the negative impact of private vehicles – are likely to be achieved by the measures that have been implemented.

### **Sintra (Portugal, case study)**

Sintra is located in a mountainous area 30 km from Lisbon in Portugal, within one hour of several coastal tourist attraction points. The area is one of the most important tourist attractions in Portugal, and as a result of the vast majority of tourist trips being undertaken by car, the town and its local environment suffers from traffic congestion and its associated negative effects.

The objective of the project **MobilSintra** was to identify and implement solutions to meet the mobility needs of tourists (the target group), with a preference for using sustainable forms of transport.

Sintra devised eight major initiatives to assist tourists in the region:

**Improved access to sustainable transport** – several measures were adopted to achieve this. A one day travel card for use on the region's bus and train services was created. To encourage intermodality the council provided parking for bicycles at the PT intermodal points. Information about these services was also provided at the PT interchanges.



**MobilSintra** also organised the provision of additional bus services for tourists – one service connects Sintra’s railway station with the town centre, while the other service follows a circuit beginning at the town centre and visiting several major tourist attraction points in the mountains.

**Cycling and walking tracks** – a system of cycling and walking paths was identified that would enable PT access by these transport modes. This initiative involved installing signposts to characterise the paths. MobilSintra is also assisting in the organisation of a Rent-a-Bike service based in Sintra and aimed at tourists.

**Information and marketing campaigns to encourage cycling and walking** – closely linked to the initiative described above, maps and guides of the cycling and walking paths were planned.

**Improved information about public transport** – prior to the undertaking of this project, information about PT in Sintra and the surrounding region was dispersed among the various PT operators. MobilSintra consolidated this information in a single guide, and prepared a schematic plan of the region showing transport links and trip times between the major towns.

**Car Sharing Services** – the intention of this measure was to arrange a car sharing and transfer service provided by hotel operators. It also involved the provision of a “Collective Taxi” for tourists wanting to travel between (for example) their hotel and the airport at Lisbon, at reduced costs by sharing the taxi with other tourists.

**Mobility information on the Internet** – another information dissemination service, aimed at tourists. The web-site address is [www.cm-sintra.pt](http://www.cm-sintra.pt). It presently provides tourist information in Portuguese, and a new web-site in English and French is currently under construction.

**Mobility Centre** – MobilSintra established two centres in the Tourist Offices, one in the city centre and one at the train station, to provide personal tourist and mobility advice to visiting customers, and to operate a free telephone line providing tourist and mobility information in Portuguese, English, French and Spanish. The staff at the Mobility Centre have received some awareness training from MobilSintra about Mobility Management, but they are mainly trained to respond to requests from tourist for information and assistance.

**Bike Transportation facilities in PT** – this service aimed to provide facilities to carry bicycles on buses and horse drawn carriages. Due to the mountainous geography of the region, cycling has not traditionally been a preferred mode of transport. Unfortunately the installation of bicycle supports on buses had to be abandoned, as design regulations stated that the length of the buses could not be extended. However, the provision of bike racks on horse drawn carriages was successfully achieved, and it is likely to become a service highly popular with tourists.

### **Zug (Switzerland, case study)**

Zug has a well-developed PT system, a dense network of bicycle and footpaths and a mobility centre (established also as a result of participation in the MOMENTUM project). New mobility services are required to promote the use of sustainable modes for leisure and tourist trips. This project promoted sustainable tourism and leisure



traffic in the Canton of Zug through the establishment of dedicated round trip feasible with sustainable modes, promoted by the use of “Action Days”.

The main objective of the project was to develop new mobility services to increase the use of sustainable modes on leisure trips for families with young children. To this end, a number of round trips that could be undertaken by families without using their cars were devised. These leisure trips (and sustainable mobility in general) were promoted during a series of 8 Action Days. These efforts were complimented by an awareness campaign involving the preparation and distribution of 10 000 information brochures (shown on the left), 20 000 flyers and 500 posters.

For the active promotion of the round-trips, Action Days were selected. On these days, special activities such as free rental of in-line skates, organised races, and excursions to nearby attractions such as farms or nature reserves were organised at each of the attraction points with the participation of local partners (restaurant owners, etc). For each of the four round-trip two Action Days were held.

The project was concluded with a final event held during the European Car Free Day (22nd of September 02), at an important leisure destination nearby the city of Zug. The final event was an unexpected success – unexpected primarily because the weather was cold and rainy, but successful because 700 people participated (including people that had not participated in previous Action Days) and 450 of those used the special bus service that was organised specifically for the event.

The project group devised a novel way of both promoting the project and its aims, and obtaining mobility behavioural data about its target group.

A brochure on the round-trips was prepared, containing the following:

- Two pages of information about each round trip (including a map with the route, information about activities during the Action Days, information on permanent attractions on the route, and PT timetables);
- Four stamp cards for children (one for each route), with questionnaires to parents relating to mobility behaviour on the back of the cards;
- Two pages of information about the project;
- Two pages of information about the entire public transport network in the region of Zug.

To encourage families to participate in the actions days, children undertaking the round trips were able to obtain stamps from various points of interest on the stamp cards included with the brochure. Submission of a stamp card on the Action Day with survey questions on the back completed by the parents won the child a prize and enabled the mobility data to be obtained. The combined stamp-card and questionnaire was considered by the site to be the most cost-effective approach to obtain mobility information from the adults who made the round trips. A total of 452 people participated in the round trips using public transport services, as shown in Figure 4.2.1-1.

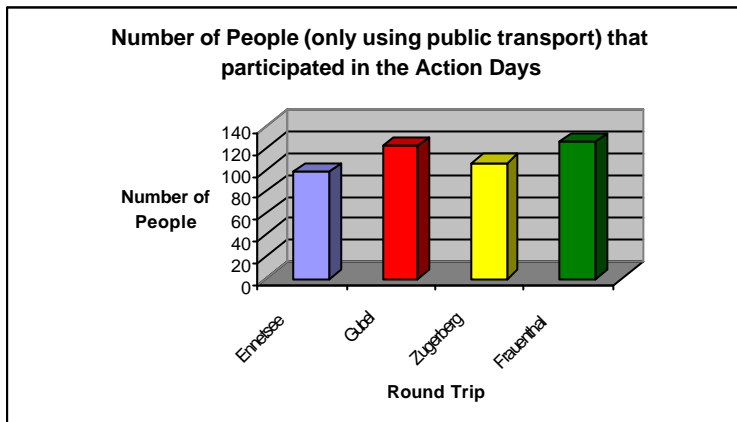


Figure 4.2.1-1: Action day, participating public transport user

### Camden (United Kingdom, information provider)

Camden Council’s vision is to “make Camden a greener and better place to live, learn, work and visit”. Their mission is to achieve traffic reduction and air quality targets in partnership with others to improve quality of life”.

Three initiatives of the Green Transport Strategy were monitored by the MOST project – Camden Direct, the Camden Green Travel Network, and the Camden Clear Zones Project. These initiatives have well defined objectives and target groups, as described in the following section.

The objective of the Camden Direct Mobility Centre is to promote PT services in partnership with Transport for London (TfL) as part of the council’s Green Travel Plan, as well as to reduce the need to travel. The target groups of this initiative are local people, council staff, tourists and other visitors.

The objective of the Camden Green Travel Network (GTN) is to reduce the impact of motor vehicles and related pollution through the development of a Mobility Management network and encourage local employers to develop Green Travel Plans (the sole target group of this scheme).

The objectives of the Camden Clear Zones Project are as follows:

- Develop traffic free areas and low emission zones;
- Improve access through walking, cycling and public transport;
- Develop car-free lifestyles and improve the quality of the public spaces;
- Encourage sustainable development based on continuing social and economic vitality;
- Improve environmental quality and enhance quality of life.

The target groups of the Camden Clear Zones Project are local residents, local employers and visitors to the area.



Camden's experience has shown that Mobility Management initiatives are most likely to be effective when they are integrated as part of wider green transport strategies, and are most effective when implemented in partnership with other stakeholders.

### **Islantilla (Spain, information provider)**

Islantilla is a tourist resort with a population of 40 000. As in other parts of Spain (e.g. Málaga), the increase in the number of tourists has resulted in traffic volumes that exceed the capacity of the regions transport infrastructure, with the corresponding congestion resulting in a reduction of the quality of the environment and urban life.

The local municipality runs the Mobility Management project at Islantilla. It wants to increase the number of tourists in the area and at the same time improve mobility in a sustainable way. The municipality's objectives are as follows:

- To facilitate the movement of tourists in the area (Islantilla – Lepe – Isla Cristina).
- To promote the use of public and less harmful means of transport, through the analysis of the present situation and identification of possible improvements.
- To build non-motorised lanes (pedestrian paths, bike lanes, etc) and to promote them through the production of specific informative guides.

The target groups of the project were tourists as well as local residents. The measures implemented to achieve these objectives are described below.

#### *Mobility Infrastructure*

While not strictly Mobility Management, the availability of alternative transport infrastructure is a prerequisite for the effective implementation of Mobility Management services. One of the greatest problems facing Islantilla is the limited public transport infrastructure in the area. In order to achieve their primary objective of improving tourist mobility, public transport and alternative foot and bicycle connections between Islantilla, Lepe and Isla Cristina needed to be created in parallel with Mobility Management user services. The municipality developed a network of foot and bike paths between sites of cultural and natural interests within the area. The corresponding Mobility Management services that was provided was a set of promotional and informative guides to enable tourists to utilise these paths.

In addition, the municipality negotiated with the local bus operator to increase the frequency of the service between Islantilla, Lepe and Isla Cristina. The operator also implemented a new and improved timetable (throughout the year, not just during the tourist season) and has provided new bus routes. Brochures were then prepared with timetable, fare and route information, and distributed at various locations (discussed below).

#### *Mobility Management Services*

The Mobility Management user services developed by the municipality essentially consists of information and advice. The promotional and informative guides for the network of paths between tourist attraction points have several forms, two of which are described below:



The “Red de Sederos de Pequeño Recorrido de la Mancomunidad Islantilla” is a pocket sized guide to hiking in the area. Fold out maps are provided with a description of the hike and a summary of information such as distance and estimated duration depending on mode of travel (by foot, bicycle or even by horse).

The “Islantilla, Lepe, Isla Christina – Sendas Interpretativas” is another pocket sized guide to short walks (less than 5 km) in the area. It is more tourism oriented than mobility oriented, but it does encourage tourism by sustainable transport modes.

As mentioned earlier, bus information brochures were prepared with the co-operation of the local bus company. This information was distributed to local hotels, tourist offices and other locations. At present, efforts are being made to provide this information at electronic information points to provide PT information in real time.

The municipality operates a tourist office. Its services were expanded to provide more transport information, including the promotional and informative guides developed during the MOST project.

#### 4.2.2 Tourism: Results, Comparisons and Conclusions

Tourism is a new field for Mobility Management, and Mobility Management is a rather new concept itself. The MOST sites in the thematic field tourism have had to face a variety of challenges ranging from low levels of Mobility Management awareness and massive seasonal variations in the target group population, to a lack of alternative transport infrastructure, and topographical, climatic and cultural hurdles to the acceptance of alternative transport modes.

On the whole the sites have overcome these challenges and have implemented Mobility Management measures that will make a positive impact on tourist mobility in their respective regions. In addition, the sites at *Islantilla*, *Málaga* and *Sintra* have raised awareness of the importance and effectiveness of Mobility Management in municipalities where the concept has traditionally had little recognition. Similarly, the sites of *Zug* and in particular *Camden*, have consolidated the establishment of Mobility Management as an integral part of transport and urban planning in the view of planning authorities and public transport operators.

The combined experiences of the sites enables the following general observations to be made:

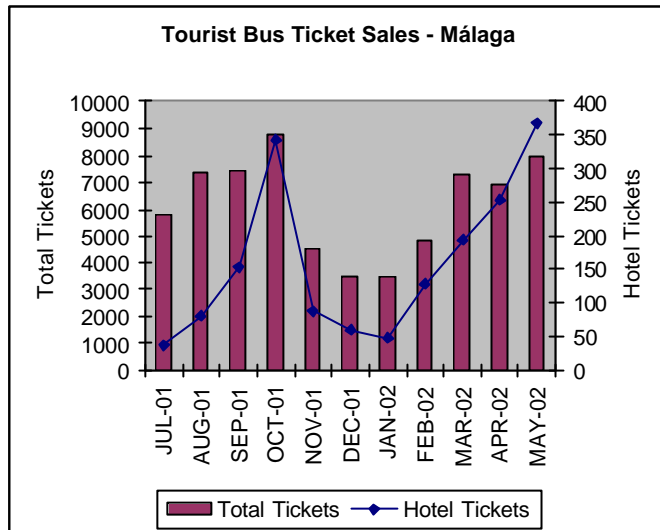
- None of the sites had quantified objectives, although some had quantified specific aims. While this has not had an adverse impact on the quality of the sites' projects, it has reduced the marketability of the sites' projects to funding bodies in some cases, as it is more difficult to relate concrete improvements in tourist mobility to money spent.

*Camden* provides an example of best practice with regard to the development of project objectives. Under the broad, high level objectives of this site are specific, quantified targets. For example, the Camden Green Travel Network sought to reduce the impact of motor vehicle use through the implementation of Green Travel Plans. One specific target of this initiative was to reduce car use by council employees to 30% of 1998 levels by 2002. For 1999 to 2000, car commuting was



reduced from 24% to 21% of staff, so the target for 2002 was to reach 17%. While the specific target may not always be achieved, any reduction in car commuting supports the achievement of the overall objective, to reduce the impact of motor vehicle use.

In the case of *Málaga*, public transport data provided a measurement of the impact of the Mobility Management initiatives that were implemented, offsetting the lack of quantified objectives or aims to some extent. Two excellent examples are the Tourist Bus and the Smart Card initiative. Monthly ticket sales on



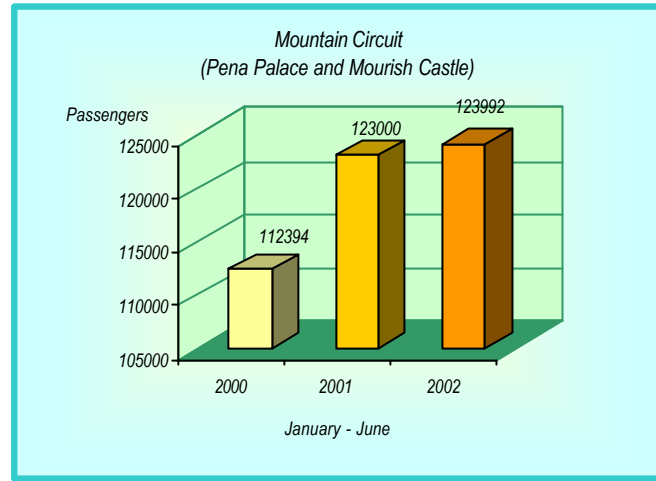
the Tourist Bus are shown graphically on the right (“hotel tickets” refer to a special type of tourist bus ticket. The Smart Card initiative is an example of a measure that can exploit technology to provide quantitative and user-specific data to support an assessment of the projects' success in meeting its objectives. Data available for the period between August 2001 and July 2002 shows that the number of cards in circulation rose from less than 4 000 to over 140 000 during that period. As a result of the success of this project a dedicated Tourist Smart Card has been approved for implementation.

- Baseline studies and prior assessments of user needs are essential for identification of appropriate and effective Mobility Management measures. While devising retrospective surveys in parallel with developing and implementing Mobility Management initiatives works (to some extent) in areas where there are few or no mobility services, formalised and structured approaches involving users and stakeholders (such as those of *Camden*, *Málaga* and *Zug*) are more likely to have a significantly greater positive impact.

*Zug*'s novel approach to mobility awareness, promotion and data gathering, by the Action Days and the brochures, (which combined all three elements) is another best practice example. The survey that was an integral part of *Zug*'s approach found that the majority of families that completed the round trips did so using the sustainable transport modes as indicated in the promotional brochure. However, between 14% and 21% of families used their cars to reach the starting point of some of the round trips and completed only part of them. The main reasons for this were that some families did the trips with very small children (under 5 years) and they shortened them, or others took their car simply for greater convenience. Looking at this statistic in the context of the project as a whole, it not only provides useful project evaluation information, but also provides useful baseline information for future Mobility Management initiatives and in the process of

obtaining it, the awareness of the target group about mobility issues has been raised.

- When comparing the experiences of *Camden* and *Zug* with those of *Islantilla*, *Málaga* and *Sintra*, it is clear that significant effort must be expended to overcome a lack of alternative transport infrastructure before certain Mobility Management measures can be implemented. However, this barrier can also be considered an opportunity, in that co-ordinating Mobility Management with transport infrastructure provision (as is occurring at *Málaga* in particular) is likely to increase the effectiveness of both approaches to solving problems associated with car use.



This is demonstrated by *Sintra*, where the provision of additional bus services targeted for use by tourists has been highly successful. The adjacent graphs shows high and growing usage of both services.

- On the other hand, an abundance of high quality public transport is no guarantee that the public will actually use it. *Zug* found that 78% of the families surveyed normally use sustainable transport modes to reach leisure destinations within the Canton. However, when this data is compared to existing mobility behaviour data (i.e., that 70% of leisure trips in the Canton are made by car), it appears that those families that undertook the round trips were among the minority that use sustainable transport modes to a high degree already. The *Zug* project group concluded that a change in modal-shift was not obtained, and the result supports the argument that a good range of alternative modes without car-restrictive measures are unlikely to result in behavioural changes, and if these changes occur, it will only be in the long-term.

The challenges of tourism both for tourists and their destinations are diverse. On or before arrival in an unfamiliar area (often both geographically and linguistically), tourists need clear, concise and up to date transport information to enable them to arrive at their final destination, and to visit the attractions that they want to see. The cities and regions that receive tourists also have to tackle a variety of problems. The massive population increases during peak season months that they often have to deal with places considerable strain on their transport systems. All destinations similarly face topographical, climatic and cultural hurdles to the acceptance of alternative transport modes in this sector.

All sites have reported that they will develop the initiatives that they undertook as part of their participation in the MOST project. Their success and intention to pursue Mobility Management as a solution to the problems faced by tourists and their destinations demonstrates that Mobility Management has a meaningful role in this field. Tourism and Mobility Management form strong synergies, as each can be used to promote the other to the increased benefit of tourists, the local economy and the environment

The sites in the thematic field have demonstrated several examples of good practice that are applicable not only to the tourism sector, but also to the application of Mobility Management in general. Examples include *Camden's* use of quantified targets to help them achieve and measure their progress towards their overall objectives; *Málaga's* formulation of a Mobility Plan to achieve modal shifts in the long term; *Zug's* systematic and stakeholder inclusive approach to determining an appropriate Mobility initiative; and *Sintra's* identification of a synergy between tourism and Mobility Management, resulting in the implementation of bike racks for horse drawn carriages.



What then are the key recommendations for Mobility Management in the tourism sector?

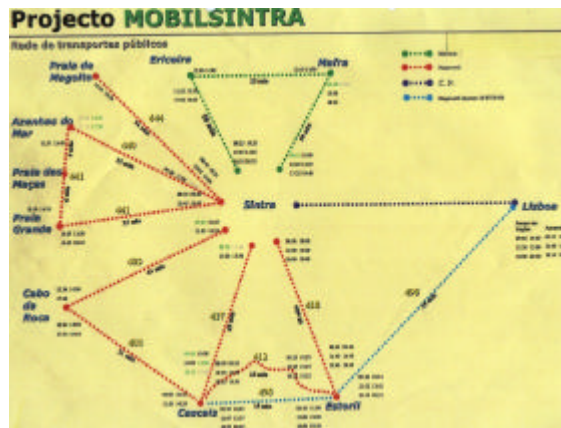
The first and most important step is to determine what tourists really need to travel from a given area's major transport modes to the surrounding region and tourist destinations. The approach taken by *Málaga*, surveying over 3500 tourists as well as interviewing tourist and transport experts, is a comprehensive approach worth following if long-term modal shifts are desired.

Basic alternative transport infrastructure is fundamental for effective Mobility Management. However, if basic alternative transport infrastructure is not in place, this should be viewed as an opportunity to implement an integrated "soft and hard" approach to meeting a regions' transport infrastructure and tourism needs. In the context of tourism, this not only means providing transport infrastructure (such as bus or rail links for example) in parallel with Mobility Management measures (such as integrated multi-modal ticketing or real time point of departure public transport information), but also implementing measures that encourage and manage the tourism itself. In *Málaga* for example, the tourist bus services are encouraging people to visit the historic city centre, rather than heading directly into the outer coastal regions. The key recommendation is to strongly pursue the synergies between the tourism and transport sectors, as this is likely to result in greater support for the proposed mobility management initiatives, as well as giving them a chance of greater success.

All of the sites provided information and advice services, in response to the basic need of tourists for clear, concise and up to date transport information. Ensuring the availability of such information should be the starting point for Mobility Management projects in this field. There are several means by which this information can be provided. Use of the Internet as an information distribution medium featured at all of

the sites with the exception of Islantilla. This can be interpreted as recognition by the sites of the value and potential effectiveness of this medium to deliver user services ranging from information and advice to sales and reservations, as well as its value in providing mobility information prior to departure. At the other end of the spectrum, a basic one page summary of the transport links between a given tourist destination and the surrounding region (such as that developed by Sintra) is invaluable for tourists once in the area.

As mentioned earlier, *Zug's* experience has demonstrated the need for car restrictive measures to complement the softer incentive-based approach generally proposed by Mobility Management. These measures are recommended for cities or regions where there is a successful history of the application of mobility management. It is also an issue that needs to be further explored by Mobility Management projects. Excellent public transport combined with incentives and awareness campaigns may not result in modal shifts, but on the other hand, overly restrictive measures may damage tourist demand. All stakeholders (tourism industry representatives, transport operators and local or regional government planners) need to be involved in the development of a finely balanced suite of “carrot and stick” measures to encourage majority usage of public transport by tourists.



What does the future hold for Mobility Management in the Tourism sector? The future looks bright. Tourism is an area in which Mobility Management can have a strong positive impact on the quality (and hence the demand for) tourist and leisure visits to a location, by reducing congestion, improving environmental quality, and improving mobility.

Mobility Management is most effective when implemented as part of a wider range of (hardware and software) measures to address transport and congestion challenges. Creating strong connections (synergies) between dedicated tourism/leisure service providers (such as museums, amusement parks, and hotels) and dedicated transport providers will be essential for the successful establishment of Mobility Management in this new field. The key challenge for Mobility Management is to create demand for sustainable transport modes for use by tourists. If Mobility Management initiatives can make tourists (and hence travel agents and tour operators) feel that having a car is an unnecessary expense at a given holiday or leisure location, then the practice will have succeeded in achieving a behavioural shift from car dependency to the use of more sustainable transport modes. If these same initiatives can raise tourist demand at the same time, then Mobility Management will have a critical and permanent role in the tourism sector.



### 4.3 Cluster 3: Health Institutions

It is well recognised that transport is an important determinant of community health in the four main areas of:

1. access to jobs, services, healthy food and social activities,
2. provides important opportunities for regular physical activity (walking and cycling),
3. high levels of air and noise pollution and
4. road safety and road traffic accidents.

The health cluster focused on mobility management measures for health care sites and contained one demonstrator (Sandwell hospital in the UK), two case studies (hospital in Namur, Belgium and day care centres in Navarra, Spain), one information provider (health clinic in Graz, Austria) and one follower (City of Sarajevo). Sandwell hospital has tested certain measures in depth to establish their full impacts. Namur and Navarra have tested a set of new services in less depth. Mobility management within Graz is not something new so it was able to provide other sites with information. However, in cities like Sarajevo, mobility management is still a new concept and is not well recognised. The following sections show how sites have developed the concept of mobility management.

#### 4.3.1 Health Institutions: Objectives and Implementation

##### **Sandwell (United Kingdom, demonstrator)**

Sandwell General Hospital is situated in a residential area approximately one mile from the town centre, in the middle of the West Midlands. The hospital Trust employs 3600 staff (2000 on site) and an average of 140,000 out-patients attend the hospital for treatment each year. Its clinical services have grown steadily in recent years and there has been a reduction of car-parking spaces due to a new hospital being built on an existing car park. Residents are concerned that their streets are being used as hospital car parks as staff and out-patients park their cars in these streets and then walk to the hospital. These factors together with increasing car use have resulted in severe congestion both at the hospital site, which endangers the efficiency of the hospital, and in the neighbouring residential streets.

The main aims of the hospital are to reduce congestion on site, reduce pressure to create more car park spaces and reduce the environmental impact of vehicle emissions. The hospital also aims to reduce congestion in patients' car parks and the number of miles travelled by car by patients attending the hospital. There are 2 main objectives: 1) to implement effective traffic management on site, and 2) to implement initiatives to reduce car use by those visiting the site, particularly staff. The target groups were identified as staff, outpatients, visitors and the hospital's neighbours. The planned services ranged from information for transport users, concessionary public transport travel passes, management of car parks, patients call centre, car sharing and business



mileage control to the promotion of a cycle and scooter pool. The hospital also planned to develop a Travel Plan. Each service will now be discussed.

### ***Public Transport Season Tickets***

In 2000 the Trust launched a staff loan scheme for travel passes with Transport West Midlands and Centro, the largest public transport provider in the region. Twice a year Centro visits the site to promote/sell season tickets. Through this scheme staff are able to obtain annual tickets at a discounted rate, which are purchased by the hospital on their behalf. The staff repay the loan, interest free, over a 12 month period. The scheme attracted 75 participants in its first year.

### ***Scooter Project***

The hospital purchased 4 scooters (Powered Two Wheeler vehicle - PTW) in 2000 and loaned them to staff for one/two weeks. Compulsory training is paid for by the hospital prior to the loan. This allows staff to assess whether a scooter is a viable alternative to a car for travelling to work before they make a financial commitment. Interest free loans are available to those members of staff who are interested in purchasing a scooter. The scheme attracted over 40 participants in its first year.

### ***Cycling to Work***

A staff cycling group (40 individuals) is well established and has been maintained by active individuals interested in cycling. Incentives for staff to try cycling are in place including short-term free loans and a secure parking store. Similar to the scooter project, cycles are loaned to staff for a trial period. Interest free loans are available to purchase cycles and protective clothing.

The hospital also wanted to introduce a number of new services such as providing travel information to out-patients when they book their hospital appointment, car park management, car sharing and business mileage control. However, due to a number of political / bureaucratic and financial reasons these have not been achieved. The first service that was not realised was the introduction of a car park management scheme. The reasons why this scheme was not introduced are mainly due to not being able to find the right contractor to run the scheme. The hospital's facilities manager and his team have decided to manage and run the scheme themselves. At the beginning of December the team was in the process of setting up a database containing data about employees who had applied for a car park permit – this information will be used for the car-sharing project in the New Year.

A further service that was originally planned but not fully introduced was the 'Patient Call Centre'. The introduction of 'Patient Call Centres' - where patients can negotiate the date of their outpatient appointment - is a UK government initiative. The Trust planned to offer patients advice on travelling to the hospital at the same time as negotiating their appointment date. The call centre has been established, but information about travelling to the hospital is not provided. The reason why is that the necessary software required to run the scheme proved to be too expensive. However, this will be freely available from a website in 2003. Lastly, business mileage was another service that was due to be implemented but did not happen in practice. The aim of this initiative was to reduce the number of miles employees travel during the



course of their duties. The mileage scheme was not introduced as staff felt they did not have the time or resources to implement this effectively

### **Namur (Belgium, case study)**

The site Namur was a case study development of a mobility plan for Centre Hospitalier Régional (CHR) in Namur. The project was managed by the Walloon Institute for Economic and Social Development and Town and County Planning, in partnership with the Walloon local government, the city of Namur, public transport companies and the hospital itself. The hospital is located 3km from the centre of the city of Namur. There are 1300 employees. On average, 2000 people (employees, patients and visitors) travel to the site each day. It is seen as a local traffic generator with specific problems. Namur experiences other similar problems to that of Sandwell – namely high levels of car use. At the beginning of the project there was limited car parking spaces (110 spaces). A large number of visitors and employees parked their cars in public parking spaces near the site. However, there are plans to convert the public car park into a 'Park and Ride' facility, this meant that mobility management was urgently needed.

The main aim of Namur was to solve a parking problem. The project team had to ensure that accessibility to the hospital would not be affected by the new Park and Ride facility. The clients of mobility management are:

1. the hospital's board (who wants to solve the parking problems);
2. the City authorities (who are involved in a global process of transport management in the city);
3. the Walloon region authorities who consider the CHR project as a pilot project demonstrating the possibility of implementing transportation plans, which can be adapted by other organisations that generate irregular traffic movements.

The objective of the project was to reduce the use of the car amongst the employees, visitors and patients of the CHR hospital through the realisation of a transportation plan. The project team began the process of developing their mobility plan by analysing the site's accessibility against the behaviour of the target groups (staff, patients and visitors) of the hospital. Two questionnaires were designed, in March 2001, to assess the travel behaviour and attitudes of the different target groups. One questionnaire was sent to all 1284 members of staff (response rate of 53%) and the other was sent to 3000 patients and visitors (18% response rate). The results of the questionnaires were disseminated to all staff, patients and visitors in September 2001 through a leaflet and an article in the internal newspaper at the hospital.

Similarly to Sandwell, not all the proposed measures were implemented. The main reason is that the hospital's Board of Directors management committee was not willing to introduce restrictive policies, such as methods of parking restraint.

### **Navarra (Spain, case study)**

The site at Navarra offers a unique opportunity to study the application of mobility management in a different setting. Here the emphasis was on providing services for visitors to day care centres, which are available to people with mobility and learning



difficulties. The site concentrates particularly on the provision of mobility management services for people whose illness or disabilities may exclude them from other 'traditional' mobility management measures. Navarra adopted a unique approach, which aimed to provide mobility solutions to those people who have to go to hospitals / health centres on a daily basis.

The main problem facing the regional government was the lack of specialised transport services and assistance for people with mobility or learning difficulties attending day care centres. The regional Government of Navarra offers a specially adapted and assisted transportation service to around 250 people (including elderly and several groups of disabled people). The increasing demand, linked to the imminent opening of new day care assistance centre, made the analysis of mobility management necessary.

The aim of the project was to offer real mobility solutions to the targeted groups of people, namely disabled people who are unable to carry out daily activities without the support of others. The project had four objectives. The first referred to the creation of an 'Inventory' of the existing assistance services and programmes available. The inventory was used to identify and define the mobility needs of the users as a way of understanding mobility demand for these groups. The second objective continued from the first and sought to analyse the supply of modes of transportation and supportive mobility management measures. The third objective was a comparative assessment between supply and demand of existing services to determine the potential mobility management measures required to improve the situation. Finally, the fourth objective aimed to identify conclusions and plans for implementing mobility management measures (including accompanying measures such as regulation of transport) and required adjustments to the legal framework.

The MOST project team identified a number of services it wanted to focus on during the 3 years, but mainly concentrated on providing information and adapting public transport.

*'Information and Advice'*: The mobility needs of the users of the day care centres are considered by the departments involved in the decision making process. The MOST project team felt it was important to raise awareness amongst the decision-makers about the location of new day care centres through the Socio-Sanitarium Plan; thereby focusing on planning in order to solve the mobility needs in a sustainable way.

*'Public Transport'*: The Commission of Public Transport requests that all public transport companies adapt and re-design their vehicles to ensure that they are accessible to disabled people. The requirement is that companies modify 10 vehicles a year within the next 5 years.

The biggest barrier the project team faced was political as the project's budget was put on hold during the regional government elections. The team was unable to continue with their plans until the outcome of the election was known and the future direction of the project was known. However, one of the reasons for the project team's success was due to the creation of the 'Interdepartmental Committee' whereby the issues relating to mobility management could be discussed by all the relevant policy makers at the same time. Involvement within MOST has also helped the project team to raise the consciousness about mobility management within the locality.



### **Graz (GKK, Austria, information provider)**

The Styrian Health Insurance Company (Steirmärkische Gebietskrankenkasse - GKK) is an out-patient health insurance and service centre situated in the city of Graz. The company has approximately 1200 employees (70% of which live in Graz and the remaining 30% commute daily from elsewhere) and 2000 patients/clients visit each day. Mobility management is not something that is new to GKK; services were first introduced about 10 years ago. At that time the site and its surrounding area was experiencing a number of car parking related problems. The mobility managers decided it was time to try and alleviate some of these problems by utilising the city's cycle network and the good local and regional public transport links, which were all connected to the site.

GKK have introduced a range of mobility management services to try and encourage its staff and patients/clients to use alternative modes of transport when travelling to and from the clinic. In particular, when targeting its staff, services such as parking management policies, cycle parking, training and safety checks, bikers' breakfasts, free public transport trials, personal mobility advice, exhibitions and information packages have all been introduced to inform employees about the benefits of alternative modes and encourage a modal shift. The list of services targeted at patients/clients varies from provision of public transport information, individualised trip planning and advice during waiting times, free public transport test tickets for long term regular patients, mobility awareness booklet, annual health check and a multi-journey combination public transport ticket for patients/clients attending their annual health check.

### **Sarajevo (Bosnia, information provider)**

Compared to other European countries participating within MOST, mobility management is a relatively new and less advanced concept within Eastern Europe. The main aim for a country, such as Bosnia, within the postwar period is less about reducing traffic and more about focusing on regeneration policies, rebuilding local industries and constructing new infrastructure. Sarajevo is an example of a city that is recovering from war. As such, local government funding tends to be orientated more towards the implementation of 'hardware' than 'software' measures.

## **4.3.2 Health Institutions: Results, Comparisons and Conclusions**

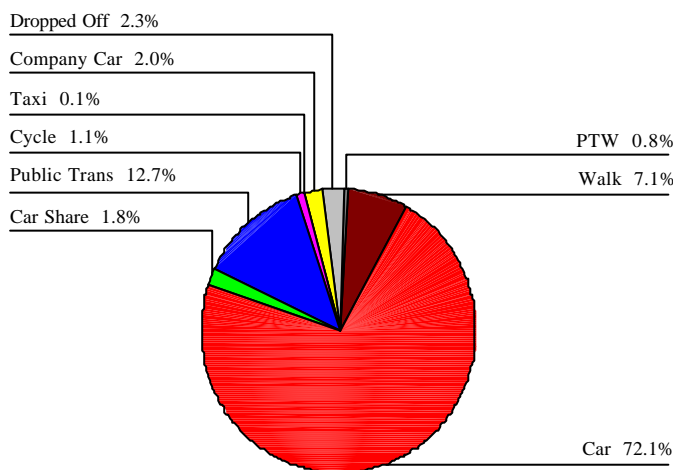
### **Sandwell**

*Sandwell's* main success within the MOST project has been the development of their hospital 'Travel Plan'. The plan contains information about the way the Trust's employees travel to and from work and the services it has introduced to encourage employees to use alternative modes of transport to the car; this information is a direct result of Sandwell's involvement within the MOST project. Unfortunately, due to a number of reasons mentioned in the previous section, the Trust has not yet implemented any of the new services it originally planned to introduce at the



beginning of the MOST project. Instead, they have continued to strengthen existing services and have investigated the reasons why employees use the travel pass scheme, participated in the scooter project, cycle and/or walk to work as a way of finding new ways of encouraging more car drivers to follow suit.

The Trust undertook an initial baseline employee travel questionnaire, the results of which were used to develop the outline Travel Plan. The staff survey carried out at the end of 2001 was a very worthwhile exercise, although on reflection the project team agrees that this should have been carried out at the beginning of the project. The questionnaire was distributed by attaching it to employees' monthly salary payment notices. The hospital Trust currently employs 3600 staff, 1039 staff returned Employee Travel Survey questionnaires, a response rate of 28.9% (see Figure 4.3.2-1).



**Figure 4.3.2-1: Mode of travel**

The questionnaire results showed that 25% of staff live within 2 miles of the hospital. This suggests there is potential to encourage more employees to use alternative means of transport to the car. 74% of staff use their cars to travel to work, 20% of this group said they travelled to work this way because it was 'quicker to drive' and 16% said they needed a car for work. This means that at peak times there are up to 800 staff cars parked on or near the site for between 4 and 8 hours per day. However, 40% of car drivers said that they would try an alternative mode if they could not use a car.

*'Public Transport Season Ticket'*: a questionnaire was sent to all members of staff who already have a public transport season ticket. The project team wanted to investigate the reasons why these employees were members of the scheme so that they could use this information to attract new members. 90 questionnaires were sent to current users of the scheme. The team received 37 responses (41%). The results showed that 95% of the sample use their travel pass everyday and travel to work by another mode for only 5% of their journeys. Before purchasing their travel pass 13.5% of employees travelled to work either by car, taxi, ptw or another mode. 86.5% of the



sample were existing public transport users. In other words, the scheme has attracted 13.5% of employees to public transport from other modes.

*'Scooter Project'*: Sandwell Hospital introduced the scooter project as an alternative mode, which still offers a “door-to-door” independent form of travel. 41 questionnaires were sent to all members of staff who had previously undertaken a ‘Compulsory Basic Training’ motorcycle course at the hospital. The project team received 16 responses (39%). After the month free trial period 38% of the sample purchased a scooter. In other words, those employees now travelling to work by scooter have created a modal shift of 38% from other modes of transport. The remainder of the sample travels to work by either car (56%) or bus (6%).

*'Cycling to Work'*: 127 questionnaires were sent to those employees who either already cycle to work or those who indicated in the main questionnaire a desire to cycle to work if the hospital improved its cycling facilities. The project team received 48 responses (38%). Of that sample, 12.5% already cycle to work and 60% of the sample would consider cycling to work in the future. The questionnaire asked the potential cyclists what they thought the hospital could do to support them in changing their travel behaviour. 31% said they would like a printed recommended cycle route from home to work, 16% would like to borrow a bicycle, 13% would be interested in receiving further information about the interest free loan available to employees who would like to purchase a bicycle. The remainder of the sample stated they would like to be put in contact with other cyclists to talk about cycle route options and find like-minded people to cycle to work with.

*'Walking to Work'*: The project team identified 103 employees who indicated in the original questionnaire an interest in walking to work. This group of individuals were sent another questionnaire and 51 responses (49.5%) were received. 55% of the respondents said they would consider walking to work even though they currently travel by another mode of transport. The remainder of the sample said they were unsure about walking to work because: i) it would take too long to walk to work, ii) lived too far away from the hospital to walk, iii) concerned about personal safety and, iv) needed a car to leave the site at lunchtimes.

## Namur

The hospital within *Namur* has managed to introduce a few of the originally planned services (e.g. creation of a multi-modal accessibility card; changing the financial reimbursement conditions for those who cycle or use public transport to travel to work; information posters showing the times of trains and buses; creation of a car-pooling database). One of the major successes of the project is the creation of a mobility ‘cell’ (4 people working on mobility management issues), which will be in charge of the remainder of the project and of the implementation of new services. At a regional level, a partnership with the regional association of enterprise has been established with the mission to raise awareness for mobility management issues amongst their members. Linked to this, a household mobility survey has been launched. The project team within Namur has experienced a number of ‘monitoring’ problems due to the introduction of a programme of local highways works, which has caused disruptions to the highways infrastructure near the hospital. Once the programme has been completed, accessibility to the hospital will be better for pedestrian’s, cyclists and users of public transport.



## Navarra

In *Navarra*, the project team initially focused on transport users and day care centres as one of the original objectives was to identify the range of existing services and provide new services where there was a demand. This proposal was cancelled because the team felt that it raised too many expectations amongst the users and the local government was unsure that the project would be able to meet their needs. The target group of individuals also changed during the project, instead of focusing on the mobility impact of people with both mental and physical health problems and elderly people, the team decided it was better to concentrate just on the needs of disabled people. The team felt that the general measures that were introduced for this target group could also be applied to the elderly target group.

## Graz

The *Styrian (Graz) Health Company*'s project was divided into two phases. During the first phase a mobility plan for all the staff was developed. The measures within this plan focused on the implementation of both hard and software policies e.g. GKK implemented a system of paid parking, with spaces for their employees and at the same time, introduced free access to a newly constructed cycle parking facility. The second phase concentrated on developing a mobility plan for both the temporary and long-term patients/clients. Both target groups have witnessed the difference the implementation of mobility management services has made, namely a reduction in the number of cars parked on the site and an increase in the use of alternative modes. GKK have introduced a new secure bicycle parking facility with spaces for 100 staff bicycles. The health company has also introduced a system of paid parking without receiving objections from employees. The reason for its success is due to the degree of awareness raising activities that took place and the open and transparent process of decision making – everyone knew how the spaces were allocated and where the revenue would be spent.

## Sarajevo

The process of implementing 'software' measures within the Canton of *Sarajevo* has been slow in comparison to other sites within the thematic field "health institutions". Five years ago the Ministry of Labour and Social Affairs first introduced a policy whereby all pensioners in the City can have a free annual ticket for public transport. Students are also entitled to this annual ticket, but they pay a reduced price. Recently, a number of public sector organisations have also begun to offer this initiative to their workforce. The local public transport company now provides a timetable for users of the minibuses who need to travel between the centre of Sarajevo and Kosevo hospital. In recent months the Ministry of Transportation and Communications have introduced a policy whereby at the weekend, one street in the central part of Sarajevo is closed to motor vehicles between the hours of 5pm and 12pm: but is accessible by foot or bicycle. This policy is viewed as a success by the local government as they have not received any complaints and some residents have even written letters to the daily newspapers supporting this scheme.



## Comparisons and General Conclusions

The MOST project has shown that all sites within the health cluster shared a number of common qualities, for example, the services they decided to focus on and the objectives they set themselves. Common to all sites was the broad objective of wanting to reduce congestion. *Sandwell*, *Namur* and *Graz* have introduced a mobility plan stating this as their main objective as well as stressing the importance of encouraging their employees to travel to work using environmentally sustainable alternatives. *Namur* and *Sandwell* also had 'reduce the use of the car amongst employees, patients and visitors' as another objective. Both sites originally wanted to introduce a 'car-sharing' scheme, however, they were unable to implement such a scheme during the MOST project for either contractual reasons as in the case of *Sandwell*, or due to time constraints in the case of *Namur*.

The main reason for wanting to implement mobility management services within *Navarra* and *Sarajevo* was to support disabled people. By renovating existing buses, taxis and minibuses this means that disabled people are able to access the same services as able-bodied persons.

Legislative and other governmental factors have also encouraged some sites to focus on mobility management. For example, public transport companies in *Navarra* are required by the Commission for Public Transport to adapt their buses to the needs of disabled people, whereas *Sandwell's* Hospital Trust were expected to meet a National Government Service Framework (for Coronary Heart Disease) 'milestone', that of establishing a Travel Plan by April 2002.

All sites have experienced barriers to designing, developing and implementing mobility management services. Most barriers tended to be political, personnel, time constraints, motivation or financial issues. For example, evidence showed that if an organisation/city cannot provide the necessary financial resources to implement the various services then the 'driving force' within the mobility management team may be lost. All sites underestimated the staff resources needed to develop and implement mobility management plans. For those that were responsible for running the project at *Sandwell*, MOST became 'just another job' added to already heavy workloads. More consideration should have been given at the outset to the time required to effectively manage the project. An organisation/city needs to allocate enough resources (time and money) for the long term if the measures are to be sustainable and accepted. Decision-makers cannot expect people to change their travel behaviour overnight as mobility management is not something that can be introduced and maintained in the short term.

The services that were eventually implemented tended to consist of a mixture of both "hardware" and "software" measures. These show how the different types of mobility management services can be used to complement the effectiveness of each other. As a result of their involvement within MOST, all health sites have progressed with implementing mobility management services at their site or in their locality. Both *Sandwell* and *Namur* have a mobility plan in place and have identified a series of services that they still plan to introduce. Other sites have begun to identify which mobility management services they need to introduce once they have completed their current programme of works e.g. *Sarajevo* and *Navarra*.

All sites have used their role within the project as a means of 'speeding up' the implementation of mobility management services. It also helped them to push things along e.g. *Sandwell* were encouraged to undertake a post implementation survey



sooner than they originally planned. All sites have recognised the importance of establishing a partnership with other stakeholders as a means of convincing the relevant decision-makers. Benefits of establishing partnerships are that the various groups' activities are co-ordinated and they can learn from each other's knowledge, information and experiences. *Sandwell*, *Namur* and *GKK* have made a point of disseminating information about their mobility management services to their staff. *Sandwell* and *Namur* have contributed a couple of articles in the in-house newsletter as well as publishing leaflets containing results of the survey.

A number of lessons can be learnt from the experiences of the sites in the thematic field "health". The main lesson is that the development and implementation of mobility management measures is dependent on the 'personality' of both the company and mobility manager. In other words, changes in mobility behaviour are unlikely to happen unless there is someone pushing for such changes to take place. As the *GKK* example has shown, the company manager was unsure about the acceptability of the car parking system, yet continued to support its implementation.

For most of the sites, the individual mobility management teams recognised early on in the development of their mobility plans the importance of gaining the support from those individuals who the measures are targeted at. They achieved this through their awareness raising actions, namely personal one-to-one mobility advice and support, inclusion of everyone within the decision making process and the introduction of a range of mobility management measures at the same time. It soon became apparent that the mobility team needed to show the personal benefits to staff and patients/clients of introducing the different measures rather than focusing on the general benefits, e.g. better air quality and other environmental benefits.

Lessons for the future include:

- Consider (in advance) the potential accessibility and transport impacts when planning the (re)location of a hospital / healthcare provider;
- A travel plan is a living document and needs to be updated on a regular basis - any modifications to the plan needs to be widely communicated to all those likely to be affected;
- Reduce the environmental impacts of people travelling to healthcare institutions, promote transport alternatives or car sharing;
- Reduce the need for patients, visitors and staff to travel between hospital sites (e.g. better information, question whether a face-to-face meeting is really necessary etc) and;
- Increase the amount of information and advice available without the need to visit healthcare providers: e.g. by telephone or the Internet - (i.e. NHS Direct Service in the UK).



## 4.4 Cluster 4: Site Development

Usually, site-based Mobility Management is implemented to already existing sites, trying to change established travel behaviour. As habitual travel behaviour is hard to change, site development offers the chance to include mobility management strategies and services already right from the start. The goal is to prevent transportation problems instead of coping with them once they arise. In addition, this can contribute to companies' decisions about choosing the respective site for their location.

The regional approach and, hence, the conjunction with adjacent neighbourhoods and surrounding urban or regional areas, is another characteristic of site development. This often requires taking various interests into account and starting a mediation process.

In the Cluster Site Development, a variety of different sites are included, reaching from a leisure park to a business park, a residential area and a university.

### 4.4.1 Site Development: Objectives and Implementation

#### **Bremen (Germany, demonstrator)**

The initial start was in 1997 when the original greenhouses in the Rhododendron Park needed to be renewed. The idea was to renew and upgrade the old greenhouses to an "edutainment centre", integrating education and entertainment for an innovative learning and leisure environment. The plans included five greenhouses with individual climate zones.

In order to reduce the ecological footprint of the site related traffic, the planning for the new Rhodarium was accompanied by a comprehensive mobility management approach. Nevertheless, the original plans of the Rhodarium were stopped by a political decision. Besides the high costs, there were fears among the residents living in the park's neighbourhood of a serious increase in traffic that would affect their neighbourhood.

The main transport-related objective therefore was a limitation of additional traffic in the park's neighbourhood. Since the Rhodarium was largely on hold during MOST, the main measure (a combined ticket for the Rhodarium and public transport) could not be realised within the MOST lifetime. But the objective of Mobility Management for the leisure site Rhododendron-Park was maintained and other elements of Mobility Management had to be introduced to achieve the objectives.

The initial blocking of the Rhodarium re-development and the subsequent political negotiations did not allow the administration to start major measures in that period. Finally, in late 2000 a political agreement for a smaller solution – now called Botanika – was reached.

The following information measures (pre-trip and on-trip information) have successfully been implemented within MOST – right in time before the visitor's peaks of the blooming period of 2002:



### *Pre-trip*

A **leaflet**, printed in spring 2001, provides information about the park and how to get there by alternative modes. It was widely distributed via the 'Bremer Tourismus Zentrale' (local tourist information). At the Rhododendron Park's own **website** the user gets specific information on how to get to the park by PT, by bicycle and by foot. It is linked to the electronic trip-planner of Bremen's PT provider. Furthermore, the timetables for all stops near the park can be printed from the web site.

### *On-trip*

To make PT use to the park attractive, walking from/to the stops had to be included in the park's visit. Therefore, a (static) **pedestrian guidance system** was installed. It guides the visitors from the two main PT stops close to the park to the various entrances (and vice-versa). Visitors in the main park area are informed about the PT connections from the park through a **dynamic PT departure information** system – offers real-time information about the PT departing from the two main stops near the park.

Plans for the original Rhodarium included the offer of a combined entrance and PT ticket. The Rhodarium is freely available and visitors do not have to pay an entrance fee for the park itself. The combined ticket can no longer be implemented for the Rhodarium, but it is planned for the Botanika.

## **PTA Málaga (Spain, demonstrator)**

The Parque Tecnológico de Andalucía (PTA) is located 15 kilometres from Málaga downtown. Between the technology park with its 4000 employees and the city centre the university of Málaga is situated with its 40,000 students. This constellation leads to traffic jams especially during the rush hour. These traffic jams are expected to increase due to the increased number of PTA's companies and employees.

PTA's aim for joining MOST was the improvement of the traffic situation to and from the site. A before-study showed that public transport and car pooling were seen as the most successful strategies for this local approach.

During the lifetime of MOST the case study PTA Málaga was made a demonstrator. Therefore, a chance to implement further measures was given and the implementation of an intranet-based car pool matching system was decided upon only in the second half of MOST's lifetime.

In order to meet the aims set in the beginning, PTA implemented a central **mobility office** for the technology park and appointed a **mobility coordinator**. They are responsible for planning, implementing, marketing and finally assessing the mobility management services that were introduced.

Based on the results of a before-study in December 2000 the first measure was the **improvement of the bus service** to PTA. In addition to the one existing line that had one stop at the park's entrance, two new bus lines serving the park were introduced and new stops within the park were set up. Timetables were fitted to the needs of PTA employees.



A **marketing campaign** consisting of leaflets being sent to the new students and employees, mailings to the employees and use of the Internet, 'starter packages' for new companies supported the implemented measures and lead to a change in employees' travel behaviour.

Recently **parking restrictions** have been implemented as supporting pull measures. This includes a number of 124 taxed parking spaces along the streets within PTA. They will be reserved to short time parking or delivering activities.

Another major measure that is planned for implementation in due course is an **intranet-based car pool matching software**. The decision for this measure is based on the findings of a survey amongst the employees. 83 % of those who come alone by car (i.e. single occupancy vehicle SOV) said that they would be interested in car pooling. Negotiations with a developer of an intranet based car pool matching system were delayed due to problems with the developer's software.

### **Karlstad (Sweden, case study)**

Karlstad University is an expanding university (estimated growth: 5000 students between 1998 and 2005, the growth has been 2 500 new students between 1998 and 2002) where some buildings and parking places were under construction or at the planning phase at the beginning of MOST. Too many students, teachers and other staff commuted by car. Demand for parking places already exceeded supply.

The main **objective** was to help and set up the pre-requisites for the students, teachers and other staff at the university to be able to commute to the university without being dependant on solo car use.

The **target groups** are staff and students at the university. The clients are the administration of the university, the student union and public transport companies.

The **Mobility Coordinator** of the university and the **Mobility Consultant** established a new routine which is to provide new students (about 2000 each year) with good mobility information before they enter their new study place. Those new students get a pre-trip **information package** combined with a **free ticket offer** (a so-called smart card). The cost for this measure is shared between the university, PT companies and the municipality.

Twice a year a **temporary mobility office** at the university offers personal information and advice to students and staff. Also, a special **website** that is linked to the student union's web site and the staff web site offers mobility information.

For the **annual bike to work campaign** a routine was established. As an extension of this measure the house owner (a public company) could be integrated as a new partner.

During the lifetime of the MOST project the renovations to the bus station outside the university have been carried out. The discussion about a new train branch line has begun and a train stop with a bus connection will be built in the beginning of 2003.



### **Münster (Gartensiedlung Weissenburg Germany, case study)**

The planning and development of the "Gartensiedlung Weissenburg" combines several mobility services with "normal" habitation. It is the first residential area for car-free housing in the federal state of North-Rhine Westphalia. The area of the development (3,8 ha) is located in Münster-Geist, 2,5 km south of the city centre. The housing estate offers 196 flats in a combination of 120 rented flats and 36 owner-occupied flats in nine multiple dwellings and 40 terraced houses.

At the end of 1999 a lot of residents had already decided to rent or buy a flat or house in the housing estate. The first resident moved in during October 2001 but the majority moved in during 2002.

There are three main objectives: a) to carry out effective marketing for this new form of housing and the new mobility services and to recruit enough new residents, b) to successfully implement tailored mobility services and c) get the residents to maintain car free living on the long term.

The project was successful in the way that nearly all flats and houses could be rented or sold. Hence, the idea of car-free-housing and additional mobility services was attractive for residents. It was also possible to convince the later residents already in the planning phase that mobility services will facilitate their personal mobility.

Not all mobility services are implemented yet and not all are fully operational. The following services are already implemented: Car-Sharing, bicycle parking facilities and public transport timetable information in every house.

The different measures concerning information about the local public transport have started with the move in of the residents. The bicycle parking facilities have been installed during the construction of the buildings.

As most residents only moved in recently it is not possible to report on all mobility services. Some of them were not already used or the period of use does not allow enough time in order to show robust data. But the recently (summer 2002) conducted questionnaire survey is based on one third of the final number of households which had already moved in.

### **IPK Zlín (Czech Republic, information provider)**

As a follower in MOST the task of IPK Zlín was to watch the idea and development of Mobility Management within MOST carefully and think about possibilities to implement Mobility Management in a Czech city like Zlín. IPK Zlín considers Mobility Management strategies important for future dealing with traffic issues in Zlín and the surrounding area. But not having the financial support IPK Zlín has not succeeded in implementing or planning any Mobility Management services. The decision-makers of the city of Zlín and the Zlín County could not be convinced to use Mobility Management as one of the means of sustainable development in the field of transport. This could be changed by permanent promotion of Mobility Management information among the public, politicians and professionals, as well as promotion of successful instances of Mobility Management utilisation in different parts of Europe. IPK Zlín sees a great opportunity in co-operating with young people at universities, who can enforce utilisation of Mobility Management strategies in the future. Another opportunity for the implementation of Mobility Management strategies is seen in the



implementation of such strategies within the framework of other projects, which could bring synergetic effects and that way speed-up the return of investments into such projects.

#### 4.4.2 Results, Intracluster Comparisons and Recommendations

##### Bremen

The result from the data collected for *Bremen's Rhododendron Park* should be carefully interpreted. The before data is taken from an interpretation of two other studies that were made before MOST. Therefore, before and after data cannot easily be compared. The after-data show a positive perception of the Mobility Management measures, which may influence modal choice even more in the future.

Looking at the results, one has to keep in mind that the measures that were planned for visitors of Botanika are currently serving the parks visitors until Botanika will be opened. Seeing that the target group will be somewhat different in the end the results that can be drawn from the surveys have to be understood as giving a first hint. Furthermore, on-trip information has only been installed shortly before the after survey was done during the blossoming period in spring 2002. The survey was undertaken during that time due to usually large numbers of visitors and the high percentage of visitors expected to travel from further away to visit Botanika. Final results can only be expected after Botanika's opening.

Altogether, the surveys show a slight trend towards the use of sustainable modes. The visitors were also asked about their knowledge concerning the measures that were implemented between both surveys. The answers show that the pre-trip information (i.e. brochure and website) is not well known amongst the visitors. But those who know it gave good marks on average. The on-trip information (i.e. the dynamic PT departure information and the pedestrian guidance system) is known by about 50 % of all frequent visitors. Of the infrequent visitors about one third knows the dynamic PT departure information and half knows the pedestrian guidance system. Again those who know the on-trip information gave, on average, between good and very good marks.

Additionally, in Bremen an analysis based on the quality management approach European Foundation for Quality Management was undertaken in order to analyse the planning and implementation activities for the Mobility Management measures. Five stakeholders participated at the written survey round and two more joined the panel in the following round table conference organized in June 2002. Overall, the panel members were positive about the way the mobility management activities were running. There had been difficulties in the past but all agreed that with the new site-development plans, all mobility management activities were running smoothly.

The most important factor of success and failure has proven to be the acceptance and backing from all political and social parties at the very first stage of the site development planning. The residents and the local advisory board were opposed to the original site development plans for the Rhodarium (from 1997) because they felt that there were not being involved in the planning process. This consequently caused a delay in



the planned MOST measures. One major reason why the initial site development plan (Rhodarium) was rejected was because it was considered as too large a traffic generator.

In the new and less ambitious site development (Botanica) planning, all stakeholders were involved from the beginning and support for mobility management actions is now guaranteed.

The main measure that was originally planned for the Rhodarium was a combined entrance and PT ticket. Due to the political discussion process including the amendments concerning the size and type of the Rhodarium into the new concept of Botanika, this measure could not be implemented during the lifetime of MOST. There is a particular issue concerning site development: the framework may change, the planning may change in many details and hence the mobility management measures need to be adapted.

The type of political discussion (formal objection of residents against plans of the public authority) is a typical part of the planning process – and very often concerning transport (and other environmental) impacts. Nevertheless, it seems to be important to include mobility management measures into the planning process.

### PTA Málaga

Based on the results of the before-survey, the bus services serving *PTA Málaga* were improved in collaboration with the local PT operator. The rapidly rising number of bus riders shows, that this measure was successful. With the new bus line bus ridership increased from 5,000 employees per month to 45,000 in only 4 months. Seeing that about 47,5% of the employees stated to be interested in car pooling, a detailed study about the chances for a successful implementation of an intranet-based car pool matching system for PTA was made. This study showed that the given framework conditions like places of residents, working times (87% have a fixed timetable) and the work starting and end times were favourable for the implementation of an intranet based car pool matching system.

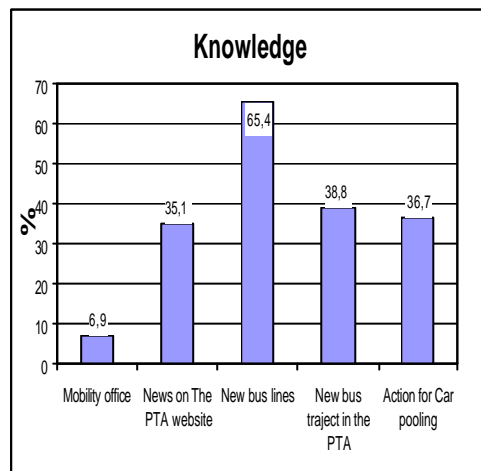
Mode	Before-study (Dec. 2000)	After-study (July 2002)	
		retrospective	current
private car	76	74	63
shared car	10	13	19
bus	5	9	12
motorcycle	9	4	5
bicycle	1	0	1

**Table 4.4.2-1: Development of modal-split at PTA Málaga**

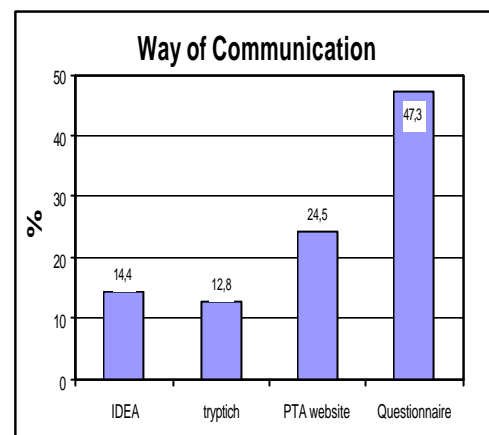
The after-study of July 2002 showed the project's remarkable success (cf. Table 4.4.2-1). The number of PT users increased from about 5% from the before-study (or 9% from retrospective question in the after-study) to currently 12%. In the same time span car pooling increased from about 10% from the before-study (or 13% from retrospective question in the after-study) to currently 19%. These figures, in particular are expected to increase after the implementation of the intranet-based car pool

matching software. Solo car driving decreased from about 76 % from the before-study or 74% from retrospective question in the after-study down to currently 63%.

Altogether, a clear shift from solo car driving to PT and car pooling can be seen. This result is based on an improvement of the bus service and an intensive marketing campaign for PT and car pooling. About 76% stated to know about the activities of the MOST related mobility management activities. As Figure 4.4.2-1 shows about 2/3 of the employees know about the new bus lines that were introduced to serve PTA. About 1/3 of the employees knew about the new alignment of bus routes within PTA, about the transport related news on PTA's website and the plans to introduce an intranet-based car pool matching system.



**Figure 4.4.2-1:** Knowledge about the mobility management measures at PTA



**Figure 4.4.2-2:** Knowledge about the mobility management measures at PTA were drawn from various marketing activities

Surprisingly, about 47,3% stated that they were informed about the new measures via the questionnaires of the several studies (cf. Figure 4.4.2-2). Based on this, questionnaires to a large part of the target group should be seen as an important way to collect information for a mobility management approach, but it should also be considered as an important marketing tool. When people are asked about certain measures again and again (especially in face-to-face contact where they can ask for more information about a certain measure) they will at least know about these measures. And knowledge has been defined as a first step on the way to trying a service and finally use it regularly (cf. WP 3 Assessment Levels).

The success of the newly introduced bus lines to the park and the high acceptance of the planned car pool matching system shows that these people are not yet fixed on their 'habitual' mode but are still flexible enough to shift modes. This is seen as a success in addressing new companies and new employees right from the start and showing them alternatives before the habit of establishing the car as their mode of commute happens. Further improvements can be expected after the introduction of parking restrictions and the intranet-based car pool matching system. Both measures should be able to shift the modal-split further towards sustainable modes.



### **Karlstad**

The results of *Karlstad University* were not yet unequivocal as one would wish. The approach to inform students and staff about sustainable modes at the beginning of the study year, complemented by a free PT ticket offer plus bike to work campaign seems to be a promising one.

The figures concerning mode shift between 2001 and 2002 are quite surprising. Although a lot of effort was put into promoting the measures, less people used sustainable modes in 2002. Less people were influenced but on the other hand they travelled longer each day and travelled to the University more often than those surveyed in 2001.

The comparison of km saved in the 2001 and 2002 surveys shows that in 2001 the number of km saved by students and staff members were 1056 per person. The 2002 figure was increased: the km saved were 2 872 per person. Less people were influenced but on the other hand they travelled longer each day and did it more often.

Further analyses of the two surveys that had been undertaken reveals that different samples were approached: in 2002, there were 10% more respondents who had a car available for usage than in 2001, and 43% of the sample lived farther away than 16 km of the university (against 33% in 2001). These differences probably account - at least partly - for the increase in solo car driving.

The measures and services have been successful in that they established a platform for developing further measures and continued discussions with the different clients. Through the cooperation during the MOST project between transport advisory service, PT companies and the university discussions have started concerning the possibility of several extended services. For example, it is intended to offer members of the staff the chance to buy different tickets (one-, two-, three or six month) and pay monthly through their salaries (This is today impossible because of the old ticket system and also because of taxation rules.). In addition, plans for different bonus systems for those who choose more sustainable travel modes are in development.

The new bus station and the new train branch line will bring better conditions for development of the PT travel. Parking areas that today are free of charge will, in the coming years, be charged. These conditions will make it easier to start services that correspond with the demand among both students and members of the staff.

Altogether the framework conditions (higher car availability, more students living more than 16 km away, the renewal of the main university bus stop including obstructions for passengers etc.) seemed to work for an increase in solo car use. The University is currently in a phase of re-organisation, this is creating additional site-related traffic and causing obstructions especially for PT users and cyclists. Further measures (e.g. finalisation of new bus station at the university, a new train branch line and parking charges) are planned for the near future; these should help to improve the situation. Evaluation in the next years will hopefully show a long-term success.

The MOST project has created a good platform for continued discussions and cooperation between those sites that have been involved. It has also brought new knowledge to partner organisations about the need for information about modal split, attitudes and travel behaviour as well as the specific requirements of target groups.



## Weißenburg

Over 70% of the car sharing users now living in the car-free housing area *Gartensiedlung Weissenburg* did not use car sharing before they moved in. Over 90% of all car sharing users are satisfied with the performance of the service.

Most of the work trips of the people living in this housing area are of a short or at least of a medium distance: 79% are up to 10 km and 70% are not longer than 5 km. According to the general statistics for North Rhine-Westphalia (in 2000) 56% of all work trips are no longer than 10 km, 35% are no longer than 5 km.

The composition of households here is rather heterogeneous. Hence, the first results which are available now are not necessarily transferable to other sites of the same intention: Here, it is a completely new housing area with households, partially with a certain experience in car free living but surely with different motivations for moving in that is generally typical. Some residents moved because they already had a preference for car free living (31 % of the households) and others had ecological reasons (about 60 % of households). It can be said that they intentionally live without a car and nevertheless are able to manage their daily life as sufficient as others do. But there is no hard fact which could be used as proof that a certain household is living without a car because there is a car free housing area with mobility management services.

The rather short distances of the trips to work may be a further hint that people try successfully to organise their car free life. It seems that the choice of the living area is orientated to the working place, if the option exists. In consequence, building car free housing areas is not necessarily dependent on mobility management. Accordingly, it must be stated that it is rather difficult to convince the decision makers, especially in a housing company about the idea of Mobility Management in their facilities. This is an issue which should be taken into account much more.

## Zlín

Most important for *IPK Zlín* was learning about the general Mobility Management strategies, services and tools, as well as successful Mobility Management applications in different cities in Europe. Unfortunately, when MOST is over, no other Mobility Management services will be offered in Zlín. The most positive way in which the work to date can be viewed is the fact that the MOST project at least gave the general public information about Mobility Management. Universities were also involved and are ready to continue working with students and within international projects, which deal with issues concerning Mobility Management measures.

The idea behind the approach for this Cluster was that people (employees, students, visitors etc.) that go to a new site get used to sustainable modes right from the beginning when first travelling to the new place. So, one of the usual obstacles, i.e. making them change their mobility behaviour without any other cause, doesn't apply. The cluster results show that offering mobility management services in a state where the target group is forced to change or re-think their own mobility behaviour anyway, due to other circumstances, leads more easily to good results. If mobility management services are the 'only' reason for a change in mobility behaviour more resistance can be expected.



Secondly, establishing Mobility Management in the planning phase could lead to a reduced number of parking spaces right from the start and therefore could save investments in infrastructure.

But the implementation of mobility management measures in the planning phase always includes the risk that delays in the planning phase (that are not uncommon) lead to delays in the realisation of the plans and thereby of the mobility management measures. While this is a known problem in a general planning process it becomes an obstacle for a demonstration site with a restricted run time of 3 years (as with MOST). It will lead to limited results before the end of the demonstration site although the chosen measures and the concept of Mobility Management will lead to good result after MOST.

Altogether, the inclusion of mobility management already in the planning phase can be seen as a good way to improve the chances of its success. If actively involved, Mobility Management might even influence the success of the planned facility as the success of the smaller-scale Botanika together with the active involvement of all stakeholders in the planning Mobility Management measures has shown. On the other hand one should always be aware that delays in the planning process will probably also lead to a delay in the introduction of accompanying Mobility Management measures. Such a delay should not be judged as failure of the introduction of the Mobility Management measures, but rather proves the flexibility of Mobility Management.

One obstacle for MOST was to find sites that exactly fitted these requirements: being in the planning phase and trying to include Mobility Management. But in the end a number of sites that met the criteria (at least partially) were found. All sites are different in terms of approach (edutainment centre, technology park, university, car free housing estate and a region) and their implementation status.

All sites in cluster 4 Site Development will continue after the end of the MOST project and even better results can be expected after the finalisation of MOST.

## **4.5 Cluster 5: Temporary Sites and Events**

Festivals, fairs, large sports or cultural events play an important role in strengthening a city's economic base and quality of life. They help raise the attraction of a city and increase the number of visitors, which requires a good management of their mobility and to guarantee easy access to the events and points of interest. The everyday transport demands (e.g. commuters) might aggravate these potentially negative effects in many cases.

A different 'event' aiming for the same targets, is the upgrading of city (transportation) infrastructure, often causing a disruption to mobility first.

Both, events and construction, are temporary in nature and impose specific challenges to transportation. Mobility management measures are good tools to cope with those challenges and to finally guarantee a positive outcome.



#### 4.5.1 Temporary Sites and Events: Objectives and Implementation

##### Porto (Portugal, demonstrator)

In 2001, two European Cities were selected to be Cultural Capital: Rotterdam and Porto. Both were sites in MOST. Porto has taken the opportunity to launch mobility management in the city. In order to accommodate the transport of the visitors and tourists to sites and events in Porto in an efficient and sustainable way, a Mobility Centre, the "Loja da mobilidade", was implemented. It serves as the central contact point by giving information and advice on alternative modes or the accessibility of sites and events, and by booking reservations or selling tickets.

As public transport in Porto is run by several independent companies, it has been rather difficult to get information about fares, intra-modal change (even from one bus to one of another company), or best connections. Due to these circumstances it has been essential that all relevant partners co-operate to get the Loja running.

The Loja opened its doors on the 22<sup>nd</sup> of September 2001, making advantage of the raised awareness for sustainable transport by the 'European Car free Day'. It is located in the city centre using the same room as the tourist office. Of the total 120 m<sup>2</sup> of the tourist office, the Loja uses only about 4 m<sup>2</sup> for a desk for personal access and a telephone line and computer for phone and email/internet access. Sharing the facilities, running costs are comparatively low: about 3600,- € per month including personnel.

**The following services** are provided toll-free:

- **Personal information** about individual route planning (best PT connections and fares), accessibility of places of interest, changes in the transport system.
- **Material** to be distributed: PT and national railway timetables and fare information, maps with PT network car parking (locations, fares, capacity), or unloading zones. A transport guide in English and Portuguese raises the awareness of alternative modes (including taxis) and informs enquirers about mobility management, the PT networks and fares.
- The only **tickets**, that are sold in the Loja so far are the 3-day PT-pass "Porto 2001-ticket" and the special Nicolau-ticket (special offers before Christmas). The only ticket, where a **reservation** is provided is for the airport bus.
- **Claims** and suggestions concerning mobility in Porto can be submitted at the Loja.
- In the near future, an **internet based information system** will enable "virtual" access to all services.

One barrier encountered during the implementation phase was the difficulty of finding a separate location was solved by integrating the mobility centre into the existing tourism office, which created a lot of valuable synergies. Another barrier was the lack of commitment among the relevant stakeholders. The EFQM analysis, namely the round table meeting helped to clarify responsibilities and create motivation.



### Leipzig (Germany, demonstrator)

Since 1994, the Leipziger Verkehrsbetriebe (LVB, PT provider) have been converting the conventional tram system into an urban tram system with tracks separated from the road. Intensive construction work is needed, which temporarily leads to difficulties for the users of the public transportation system as well as for affected residents, retailers, and companies (with respect to accessibility or traffic levels). In the past, this intensive construction work had even resulted in a bad image of the LVB as negative press releases have shown. To keep the actual negative impacts as low as possible, the LVB decided to apply the mobility management concept and to implement what they called “construction site marketing”. Within MOST, 3 construction sites have commenced.

The mobility strategy applied is primarily based on 4 pillars:

- Supplying an on-site, temporary mobility centre before and during the construction work: a **mobility bus** in an easy to recognise design. The following **printed information** is available: regular timetables, routes and information about changes, interruptions and substitute transport. Regular **tickets** (including monthly or yearly passes) can be obtained, as well as **souvenirs** and free gifts. Staff also take **complaints** which are not related to the construction.
- In addition to the mobility bus, a **24-hour-hotline** is active for all kinds of questions concerning the LVB and their services, and specific construction site information can also be received via the internet at <http://www.lvb.de/start.html>.
- **Personal consultations and information workshops** for neighbouring businesses, retailers, craftsmen, and people affected by the construction work; this is being undertaken by professional mobile mobility consultants, who approach these people actively and consider their individual requests.
- **Special flyers** for residents, retailers and their customers, and for the passengers of the public transportation system (Information about the timing and changes/detours due to the construction as fax-templates, flyers or posters, monthly newsletter just informing about all construction sites of the LVB).
- Accompanying **marketing**, asking for understanding for the construction measure and focusing on the positive consequences expected after the construction. Marketing is done professionally by the marketing department of the LVB. Attention is paid to an unique and easy-to-recognise layout and friendly tone.

Altogether, during MOST, about 190,000 € have been invested to ensure Mobility Management for the 3 construction sites. This amount does not include personnel costs but material costs and printing etc.

### Rotterdam (Netherlands, case study)

The City of Rotterdam aims to be the Festival City of the Netherlands. This means that the municipality welcomes many festivals and events with open arms and offers support in terms of organisation. Organising temporary events means attracting



visitors and therewith, extra travellers. Additionally, events themselves tend to influence the accessibility of the city. In order to avoid a negative effect on the daily mobility and the attractiveness of the city, there is a need to make travelling as easy as possible. For this purpose, mobility management is used. The objective for the MOST project within Rotterdam was to promote the use of sustainable transport among the visitors that were expected for the Cultural Capital of Europe 2001 (CC 2001). Rotterdam also provided information on two large events: the yearly Rotterdam Marathon, and the European Football Championships 2000. Both events have (had) major impacts on accessibility.

For the **CC 2001**, sustainable transport has been promoted by the following measures:

- An **information centre**, the Calypso was the CC headquarter, with a main task to provide programme and event information. Additionally, visitors could get (personalised) information on PT, tickets, travel information for special events (sometimes even available as flyers). The Calypso has actually been a temporary institution, which has only been in operation during the CC.
- **Special event tickets** offered by the local PT provider, combine entrance fees with a PT ticket. It has a special design, a reduced price and is accompanied by a special publicity campaign. In addition, the internationally available Rotterdam Card offers free access to some of the best places in Rotterdam, discounts at restaurants and free PT within the city. Its introduction had been speeded up because of the CC 2001.
- **Special arrangements** have also been offered for the CC 2001: this included an overnight- stay at a hotel, entrance fees to several events or places of interest of the CC 2001 and a reduced ticket for PT in Rotterdam.
- **The route of the historical circle tram** has been adjusted to encompass most of the important CC event locations. Visitors could reach all their destinations via a sustainable, pleasant and dedicated transportation means. This also meant keeping them out of “normal” PT, thus reducing the burden on existing capacity.

Every year, the **Rotterdam Marathon** starts and ends on the main street within the city centre, thus blocking off the city centre for all motor traffic. And being an “event on the move” other parts of the city also experience road blocks during parts of the day, thus restraining accessibility. This shutting down of large parts of the city and especially of the city centre calls for timely and extensive information provision.

Additional services have been implemented for the **European Championship**: extra manpower, special time schedules, special types of transport (like shuttles, group taxi's), special ticketing, dynamic route guidance, designated routes for PT and taxis, detour routes for normal transport, clear and safe walking routes including good signage, special embarking facilities, real time information via the web site, info brochures for the public as well as the own personnel, 200 city ambassadors at strategic locations like stations or airport and infotainment centres (they were trained to handle large crowds and could speak different languages to cope with language problems).



### **Athens (Greece, case study)**

Athens has joined the MOST project with the objective to prepare for the high mobility demand during the Olympic Games in 2004. The current daily transport situation is already not satisfying, so that additional people movement during the Olympic Games (13th to 29th of August 2004) in the City of Athens, will add to traffic congestion if no alternatives are offered. The inner city is a sensitive area with a lot of cultural heritage, which makes it difficult to provide additional infrastructure. Hence, the alternative approach for facilitating the mobility of the thousands of people during the 2004 Olympiad is to use soft and reversible measures as with mobility management.

In order to give an initial estimate of the movement of visitors and spectators during the event, "ATHENS 2004" has performed a Preliminary Strategic Plan of Olympic Transportation:<sup>12</sup>

- About 150,000 athletes, VIPs, journalists, sponsors, staff, and volunteers are expected as well as 6 to 7 million visitors.
- Traffic during the Games will mainly be caused by transportation to the athletic events as well as to sites of cultural interest (museums, cultural events, etc).
- The following mode share for the visitors to the Games is expected: buses 35%, tram and metro 45%, taxis/private car 10%, on foot or bicycles and motorbikes 10%. A new tramway system at the coast and a water taxi fleet is expected to take considerable traffic load off the coastal road network.

Within the activities of the MOST project, the potential of Mobility Management as demonstrated especially by Rotterdam and Rome has been promoted to the Organising Committee.

### **Rome (Italy, information provider): Jubilee Year 2000**

During the Jubilee Year, a huge number of organised groups of visitors and pilgrims arrived by tourist bus to visit the city of Rome. There were 25.5 million visitors during the Jubilee Year, whereas in 1998 for instance, there were 14.1 million. Various measures have been implemented to prevent a break-down of the traffic in Rome as a result of the additional numbers of people moving around. They were based on 2 pillars: access restrictions for buses combined with providing extra parking lots (some of them linking up with local PT or express shuttle services), and additional bus lines, the so called "J-lines".

The inner city was restricted in access for buses. Buses had to check-in at a check point, where they were assigned free parking lots closest to their destination and received guidance to get there. The parking lots could be reserved in advance. The advanced information for the tourist buses worked well. It was mainly disseminated via the internet.

The 8 newly established J lines were dedicated urban express lines that ran "Jubilee" itineraries with only a few stops, linking Romans and tourist to the most interesting sites of the city, such as the basilicas, catacombs and museums. They are very comfortable new buses with air conditioning, which makes their use very attractive.

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<sup>12</sup> The figures are based on the international experience of past organisers of Olympic Games and are indicative for the expected levels of mobility demand.



## 4.5.2 Temporary Sites: Results, Comparisons and Conclusions

In this subchapter, the most interesting results are summarised per site. When comparing the results and experiences of all 5 sites, some common findings can be extracted. Recommendations will be given on the basis of the results and interpretations at the end of this chapter.

### Porto

For *Porto*, being Cultural Capital 2001 has above all been a trigger to start mobility management. Porto has conducted a survey at tourist spots before and after the opening of the Loja, with 100 respondents each. Apart from that, data about the usage of the services of the Loja have been gathered. Looking at the tourists and visitors, 66% have a need for information about PT: they usually get it in the hotel (21%), at the bus/tram stop (9%), at the tourist office (7%) or in tourist guides (6%, rest unknown). Usually they are satisfied with the information they get there: hotel 85%, bus stop information 91%, tourism office 78%, tourist guide 88%. Of the respondents, only 2% have requested information at the Loja, which shows that further promotional activities are needed. Potential customers will be approached more actively using different channels: visitors of Porto via cooperation with air companies or travel agencies, information provision at stations of other cities, hotels, email, improvements on the website. Efforts should be made to address the mode choice of tourists for their trip **to** Porto in addition to moving around **in** Porto. Only recently citizens of Porto have started to use the Loja. In the future, residents will be addressed by mailings, through promotion in the PT vehicles or at stops, by offering specific integrated tickets to events or attractions etc. It is also planned to approach schools and inform them about the new Loja.

The tourist centre has been visited by about 16,000 persons from the opening of the Loja (22<sup>nd</sup> of September 2001) until the end of 2001. The number of visitors to the Loja has been 11% of these (about 1,800). Between January and March, this proportion has grown: 9,400 people visited the tourist centre, and 1,400 the Loja, which equals 15%. According to the visitors' assessment, the shared space with the tourist office (originally just not possible in a different location) provides high synergies (known place, mentioned in the tourist guides, easy access, more clients). However, there should be some space to provide for individual consultancy.

Meanwhile, almost 8% of the 3-day Tickets for PT in Porto are sold by the Loja. There is more potential, both for ticket sales and reservations, but this requires an integration of the different service providers into a suitable system of billing, which is a very complex process.

### Leipzig

There are about 50 visitors to the *Leipzig* mobility bus daily; usually there are more visitors shortly before the start and end of the construction (up to 70) than during the construction (30 to 40). Half of the visitors were interested in information concerning the affects of the construction works on public transportation and information about the reconstruction itself. However, even more people request regular PT information (3/4 of the visitors to the bus take the regular time tables and network information with them and about 50% request information about tariffs). Due to the possibility for

intensive mobility consultancy in a positive atmosphere, the bus is a direct link to new customers: on average, 3-4 new monthly passes are sold weekly. Most of the visitors seek personal contact: only about 1% just take information material without contacting the mobility consultants.

Looking at the statistics of the 24 hours hotline at LVB, the figure is encouraging: Three times as many people contact the LVB during constructions than in other times. At the same time, however, the complaints do not rise proportionally (see Figure 4.5.2-1). A decrease in the number of customers due to the construction cannot be observed.

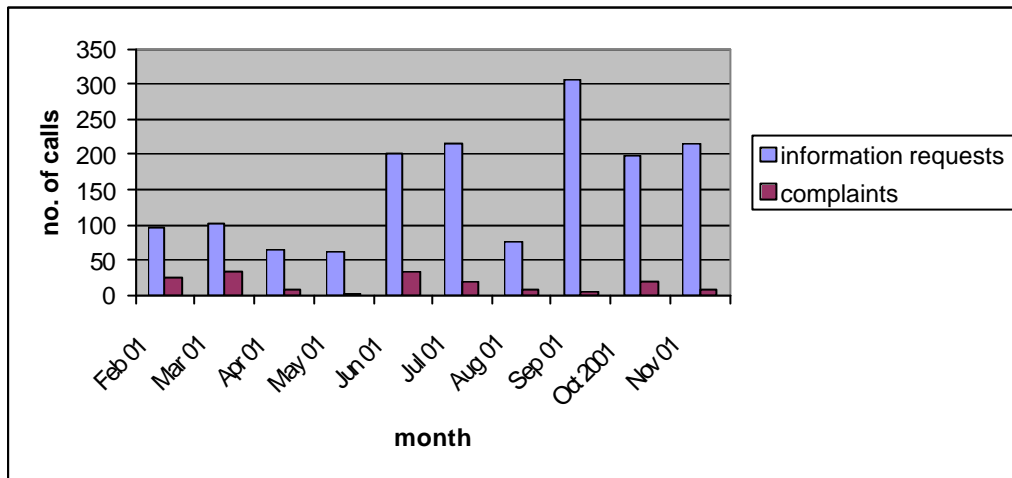
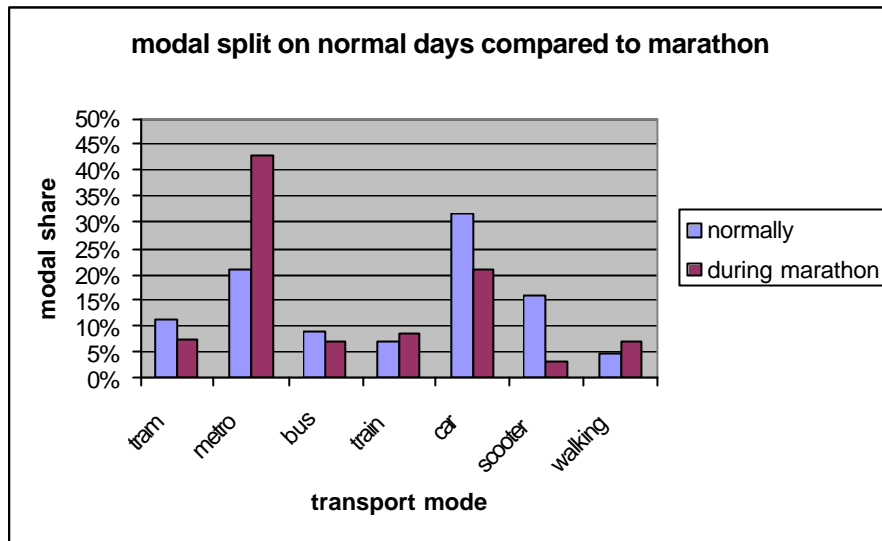


Figure 4.5.2-1: Statistics of the 24 hours hotline at LVB

### Rotterdam

The Cultural Capital *Rotterdam* has attracted 28 % more visitors and tourists in 2001 than in 2000, the share of foreign visitors almost doubling. The number of visitors to the CC never created problems for accessibility or the transportation situation. About 50.000 people visited the Calypso, 71 % of these were Dutch visitors - foreign tourists made much more use of the regular tourism centre to obtain most information. Almost all contacts at the Calypso resulted in the provision of transportation information, whereas ticket sales in general were not very high due to the nearby railway station. Surveys during the CC reveal that most foreign tourists plan their trips individually and independently. Hence, they can probably best be reached through the internet, hotels and city travel guides.

At the *Rotterdam* marathon 2001, 193 personal interviews were taken near the start and finish. For 66%, the Marathon was the reason for travelling into the city centre. Usually, 42% of the interviewees travel by car, on the day of the marathon this percentage was only 26%. PT usage increased from 44% to 71% during the Marathon, the metro had to transport twice as many passengers as usual. This equals an increase in PT use of 60% and a reduction in individual car use by 38%!



**Figure 4.5.2-2: Modal split: normal days compared to marathon**

For 30% of the interviewees, the limited accessibility of the city centre was an incentive to use PT - for 40% of the car owners this was the main reason to switch to PT. The awareness about the accessibility to the Marathon was best raised by in-vehicle posters, radio commercials on local radio stations and advertisements in local newspapers. Even though 70% of the interviewees were aware of the special traffic conditions and the measures, like the special Marathon day ticket, only 26% actually bought this ticket. This might be due to the fact that the Strippenkaart is nation-wide easy to get, valid for all local PT.

### Athens

*Athens* utilised surveys during the European Car Free Day to investigate car restrictive measures as an option for the Olympic Games. The car free centre idea could be demonstrated to the city centre commuters, inhabitants and shop owners. It succeeded in getting them actively involved and, hence, to gain the support needed from them. The interviews during the car free days in 2000 and 2001 with 500 / 400 people in the city centre respectively show strong support for a repetition of car free days, in many cases. However, linked to the demand for better alternatives: once annually (22% support), each weekend (21%), three times a year (20%) - 20% could even imagine to have a complete car free city centre throughout the whole year! (9% would like to have car free working days and only 6% are completely against the initiative). PT operators were shown the opportunity to gain more customers and the local and regulatory authorities (Organizing Committee of the Olympic Games, Ministry of Transport, Municipality of Athens, etc.) have been shown the huge potential of an idea that has been, until recently, regarded as inapplicable or inefficient. Athens also benefited from Rotterdam's Mobility Management practices during the EURO 2000 organisation and Cultural Capital 2001. The examples of Rotterdam and Rome, apart from their practical value, could successfully be used as strong arguments about the applicability of Mobility Management in the discussion with decision and policy makers that were sceptical towards Mobility Management.

**Rome**

The statistics of PT in *Rome* reveal that the J-Lines in Rome were used less in the beginning of their operation until a profound marketing campaign in March and the agreement that people could use the “normal” Public Transport ticket to use the J-lines. This helped to increase their use from an average 39.000 monthly passengers until March to an average of almost 360.000 monthly passengers thereafter.

As the figure below shows, there is no obvious correlation between the number of tourists and pilgrims and the number of J-lines users. Whereas there were most tourists and pilgrims in Rome in May (almost 8 mio), the J-Lines show a peak in users in October (470,000). This indicates that Romans also used these new lines. 3 of the 8 lines are still operating today, as they proved to be highly used by regular tourists, commuters and shoppers.

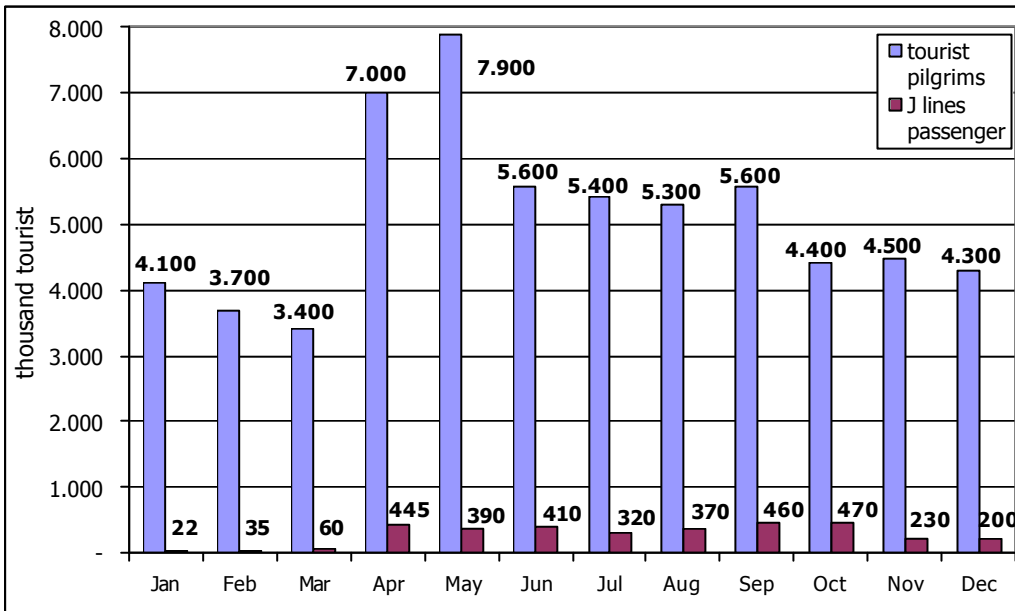


Figure 4.5.2-3

**General Conclusions**

Comparing the results and strategies of all the 5 demonstration sites, some common recommendations can be extracted and are given in the following.

**Analysis & User orientation**

For new services to be well-accepted by the users they need to be targeted well and detailed information should be gathered about their needs. This was the starting point in *Leipzig*: any construction begins with taking into consideration individual needs of local businesses and inhabitants. This prevents many complaints, as people feel they



can take part in the process, state their requirements and be considered. Suggested adaptations are integrated into the further planning.

User orientation facilitates to choose the right means of communication. For the mobility centre in *Porto* as well as the mobile event coordinators in *Rotterdam* and *Rome*, this meant selecting personnel capable of speaking foreign languages and also trained in communication. Especially for large-scale events, being able to address people properly in a language they understand, helps to relax a situation. Communicative abilities are also of importance for the mobility consultants in *Leipzig* who approach the businesses, as they take over mediating tasks and in that are often confronted with representatives of the companies with complaints to make.

For temporary events, the behaviour of the moving crowds should be anticipated carefully. *Rotterdam* had to learn that visitors underestimate distances or consider too late the value of information about accessibility, resulting in overcrowded transportation and large crowds block the tramways and roads, causing even more delays. *Athens* has already undertaken an analysis of probable destinations and transport modes chosen by the visitors of the Olympic Games, hoping to prevent - instead of coping with - similar problems.

Actively approaching the users instead of waiting for them to ask for information is a recommendation to be given on the experience of all sites: *Rotterdam* had mobile consultants out in the street for crowd management. *Porto* saw that local inhabitants are not yet among their customers in the mobility centre and that they will have to be reached using more direct and active marketing. For *Leipzig*, the mobility bus is directly where it is needed the most - and even (potential) PT users appreciate the service being brought to them and convenient direct link to the LVB services.

### **Professional Marketing**

It is important for any new service to be marketed: this clearly became obvious in *Rome*, where the new Jubilee bus lines did not have many customers until there was a good promotion campaign. However, at the same time it is necessary to provide a good product, as the example of Rome shows as well: the necessity to buy different tickets for using PT or Jlines in Rome would have discouraged many potential travellers from using it. A professional appearance contributes to a high rate of recognition and in creating a positive image - *Leipzig* learned, that any paper copies used to inform people about (even just temporary) changes or disruptions are not taken seriously and do not contribute to this positive image. Therefore, they invested in professionally designed and printed information material, even though it is just used temporarily.

Marketing strategies also build on the need for information of the users. In *Leipzig*, the information about the local construction is naturally tailor made. However, this refers not only to the construction site and its surroundings (e.g. possibilities of detours or substitute transport means to the disrupted tramlines) but also to the kind of user addressed: whereas a substitute time table might be sufficient for the individual traveller using PT, fax templates and large posters need to be provided for the local businesses, and they are given a forum to discuss consequences and alternatives. This is highly appreciated and often used.

The achieved reduction in car use during the *Rotterdam* marathon by 38 % in favour of an increased use of public transport (60 % more) clearly shows the benefit of car



restrictive measures. *Athens* will follow the Rotterdam example to inform the visitors and the residents well in advance as to how transportation will be managed during the Olympic Games, what consequences this will have for mobility in the city and which alternative transportation modes will be provided. This includes publicity through the media as well as with information points in central locations of the city prior and during the event about alternative transportation to car use.

#### **Coordination & clear responsibilities**

A common success factor for a smooth implementation process seems to be good coordination: taking all relevant stakeholders (including end-users in some cases) aboard a project team, assigning explicit responsibilities to them and taking care of a good communication flow between them is a challenging but promising task. This counted for all sites:

- *Porto*, coordinating between the city, different PT providers, university (for scientific co-ordination) and the employees of the mobility centre.
- *Rotterdam*, coordinating a whole event team composed of PT provider, city representatives, organisers (including fire brigade, police etc.).
- *Leipzig*, coordinating between construction management and mobility consultants in the mobility bus but also with the affected businesses
- *Rome*, managing the pilgrim buses
- *Athens*, already starting coordination by linking up with the city and Olympic committee but also striving to include all kinds of organisers, as in Rotterdam.

#### **Transfer of experiences and Exploiting Temporary Events**

A well-elaborated scheme assigning responsibilities and timing is a key for the Mobility Management strategies used by *Rotterdam* and *Leipzig* for many previous events/construction sites: they provide ready-to-use schemes for similar cases, which are continuously up-dated and improved upon to give new insights. In the long run, this limits the efforts needed each time such an event/construction has to be organised. *Leipzig* will also transfer their construction related plan to the Football World Championship in 2006.

The examples of Rotterdam and Rome served *Athens* as strong and convincing arguments for the applicability of Mobility Management. It helped to convince decision and policy makers who were sceptical about Mobility Management to make this approach the favourable option to prevent transportation problems occurring during the Olympic Games.

For *Porto* and *Rome*, originally the services were only planned to be of temporary use: However, for both, this was the trigger to improve on the mobility services more generally. In Rome, 3 of the Jubilee bus lines continue their operations even after the Holy Year and in Porto, there is already a plan for the next 3 years of the mobility centre. In *Athens*, the acceptance of car restrictions during the car-free-day helped to anticipate reactions of the citizens and retailers to such a measure - and to adapt the required alternatives and promotional activities. Temporary events, therefore, are a good opportunity to test innovations before they become well-established services.



## 4.6 Cluster 6: Mobility Centres and Mobility Consulting

In contrast to the other clusters in MOST, this dealt with two central instruments of Mobility Management, Mobility Centres and mobility consulting in four different projects:

- *Mobility Management at the Mobility Centre in Lund, Sweden* as part of *LundaMaTs*, a comprehensive plan for more sustainability in urban transport.
- *WorkWise in Nottingham, United Kingdom* to achieve social inclusion through improving access to employment and training by applying mobility consulting.
- *Company Mobility Plans in Rome, Italy*, professional advice for companies to nominate a mobility co-ordinator and to realise mobility plans on a large scale
- *Mobility Centre in Prague, Czech Republic*, a case study to establish a multi-modal Mobility Centre which integrates existing information facilities.

Some of the sites have undertaken their projects within larger programmes (Lund, Rome) or as extensions of existing mobility services (Nottingham). Whereas Lund and Nottingham have undertaken a thorough evaluation, Rome is in the phase of implementing travel plans. Prague's case study provides documentation of their experience in the planning phase.

In addition, four early Mobility Centres in Europe provided information which gives evidence for a long-term evaluation. The following Mobility Centres contributed existing data from monitoring their on-going services: *Atcittá Bologna*, Italy; *MobilZentral Graz*, Austria; *Mobilé Muenster*, Germany; *MobiCenter Wuppertal*, Germany (cf. 4.6.3). They acted as information providers in MOST.

### 4.6.1 Mobility Centres and Mobility Consulting: Objectives and Implementation

#### **Lund (Sweden, demonstrator): Mobility Centre within LundaMaTs**

The Mobility Centre in Lund serves as an example of how a range of mobility services can be included in a municipal transport policy. The application of Mobility Management is a core element of a comprehensive plan for a sustainable transport system in the City of Lund, *LundaMaTs*. Lund is a university town with 100.000 inhabitants.

*LundaMaTs* consists of an action programme organised around five themes: *the bicycle city, extended public transport, company transportation, environmentally friendly car traffic and urban planning*. It includes 8 main projects and 120 sub-projects. The realisation of *LundaMaTs* is done in collaboration with the City of Lund, the business sector, the public transport sector, several associations and authorities. The overall objective is to reduce the CO<sub>2</sub> emissions caused by traffic by 5 percent until 2005 and by 20 percent until 2020 (Base year 1990). Mobility Management is both an instrument for the implementation of *LundaMaTs* and a task in itself.

In 1998, the Mobility Centre in Lund started as a part of *LundaMaTs*. It should trigger and assist the development towards more sustainable transport through mobility consulting (inhabitants and employees in the region), information services and awareness raising about environmental and health implications of traffic. The activities should contribute to a higher use of alternatives to the car. Within MOST, the Mobility Centre (4 employees) has worked on five main projects:



1. *Mobility Management in the City*: Taking the lead, the City of Lund implemented its own green travel policy and has integrated it into environmental management. An awareness raising campaign was launched and education in EcoDriving has been carried out. Also a small telecommuting pilot has been realised.
2. *Mobility Management in companies in Lund*: An awareness campaign was carried out in companies. Individual adapted brochures were provided with tailored information about travel time, travel cost, emissions and energy consumption. In the *Bus Rider* project, 47 employees tested commuting by bus. The test persons functioned as agents by giving an example of good practice for others.
3. *Pilot project in Soedra Sandby*: Soedra Sandby, a village near Lund, core awareness raising activity is the *Health bikers*: ten commuters who normally used a car for work trips (6-18 km), commuted by bike for one year. Also 25 *Bus Riders* tested new options and the centre aimed to start a car-sharing association.
4. *Eco cars and Car sharing*: An information campaign to increase the sales of environmentally friendly cars was undertaken. Besides a media campaign, 50.000 brochures were disseminated and information meetings were organised.
5. *Local production and local services*: One element to tackle leisure trips was a contest among six sports teams on the question of which team used the most sustainable transport modes for their trips to the stadium and back.

The overall responsibility for the Mobility Centre is with the City of Lund, also responsible for *LundaMaTs*. The budget of the Mobility Centre has been €1 Mio. for 1999-2001 and another €1 Mio. for 2002-2004. The total spending for *LundaMaTs* is about €20 Mio for the first four years, co-financed by the Ministry of Environment.

### **Rome (Italy, demonstrator): Mobility Plans for Companies**

The site in Rome focuses on Mobility Management for companies, especially on home-to-work trips. The Italian contribution is of particular interest because of the far reaching legislation mandating the creation of Mobility Management schemes<sup>13</sup>. In Rome, the execution of this legislation is facilitated by *STA*, the mobility agency of the City of Rome, which plays an intermediary role between the employers and the city administration and is also responsible for the evaluation.

The overall aim of Mobility Management in Rome is the reduction of pollution and the development of a sustainable mobility programme. The intention is to reduce private motorised vehicle trips during the peak hour by 5 to 7 percentage points from

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<sup>13</sup> In 1998 the Italian Ministry on Environment mandated the creation of a mobility co-ordinator and a mobility plan for organisations with more than 300 employees or more than 800 freelancers.



the total number of trips during peak hour. Further objectives are to increase public awareness and to identify the potential of public transport supply for a modal shift. 304 companies have been contacted and 90 percent of them have nominated a mobility co-ordinator. Approximately 350.000. employees were involved. To implement mobility plans, the following steps have been undertaken:

- Identification of the companies nominated by the environment ministry decree
- Meetings with the companies' management staff
- Questionnaire survey on the employees' mobility behaviour, carried out by *STA*.
- Development of a mobility plan for each of the companies
- Monitoring and evaluation

The following initiatives have been implemented to encourage the use of collective transport services and reduce the systematic home-work trips:

- A *discounted public transport annual pass* for employees - more than 1.700 have been purchased, 53 % of them are new passes (2000-2001, on-going)
- A *car pooling service* with an information centre at Rome's Municipality offices; 250 teams were built with a total number of 730 members (2000 - ongoing)
- A "*Mobility Bonus*" of max. €217 for the employees that use the new company bus lines. (city fund of €1.600.000) (2001)
- Free parking in the park & ride lots for employees shifting from private vehicle to Public Transport and / or company bus lines; (2001 - ongoing)
- €1.550.000 to implement re-charging stations for electric vehicles (2000-ongoing)

### **Nottingham (United Kingdom, Demonstrator): WorkWise**

The WorkWise project in Nottingham is aimed at persons who run the risk of exclusion from access to jobs and therefore from social inclusion. The project's intention is to remove transport barriers by providing tailored travel information and providing supportive services. Three areas in Nottingham are covered by the project. Transport must be viewed as one of the essential services that clients need in order to undertake actions to move towards financial independence.

The local public transport provider (implementation of *get a job-get a ride*), taxi company (guaranteed taxi-ride-home) and the local communities of the three areas were involved with lobbying and finance. A before study on the definition of the areas has been undertaken. Focus groups have been organised with the career advisors on the feasibility of the measures developed and on the specific needs of the unemployed searching for a job. A mobility office was set up to provide mobility services to three socially excluded areas in the city:

- Door-to-door information and incentives such as free tickets to persons that were successful in gaining a job interview are offered. Door-to-door travel schedules for public transport (including visual information in maps) are prepared.
- "*Get a Job, get a ride*": a free day bus ticket is offered.
- For those who have secured permanent employment or training a free bus pass for the first critical month or 3 months use of a cycle is awarded.



- Guaranteed taxi ride home: when shift workers are let down by public transport, a taxi ride home will be provided free of charge.
- At the end of the three month loan period the bicycle can be bought either with one payment or on a nine-month loan period.

Plans also included the establishment of a community car sharing scheme, but this could not be followed up. The project has run since September 2000 as a pilot project for 18 months and it is planned to establish the services permanently.

### **Prague (Czech Republic, Case Study)**

The case study in Prague aims to prepare the establishment of the first Mobility Centre in an Accession country. There is a wide public transport network in Prague (50 km Metro, 136 km tram and 796 km bus network in 2000). *Prague Public Transport (PPT)* offers information on transport in its six information centres. These centres show a permanent growth of queries and visits. 80% of all customer contacts are face-to-face, 20% via phone. Almost 40% of answers are in foreign languages. But these centres work without direct links to transport providers in Prague.

The main task of the site was a study about feasibility of an integrated Mobility Centre offering multi-modal information. It should provide current information resources and systems of individual public transport operators into a single information centre at an attractive place in the city centre. This centre would provide comprehensive and free information about all transport activities, including national rail and airways.

The following services will be offered to the general public and especially tourists: individual timetables and multi-modal transport information; sales and reservations; accommodation and event information, reservation (in a second stage). It implies that the staff who works in the Mobility Centre must have specific skills. Besides offering face-to-face services, the establishment of a phone hotline and a single Internet address for all services is planned. The case study has focused on the following items:

- Analysis of current status with respect to mobility and transportation;
- Role of Mobility Centre in the transport system of the City of Prague;
- Specification of the scope of services provided;
- Facilities available, technical equipment, staff and communication technology;
- Proposed organisational arrangement;
- Proposed funding of investment and operating cost.

### **Torino (Italy, case study)**

With Interministerial Decree 27/3/1998, "Sustainable mobility in urban areas", the Italian Environment Ministry made it obligatory to assign a mobility manager for companies and public entities with local units employing more than 300 people. This also accounts for companies with an overall total of more than 800 employees located in the municipal area. A "Home-Work Journey Plan" (Company Mobility Plan) for their employed personnel needs to be elaborated, aiming to reduce the use of individual private transport, especially concerning home-work trips..

The Torino mobility management office has developed a series of initiatives, encouraging a change in the journey mode from private cars to more ecologically



sustainable methods (public transport, bikes, walking), particularly for home-work journeys and when cars are used by only one person. Recently some initiative like Car-sharing, road yard management office and electrical vehicles rent services support the strategies adopted to orientate the citizens towards more sustainable mobility. The main mobility management project has been prepared by detailed surveys, a training for mobility managers and has developed through the following actions:

- information/education campaigns directed at all citizens – ecological Sundays, conventions - “clean air” convention
- January 2000: Identification of a pilot group of 16 companies for the achievement the mobility plans
- February - June 2000: 35.000 home-work mobility questionnaires for the pilot companies, promotional leaflets and press campaign; digitalisation of data contained in the returned questionnaires.
- December 2000: completion of *home-work mobility plans* of the pilot companies’ which include:
  - Measures to increase traditional public transport services;
  - Pop bus services. The Home-Work Mobility Area Plan identified a group of possible pop bus routes. 40 routes were selected, adapted and reduced in length, to keep travelling times within 25-30 minutes and to limit running costs;
  - Car pool incentives
  - Car-sharing
  - Actions to increase use of bicycles, concerning construction of new bike
  - Electric vehicles (The bikes and ecological scooters hire service)

The creation of an internet information site (including distribution of information by means of SMS messages on cell phones) supported the wider project focusing on changing journey habits, the reduction of inconvenience experienced by the population and the control of citizens mobility while the main road yards are operative.

#### **4.6.2 Mobility Centres and Mobility Consulting: Results, Comparisons and Conclusions**

##### **Lund**

Lund has performed before and after studies on an individual level for many of the sub-projects carried out by the Mobility Centre and there has been a large written questionnaire on *LundaMats* (n = 3000), where some aspects of the work of the Mobility Centre have been included. The response rate of this survey was 62 percent.

The results show that the inhabitants are quite aware about most of the projects and activities. The awareness and the effects were higher in Soedra Sandby, where many Mobility Management activities have been concentrated. 90 % consider the *LundaMats* investment as very good or very good.



An overall effect on travel behaviour could be shown: Almost 10% of the population stated that *LundaMats* has influenced their travel towards more sustainable modes: 2% switched to a large extent, 2.4% to some extent, 4.3% sometimes try and 3% have started thinking. As a result the people of Lund have reduced their car travelling with approx. 3.9 Mio. km per year, which is about 1% reduction in car travelling. This should be compared to an annual traffic increase of 1-2% over the last few years.

In Lund, shortly after the introduction of the new travel policy, only 20% of the employees had heard about it. 18% of the employees have used a company bike (or their own bike for a work related trip). 10-22% stated to have replaced car trips with another mode either on duty or commuting (5% mostly, 5% partly, 12% sometimes). The interest in EcoDriving education was quite high: 125 persons have been educated.

In the *Bus Rider* project, three groups (72 persons in total) used public transport which at the start was 0%. During the course of the project about 95% of the participants travelled by public transport at least 3 days a week. One year later it was still about 40%. During the project period the bus riders reduced car travelling by 82,000 km.

The *Bus Rider* project has also been analysed according to the EFQM-model (see Annex I for more details) and received an unanimously positive assessment. Key factors of success were identified: the support from the mission and vision of the *LundaMaTs* plan, the detailed project plan of the project and the genuine interest from all partners involved. The step-by-step approach and small groups (two different test groups-evaluations, followed by another test group-evaluation) allowed for adjustments in the design and gave concrete results in a relatively short run. It also limited initial project costs. It remained difficult, though, to involve companies in the project.

During the action year, the ten *Health Bikers* have substituted car use on average by 4,300 kilometres per year and almost all were satisfied. 12 months afterwards, bike usage was still at a high level of 56%. The final medical investigations, including health questionnaires (a stress-related survey and the widely-used international SF-36 Health Survey<sup>14</sup>) and a general fitness test showed positive developments. Especially the fitness test showed an improvement of 10% in the participants' condition. One-third of the population had heard about the *Health Bikers*. In addition, new Health biker groups have started independently of the Mobility Centre.

The car-sharing campaign has resulted in 32% of the population knowing about car-sharing, compared to only 15% in Sweden generally (in 1999). The number of members has doubled, from 60 to 120 households. In Sandby the campaign has not been successful, despite 3000 brochures and other awareness raising activities.

The awareness campaign for clean cars has not had concrete effects yet, but 82% of the car users stated an interest in Eco-cars and 75% are positive to purchase such a car, if price and performance are equal to conventional cars.

A competition between leisure time associations shows that approximately 40 percent of the participants changed their mode of transport towards a more sustainable one during the competition. However, it was time-consuming to convince the leisure time associations to participate.

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<sup>14</sup> cf. Ware et al. under [www.sf36.com](http://www.sf36.com)



The close co-operation between the Mobility Centre and the comprehensive *LundaMaTs* scheme with its combination of physical measures, i.e. improved bicycle lanes and public transport with Mobility Management, was probably the most important reason for success. Nevertheless, it was sometimes rather difficult to convince partners, i.e. the public transport operators, companies etc. The search for a win-win situation has been of great importance. Just after a very successful *Bus Rider* project, the public transport operator was willing to co-operate.

## Rome

In mid 2002, the first 10 mobility plans have been drawn up and approved by the Ministry of Environment. The provision of a financial contribution of €4,6 Mio for their realisation was confirmed and they are now in the implementation phase. Overall, the private car/motorcycle is the main transport mode of the employees. The average share for the ten companies is at 55%, consistent with an earlier survey among the first pilot projects. The car share ranges from 40 percent to 100 percent.

The implementation of the mobility plans will create a network of 30 new company bus lines for a total length of 410 km. The capacity of the companies' collective transport network is of 8.500 passenger per day. Since the implementation is not yet complete, results can only be estimated at this point. It is expected to cause the following effects: a reduction of 15 million vehicle kilometres, 1.250 tons of fuel and 190 tons of CO<sub>2</sub> emission. Thus, the expected reduction of car kilometres per year and per employee is about 925 kilometres on average once the mobility plans are realised.

The biggest barrier the site had to overcome was the establishment of first contacts with companies and to explain the importance of Mobility Management, especially as the decree does not foresee any consequences for companies which ignore it. The preparation by an awareness campaign is of great importance. Once Mobility Management activities are known by the employees they will ask their companies to take part in the project. The Municipality of Rome has promoted a discounted public transport annual pass for the employees of companies with a mobility co-ordinator. Employees who want to benefit from this asked their management staff to nominate a mobility co-ordinator by following the ministerial decree.

## Nottingham

In total the new services of the WorkWise scheme were used 459 times by approx. 350 individuals. 165 day passes (Day riders), 117 monthly passes (Easy Riders) and 26 bicycles were given out. A questionnaire, which each user had to fill in prior to initial use resulted in the following: the *Dayrider Ticket*, 100% of the recipients considered the Info/tickets to be helpful in the effective use of Public Transport, 35% said the Workwise service was useful for getting them there on time for interview etc. For the *Easyrider Ticket*, 95% considered it to be helpful in the effective use of Public Transport and 100% considered the service helpful towards sustaining employment. The after survey was carried out at the greatest time lapse possible from the initial usage of the service in order to measure as accurately as possible the true impact of the service on the users:



Perception of Public Transport	Dayrider Ticket	Easyrider Ticket
Improved	30%	52%
Remained the same	60%	48%
Worsened	10%	0%

The site experienced a high level of stolen bicycles so the administration of any scheme should to be tied into employment service in some way, where the clients national insurance numbers can be used for any follow up. A solution might be to tie the bicycles into a flexible loan scheme with the end user being responsible for the insurance of the cycle. Evaluation was more difficult, as many in the demonstration area moved residence and were thus not contactable. Low-income groups are more transient than higher income groups and therefore difficult to follow up.

From experiences with the target group, the tickets and bicycle have made a significant number of users attend more interviews locally and within Greater Nottingham. This is the feedback from the employment advisors. Importantly, there have also been improved job placing rates for clients. It is vital to engage the organisation, which will be implementing Mobility Management solutions at corporate level instead of establishing informal agreements with the middle management and training the front line staff. A formal contract and formal adoption by the organisation would have meant the organisation itself would be required to integrate the Mobility Management process into their training programme for new staff.

The Nottingham pilot project has sparked considerable interest from other authorities in the UK. e.g. the National government Cabinet Office, Centro (W. Midlands), and METRO (West Yorkshire).

## Prague

As the planning phase of the Mobility Centre was included in MOST, results in terms of impact and assessment of an already existing facility are not available.

A first qualitative assessment of the planning phase shows positive marks for such issues as connection to the wider transport strategy, user orientation, personnel resources and empowerment. Room for improvement is seen for communication and the involvement of all relevant stakeholders. The lobbying activities to convince relevant decision makers could, in particular, have been stronger. This shows that the set-up of an integrated service such as a Mobility Centre needs strong co-ordination and involvement of different partners, even if one main partner is responsible for the implementation.

The case study report shows that implementation of a Mobility Centre will be a useful measure. The Mobility Centre will be the core element for Mobility Management in Prague. It will match the principles of the local transport policy and fit into the strategic plan. These principles guarantee the preferential operation and development of sustainable modes of transport in the city and its suburban areas.

The case study gives details on the role of the mobility centre, its services, organisation, funding and the arrangement of location, staff and technical equipment.



The main locational option for the Mobility Centre, which should be operated by Prague Public Transit (PPT), but could include staff from other transport providers as well, is the Main Rail Station. The funding of an estimated €450.000 investment and € 285.000 annual operating cost depends largely on municipal budgets including investment grants. The study opted for 4 employees per shift and the proposed opening is from 7.00-22.00 on working days, 8.00-20.00 (or 9.00-21.00) on Weekends. This would lead to a required team of 15 employees. The channels of communication planned are personal contact, telephone, regular mail, e-mail, Internet, SMS and WAP. The actual set up of the Mobility Centre is foreseen for 2003-2004 under a transport telematics programme of the Prague City Council. *PPT* has learned from the contacts within MOST. During the project, findings and results of an extended and fruitful exchange especially with the existing Mobility Centres in the Cluster were helpful.

### Torino

The interviews and questionnaires distributed to create company mobility plans show the readiness of citizens to modify their habits and modes of transport, especially with regards to their home-work routes. 37 % of the interviewees indicated their interest in more than one of the alternatives proposed in the questionnaires. Of these, 1/3 say they have no other alternative than the car, but the remaining interviewees could imagine to switch to (traditional) public transport, Special collective transport (POP BUS), biking or carpooling.

The Italian Environment Ministry has recognised the potentiality within these results and financed the extension of the project to all companies in the metropolitan area. One of the successful elements in the initiative involved managing a communication/information day aimed at the top management of those companies affected by the Environment Ministry decree to explain the goals of the initiative and the way to proceed chosen by the municipal administration. This event facilitated both the identification of mobility managers within the companies and the creation of a network of mobility managers. The network plays an important role as a privileged relationship and information channel between the companies and the administration.

The high degree of integration between mobility management techniques and strategic area planning information was an important strategic advantage generated by the organisational structure of the Torino Mobility Management Office. All the improvements to public transport suggested by the analysis of the survey data were immediately shared and implemented. A secondary but significant advantage was provided by the communication action within the technical sectors of the municipal administration carried out by the Area Mobility Manager Office. This fact led to a considerable increase in awareness with regards to environmental matters in the planning of new works and in the conception of urban requalification projects.

### Comparisons and General Conclusions

The sites within the cluster “Mobility Centres and Mobility Consulting” have varied considerably in size and/or target group. But there is a common thread of conclusions.

Firstly, the sites in the cluster show that the *instruments* are not fixed but can be adapted to the local need. The foremost function of a Mobility Centre is to provide



multi-modal information to the public. The Lund case has shown though, that another type of Mobility Centre can be useful: an organisational unit which devises, carries out and evaluates awareness and organisational activities and provides marketing.

The Mobility Consultant is actively approaching clients or customers. This can be from a Mobility Centre but it can also be from another organisation such as the city services as in Nottingham.

The *size of the project* is flexible as well and can range from a specific service for a clearly delineated target group (*Nottingham*) to a full approach across a whole city (*Rome*). The size is not a determining factor for success. But a Mobility Management project benefits from being connected or embedded into a *wider programme* on sustainable mobility. The LundaMaTs plan or the Italian law are framework conditions that support activities. *Lund* shows that working with *small groups* can be a good start, especially when dealing with innovations or testing new behaviour. These small groups serve as “ambassadors” for the idea. Important in this case is good communication.

Connection to a comprehensive programme also offers the chance to relate Mobility Management to other instruments, such as infrastructure development or financial incentives. *Lund* and *Rome* have shown that this should always go hand in hand.

*Co-operation* is usually the key to successful Mobility Management, but it is hard to achieve. The initiation phase to build partnerships takes considerable time and should be planned for at least a year for more complex approaches. Both *Lund* and *Rome* have mentioned some difficulty in the beginning to build alliances. There is a need for early stakeholder involvement and a clever marketing both externally and internally. In any case, strong support from decision makers is essential. This has been the case in *Lund*, *Rome* and *Nottingham* and it is needed in *Prague* for successful implementation. To maintain support from decision makers in the initiation phase when services are not yet on the ground, it is recommended to keep track of “useful activities” (meetings, communication, negotiations, consultation, etc.) in order to show progress.

The activities in *Lund* (bus rider) and *Nottingham* (free ticket, cheap bike), but also the rebated public transport pass in *Rome* have demonstrated that *tests in relation with incentives* should figure prominently in the attempt to change behaviour.

Regarding the *effects on travel behaviour* and on the modal split, the first insight has been provided by the cases in this cluster. In *Lund* there are good indications that mobility management (in conjunction with other measures) has an effect on behaviour, but it is too early yet to measure effects on the road. Others, e.g. *Rome* and *Prague* are just in the implementation phase. Here the evaluation need is still evident.

As a final note, a positive result is the fact that all of the sites in this cluster will be *continued* after the MOST co-funding runs out. This shows quite simply that decision makers regard the activities as useful.



### 4.6.3 Mobility Centres - multi-functional customer interfaces: long-term assessment, comparison and recommendations

The idea of a mobility centre as a service point for all mobility-related information and organisation is not new anymore. By definition, this is where mobility services are initiated, organised and provided. Therefore, the establishment of a *mobility centre* is an important step for any Mobility Management scheme. Previous research projects have established only two basic requirements: a multi-modal approach and public access<sup>15</sup>.

In practice we find a large degree of variation in structure, scope and organisation. Since there is no single organisational model and since the integration of providers, services and modes makes great demands on the mobility centres, they are often developed in steps.

The main objectives of the mobility centres are the following:

- providing quality multi-modal information to the public and specific target groups
- establishing useful (additional) services in order to keep existing customers
- gaining new customers for the sustainable modes, especially from car users
- supporting the overall aim of modal shift

*Atcittá / Bologna* is a system of six customer service points which belong to the customer care system of ATC, the public transport company of Bologna. Their main focus is on public transport, but also integrating information on parking and car-sharing.

*Mobil Zentral / Graz* started in 1997 as Austria's first mobility centre. Due to its ambition to become the focal point for all mobility-related questions it has developed a wide range of services and staff has received specific training.

*mobile / Münster* is a good example for a fruitful co-operation of the City and the public transport company. Starting as a pilot project, the rising number of customers have made it a permanent institution now which has just been enlarged in 2002.

The *MobiCenter / Wuppertal*, already opened in 1995 in Wuppertal-Elberfeld, is one of the forerunners. It shows the possibilities of such an instrument. This has been made possible by strategic thinking of the operator, the public transport company WSW. In 2002 a second *MobiCenter* was opened in Wuppertal-Barmen.

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<sup>15</sup> cf. MOMENTUM/MOSAIC: Mobility Management User Manual (1999), p. 52.



	<b>Bologna</b>	<b>Graz</b>	<b>Münster</b>	<b>Wuppertal</b>
<b>Name</b>	Atcittà	Mobil Zentral	mobile	MobiCenter
<b>Opening Date</b>	Dec. 1999	Sept. 1997	May 1998/ June 2002	March 1995/ May 2002
<b>Operators/ Financiers</b>	Public transport company (ATC)	Public transport association; City of Graz; Land Steiermark; FGM-AMOR	City of Münster; Public transport company (Stadtwerke)	Public transport company (Wuppertaler Stadtwerke)
<b>Partners</b>		cycling lobby , car-sharing company	regional public transport providers, user association	German Rail, cycling lobby, consumer association
<b>Location</b>	city centre (main centre near city hall, four outlets in Bologna, one in Imola)	city centre (public transport node)	city centre (across main station)	city centre (pedestrian zone; second location since 2002)
<b>Services</b>	information on public transport; car-sharing, parking; sale of tickets; complaint management	information on public transport, cycling, walking, car-sharing, tourism, for mobility impaired; sale of public transport tickets; bicycle rental; consulting for companies, schools and traffic producers; campaigns, awareness raising, complaint management	information on public transport, cycle routes/ rental, car-sharing, parking, car routing, tourism; sale of public transport tickets, events and hotels; campaigns, exhibitions, awareness raising	information on public transport, cycling, walking, car-sharing, tourism, city information; sale of public transport, tickets, tickets for cultural events; organisation of car-sharing, delivery service; luggage storing; consulting for companies, schools households and traffic producers; campaigns, awareness raising, mobility education, ideas and complaints
<b>Transport Modes</b>	public transport, car-sharing, car	public transport, walking, cycling, car-sharing	public transport, walking, cycling, car-sharing, car	public transport, walking, cycling, car-sharing, car
<b>Information Channels</b>	personal, phone, letter, fax, e-mail	personal, phone, fax, letter, e-mail, Internet	personal, phone, fax, e-mail, Internet	personal, phone, fax, letter, e-mail, Internet
<b>Opening Hours</b>	main centre: mo-su 7-20	mo-fr 9-18 sa 9-13 phone: mo-fr 7-19 sa: 9-13	mo-fr 7-19 sa 10-16 phone: 24 hrs. (via state service line)	mo-fr 9-19 sa 10-14 phone: 24 hrs
<b>No of Counters</b>	17 (in total) + 8 (call centre)	2 (+2 phone)	6 (before 2)	10 (+ 9 in call centre)
<b>Staff</b>	40 (in total) (+ 19 call centre)	7 (all part-time)	16 (8 part-time) (before: 5)	24 (+ 5 mobility consultants)
<b>Max. Staff Peak Hour</b>	17 (in total)	3	6 (before 2)	14
<b>Qualifications of Staff</b>	n.a.	public transport related training, four with specific training as mobility consultants	public transport related with additional training	public transport related, five with specific training as mobility consultants

**Table 4.6.3-1: Overview over basic data of the mobility centres**

The following part will give monitoring results and comparisons.



## Monitoring Results

The presentation of monitoring and evaluation results for the mobility centres follows the structure established by the MOST Monitoring and Evaluation Toolkit. Five levels can be distinguished, which trace the path of changing behaviour:

- Knowledge level
- Usage level
- Acceptance level
- Individual Behaviour level
- System Impact level

*Note:* The four mobility centres have been information providers in MOST. Additional monitoring activities have not been undertaken, which results in heterogeneous data. Results and conclusions are based on selected cases according to data availability.

### Knowledge

To make a new offer known to the target group is the first step for successful mobility management. In Münster after one year of operation a street survey showed that 27 % of the respondents knew mobilé. In Graz and Wuppertal data from annual citizen surveys supports the evidence from Münster. The development shows, however, the difficulty to reach beyond the 33% -level:

Knowledge (in %)	1995	1996	1997	1998	1999	2000	2001
Mobil Zentral Graz			28	29	26	27	26
MobiCenter Wuppertal	25	31	34	32	34	40	39

Differentiated according to age groups the results are different. Whereas in Münster and Wuppertal the knowledge is higher among younger adults (especially between 18-29 years), in Graz the older age groups have a higher degree of knowledge. In knowledge according to car ownership or use of public transport generally there are no significant differences. In Wuppertal a large mobility study from 1999/2000 shows that non-users of public transport know the MobiCenter the least (23%) and that knowledge increases up to a point where persons use public transport about 11-19 days /month (49%). Among the daily customers only 40% know the MobiCenter. This evidence supports the claim that mobility centres are of less interest to non-users and regular customers, but the groups in between are the main target groups.

When looking at the *knowledge of specific services*, it is clear that the multi-modal nature of a mobility centre's offer of services needs much effort to disseminate. In Münster mobilé's public transport services are well known, followed by cycling, but only less than half of the users know about their services for car drivers and pedestrians. The same picture is apparent in Wuppertal: while its role as a ticket sales point is universally known, in 2001 only 34% knew about the car-sharing service that is offered. And the knowledge about information on parking has remained at a low level of 11-21% for the last six years.



### Usage

In Wuppertal the number of users has gradually increased. In 2001 57% of those knowing MobiCenter state that they have used it, compared to 48% in 1996. In Graz this number increased from 10 to 23% in the last four years so that 6% of the population have now used Mobil Zentral. The *absolute number of customers* depends on many factors, e.g. size of the city, size of the mobility centre, existence of other transport information facilities and level of marketing. Therefore, the absolute numbers by themselves are not meaningful.<sup>16</sup> Both in Münster and Graz, comparable in city size, the average customer contacts are rising.

Customer contacts (per month)	1998	1999	2000	2001
Mobil Zentral Graz	2165	2571	3429	3966
mobilé Münster	859	2150	4150	4765

Together with rising e-mail and mail contacts Mobil Zentral currently averages 4.500 customer contacts monthly. In Wuppertal the total number of customers is around 11.000 monthly. (inhabitants Graz 240.000, Wuppertal 370.000, Münster 280.000).

The ratio of *telephone contacts vs. personal contacts* depends on the character of the mobility centre. In Wuppertal it is about 80:20 in favour of the phone. Due to the high number of callers, since April 2000 a separate telephone service centre handles the calls during the day, whereas during the night the mission control centre guarantees a 24 h accessibility to information. In Graz the relation is similar, but with personal contacts growing faster: the ratio was 84:16 in 1998 and is at 75:25 in 2001. Münster, however, has put more emphasis on personal advice. Thus, their ratio is 36:64 in 2001. Bologna has strictly separated these information channels. Atcitta is only for personal information and all telephone contacts go through a call centre. This receives up to 1400 calls a day, of which 97% can be answered within 20 seconds.

When it comes to the *use of different services*, it is obvious that many customer contacts relate to the same core services. The backbone for any mobility centre is integrated public transport information and ticket sales. In Münster the demand for local and regional bus-related services in the mobility centre is at about 64%. The train-related services have risen from 20 to 32%. Together the public transport services accounts for more than 90 % of all customer contacts. The demand for cycling and car-sharing information is at about 25% each. This is in line with the experience of many other mobility centres.

*Sale of public transport tickets* is an important service since the customer should access the whole service chain information-advice-sales at one point. In Bologna the Atcitta network experienced a growth in ticket sales of 9% from 2000 to 2001. In Wuppertal, the mobility study showed that from customers in general, 16% mainly buy their tickets at the MobiCenter, compared to 26% from the driver, 23% at ticket machines or 17% in private sales points. In Wuppertal, there is a high level of regular customers, as 36% stated that they possess a season ticket. Whereas regular customers

<sup>16</sup> In Germany the customer numbers of mobility centres range from 300 to 17.000 per month.



have season tickets and occasional users buy from the driver or ticket machines, the Mobility Centre is most important for the medium public transport user.

A specific focus in Bologna is the *complaint management*. ATC receives, via Atcitta, Call Centre and mail, around 3500-4500 complaints per year although this is declining. Less than 1% of all phone calls are positive remarks. The complaints refer to regularity and quality of service and behaviour of personnel, which make up about half of the complaints. ATC promises a reply within 30 days – otherwise they will give out five free tickets or the equivalent amount in cash.

### **Acceptance**

In order to convince users to change their travel behaviour, satisfied customers are a must. In the case of the present mobility centres the extent and the methods for monitoring customer satisfaction differ widely. The most *general assessment* can be made through surveys where users give a general mark for overall service.

In Wuppertal a question on the satisfaction with the MobiCenter service has been included in the annual city survey. In 2001 MobiCenter received a good mark with 2.2 (on a scale from 1-6 with 1 being the best) with no difference due to age. In general 76% are (very) satisfied with the service. Bologna and Graz can offer time series data.

In Bologna the customer satisfaction with “the quality of answers to requests about information and complaints” remains stable at 6.8 for the last three years (on a scale from 1-10 with 10 being the best). This mark is slightly lower than the overall rating of ATC services (7.3).

In Graz, because only respondents which had already used Mobil Zentral services have been surveyed, the sample of 20 to 50 persons for each year is quite small. Here the satisfaction is also high, ranging from 80% to 91%. Only in 2001 has it slightly dropped to 73%.

In Münster a *detailed analysis* of the assessment of both customer and general public has been undertaken in 1999 after 1½ years of operation. Whereas the overall judgement of customers received a mean 2.7 (on a scale from 1 to 5 with 1 being the best) there is a clear variation in detail. The best values are given for integration of services, the availability of information, the location but also for the service of personnel. mobilé received lower marks for their phone and Internet service, the visibility of the location and their promotional activities. Recommendations with regard to the improvement of mobilé’s service have been: There is a need for general information, which gives orientation for those who are distant from the use of alternatives to the car. The communication effort needs to be increased, with a wider use of information channels (phone, Internet etc.) and mobility centres need to incorporate business service standards e.g. as set by banks. Some of these suggestions have been followed in the extended mobilé that has opened in 2002.

### **Travel Behaviour and System Impact**

Since influencing travel behaviour towards the sustainable modes is an inherent goal of most mobility centres, insight as to their possibility to support modal shift is a significant question. Due to the structure of MOST with the mobility centres not being demonstration sites little additional insight could be gained. From the Münster survey



there is some weak indication as to the extent of changed behaviour. 8% of the respondents stated that they had changed their travel behaviour due to the services by mobilé in the past.

## Conclusions

Objectives, tasks, set-up and services of the instrument “mobility centre” are flexible. There is no single organisational model for it. Nevertheless, some general conclusions can be drawn. With regard to the *objectives*, two main strands can be observed. One main objective is to integrate high-quality mobility services for (existing) customers. In this case the use of services already operating is one success criterion. But with most mobility centres, to a varying extent the goal is to reach out to new, mainly car-driving customers, and to facilitate a modal shift. This is harder to achieve and to measure.

The general public *knowledge* about a mobility centre is usually good. To reach a higher level of market penetration, the threshold is difficult with the given level of marketing activities. The increase in knowledge about the mobility centre occurs in incremental steps. The usually quite low knowledge about the multi-modal service offer is a much more critical finding. The character of a one-stop shop on mobility is mostly still unfamiliar. The mobility centres experience a steady *growth of users*, particularly in the first 3 years. Up to 90% of demand is for rather traditional services (PT information, ticket sales etc.). It is important to offer the full service chain of information-advice-sales.

The Wuppertal results give an important indication on the right target group. One is certainly the medium user of public transport. Regular customers do not have a high need for information, regular car drivers are hard to reach. Bringing the medium user to a higher use of public transport and making him/her a regular customer will be the most important task of any mobility centre. This contribution to a modal shift is often underestimated in the discussion. A possible way to reach the habitual car driver is also to include services such as the ticket sale for events, as in the Wuppertal case.

Among the possibilities of *information channels* the use should be manifold. The telephone seems to be a main focus for any mobility centre and there are different organisational options up to a complete separation in a call centre. Electronic media play an increasing role and will do so even more in the near future. Nevertheless, the personal contact with qualified mobility consultants is of high value, especially for some target groups such as the elderly or persons with a need for extended advice.

*Customer satisfaction* and as such the acceptance of services is very important for long-term customer retention. This is dependent on local circumstances and needs a detailed look. From the existing data a general satisfaction can be assessed, but with room for improvement. The *impact of mobility centres on travel behaviour* and its consequences for the general traffic situation is still largely unknown. Rising ticket sales and a higher number of users lead to a positive assumption but more work is needed to verify this.



## 5 The Framework for Mobility Management across Europe

### 5.1 Introduction and Methodology

The demonstration sites in MOST have tested the use of Mobility Management strategies in various settings (schools, hospitals, new developments etc.). To learn from the implementation process and evaluation of results about barriers and success factors was one of the aims of MOST. The picture will not be complete, though, without taking into account the numerous influencing factors which are beyond the reach of the implementers of Mobility Management strategies. All factors that can contribute to success and failure of a Mobility Management scheme, but which cannot be influenced by the local project are considered *framework conditions* for Mobility Management. Their influence can be powerful as the following examples show.

- In the *United Kingdom* mobility plans for companies and schools are supported by the national government which in 2001 issued a €14 million funding programme for 111 mobility managers in local authorities across the country.
- Incentives such as cost reimbursement, cycling equipment can be useful instruments in Mobility Management for companies. In *Germany* the use of incentives has been difficult because it was treated as taxable income of the employee – diminishing the worth. Now the employer contribution to a rebated public transport commuter ticket ("Job-Ticket") is tax free.

The MOST research on framework conditions was led by policy analysis, which frequently looks at the following dimensions. This study only deals with the first two.

- *Polity* includes the institutional framework, e.g. legal, cultural and organisational conditions, which set the scope for political action.
- *Policy* holds the content dimension of politics, i.e. the objectives, material responsibilities and programmes.
- *Politics* refers to the process of (often conflicting) interaction to develop policy, which is connected to stakeholder groups and questions of power.

It is the structural and institutional framework conditions which set the limits for the activities of the local actors. However the conditions can be both enabling and restricting. The main aim of this study is to draw a spotlight on the current situation



for Mobility Management to show possible ways to improve framework conditions. As a matter of fact, “background factors do not make policy. Policymakers do”.<sup>17</sup>

This chapter will give a summary of framework conditions for Mobility Management across Europe. The analysis has build on the work of previous European projects in the field but represents a considerable extension.<sup>18</sup> The full MOST report is available via the MOST website.<sup>19</sup> The *objectives* are to:

- present an inventory of institutional, organisational and legal frameworks on different administrative levels
- compare framework conditions in the different European countries
- highlight good policy examples
- draw conclusions and offer recommendations on how to influence conditions in order to create a favourable climate for successful Mobility Management

The structural framework conditions can be differentiated in five distinct domains:

**A.** *Political and Programmatic Framework Conditions*

Objectives and policies of the European, national and local authorities show the political climate for Mobility Management. Also the strategies and activities of political parties, organisations and lobby groups have been looked at.

**B.** *Legal, Regulatory and Fiscal / Pricing Framework Conditions*

A direct legal or regulatory action on Mobility Management can be one of the most rigorous factors, but legal and regulatory measures in related fields (such as planning, environment) can also be of great influence. The fiscal conditions and other measures affecting the prices of transport could have important impacts on Mobility Management.

**C.** *Financial Framework Conditions*

The financial framework conditions describe the possibility of funding for Mobility Management, both for implementation and for research. Private sector funding is also an important topic.

**D.** *Framework in Education / Qualification and Awareness*

A good framework in qualifications specific to Mobility Management is a precondition for its broad implementation. This can include specific courses or seminars for professional training or at university level. Such offers could be an indicator for the awareness of Mobility Management as well.

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<sup>17</sup> Lundquist, Lennart (1980): The hare and the tortoise: Clean Air policies in the United States and Sweden. Ann Arbor.

<sup>18</sup> MOMENTUM (1996-1998) has delivered a first state-of-the-art report on Mobility Management throughout Europe. The focus has been on the implementation of Mobility Management (mobility plans, mobility centres), but the question of framework conditions and national and local/regional policy was also touched. ELMO (1999-2000, in the SAVE programme) has dealt specifically with the legal and fiscal framework for company mobility plans. Research question has been if specific legislation would be necessary.

<sup>19</sup> Report “Framework for Mobility Management across Europe” (<http://mo.st>)



### E. *Organisational Framework*

Whereas the political framework deals with statements of authorities, parties and transport related organisations (not specifically devoted to Mobility Management), this part asks for the existence of an organisational structure specifically for Mobility Management itself.

In addition to these five main categories for analysis there are general conditions which have an influence: The *administrative and political structure* of a country might have an effect. The *supply of a high-quality and well-integrated system of infrastructure and operations* for the principle alternative modes to the single-occupancy car is a pre-requisite in order to successfully implement Mobility Management.

Another domain is the complex of *political culture*, socio-cultural norms and beliefs and the awareness of certain (transport) problems. As this complex issue cannot be treated adequately in this comparative state-of-the-art under the given resources, this domain will not be analysed. For the transferability of measures this issue should be kept in mind.

The framework which has been analysed includes both direct and indirect conditions:

- *Direct* conditions are all indications which deal directly with Mobility Management in its different applications: Mobility Management for companies, schools, hospitals etc.; mobility centres, mobility managers, mobility consultants etc. Since Mobility Management is not yet established on a broad basis, this framework is rather limited in scale.
- *Indirect* conditions are considered to be all influences on Mobility Management policies and implementation from other policy fields. They can have a direct influence on the supply of sustainable modes. Sometimes the indirect effects on Mobility Management are unintentional since the policy aims are focused on a completely different subject, e.g. in case of tax specifications for company cars which make it more difficult for mobility plans to influence company travel.

The framework analysis has been carried out on different administrative levels, which are presented in the different subchapters. It has to be kept in mind, however, that regardless of analytical separation, in political reality the levels are connected and influence each other.

- *European Level:*  
The analysis has focused among other aspects on the objectives and policies of the European authorities, the activities of non-governmental organisations acting on a European level, laws/regulations on a European level which influence Mobility Management and research/implementation. A summary of findings is presented in subchapter 5.2 and the full report can be found in Annex III to the Final Report.
- *National Level:*  
On the national level, twelve European countries have been analysed. Subchapter 5.3 provides a general overview and draws some comparisons. The full country reports can be found in Annex IV.

- Austria
- Belgium
- Czech Republic
- France
- Germany
- Italy
- Netherlands
- Portugal
- Spain
- Sweden
- Switzerland
- United Kingdom



**Figure 4.6.3-0: Overview of the analysed countries and cities**

• *Local Level:*

From the MOST demonstrations eight cases have been selected for analysis which represent a wide range of policy approaches, local and national frameworks from their respective national level. The synopsis in subchapter 5.4 presents an overview.

- Athens / GR
- Bremen / DE
- Limburg / BE
- Malaga / ES
- Münster / DE
- Nottingham / UK
- Rome / IT
- Zug / CH

The insight from the analysis of the European, the national and the local level are used to draw conclusions. The recommendations are given in subchapter 5.5.

As sources for information, literature, policy documents and material from the Internet have been used for a *desk-top analysis*. To ensure a *coherent analysis* among the



national level studies, guidelines were developed for the partners. These guidelines followed the outlined structure and proposed a common work mode. The analysis has been expanded by *expert interviews* in several cases. For the German National Report, for example, a two-tiered expert survey, using the *Delphi method*, has been utilised.

The principle of *relevance* was the main criterion for determining the scope of analysis. Since all national reports were set up by different national experts, it was their fair judgement to determine which framework conditions to include. The common guidelines for the analysis have ensured a common approach to the task.

## 5.2 Framework for Mobility Management on a European Level

Mobility Management is an approach which focuses on providing multi-modal information services and better organisation across modes directly to the user. As mobility is still an overwhelmingly local and regional activity, Mobility Management measures should generally be implemented on a local and regional level. For a rapid and widespread practice of Mobility Management, favourable framework conditions set by upper levels (national, European) are however of utmost importance. Throughout Europe, the state-of-the-art in Mobility Management still differs considerably. Development stages range from countries with ten years of practice and a structured approach to countries where the measures are almost unknown. Here, the European level comes into play. Although many framework conditions remain abstract, valuable stimuli can be given for a spread of ideas and especially the discussion and harmonisation of policies. For activities beyond the dissemination of concepts especially the European Union institutions have to respect the principle of *subsidiarity*, which states that the European authorities should only tackle issues which could not or insufficiently be dealt with on other levels. The principle is especially significant since Mobility Management to date is mainly connected to urban transport, where congestion and pollution issues are more severe than elsewhere.

Nonetheless, there are several connections to different sectoral EU policies, as the ELMO project has already pointed out in their report. The objectives of Mobility Management have a strong connection to environmental policy. In the Treaty of Amsterdam the principle of Sustainable Development was established as EU policy. Besides, there are links to the fields of traffic safety, public health and social policy.<sup>20</sup>

This subchapter will give a summary of findings, the detailed report with all references. In order to handle the large amount of framework conditions with a possible impact on Mobility Management, the analysis on this level had to focus mainly on the framework conditions directly aimed at Mobility Management. A rich body of contacts and links can be found in the Annex III.

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<sup>20</sup> ELMO consortium (2001): European Legislation on mobility transport plans for companies. Final Report. Amadora.



## 5.2.1 Political and Programmatic Framework Conditions

Principally, two types of relevant organisations contributing to the political and programmatic framework can be distinguished: the official European authorities, institutions and parliament parties on the one hand, and a range of transport related European level associations and lobby groups on the other hand.

### European Institutions and Authorities

Among the European Institutions, the *European Commission* is the most active in establishing a general political consensus for the framework conditions of Mobility Management. In the EU Treaty general objectives are mentioned which are relevant to this work, e.g. economic development and employment, a clean environment, etc. The Amsterdam Treaty included ‘sustainable development’ as a new objective. The European Union recognises that transport has a key part to play in the achievement of sustainable development by making more use of environmentally friendly forms of transport such as efficient public and private transport, cycling and walking.

Because of the key principle of subsidiarity, the institutional role of the Commission is that of an intermediary organisation, which is stimulating the exchange of information and good practice, bringing together important actors and ensuring an effective use of the different EU financial resources. Key documents lining out the priorities of the European Commission in the field of transport are: The *White Paper – European Transport Policy for 2010: Time to decide*, which was published in September 2001 and the communications *On Transport and CO<sub>2</sub> - Developing a Community Approach* and *Developing the Citizens' Network - Fulfilling the Potential of a Public Passenger Transport in Europe*. These papers focus on shifting the balance between modes of transport as important elements of a sustainable development strategy. The quality of alternative transport modes to the car should be improved both in infrastructure and service. Organisational measures towards their increasing use are encouraged. The White Paper includes a direct reference to mobility plans for companies. In its earlier *Green Paper – The Citizen's Network, fulfilling the potential of public passenger transport in Europe* (1996) the Commission proposes measures in order to encourage the use of sustainable modes of transport in urban areas, e.g. reducing car dependency and making public passenger transport more flexible and user-friendly. Besides several communications with social, urban and environmental backgrounds, which are focusing on aspects related to increasing the use of and improving sustainable modes of transport, the sixth Environment Action Programme *Environment 2010: Our future, our choice* outlines several objectives directly related to Mobility Management.

The *European Council*, following the Amsterdam Treaty, published a report in October 1999, outlining the “*Council Strategy on the integration of environment and sustainable development into the transport policy*”. Several measures for tackling these effects e.g. awareness raising, inter-modal transport and the stimulation of non-motorised mobility are mentioned. The Council recognises that Member States should pursue these actions at a national level while the European Community should give support by means of studies, exchange of information, communications and indicators.

The *European Parliament* is active in more concrete terms. Encouraged through the interest among some of the *political parties* (especially the Green party and the Liberal democrats), and the formation of a co-operation framework with private



consultants and other parties, in October 2001 the idea of a setting up a mobility centre inside the Parliament was launched.

The *European Conference of Ministers of Transport* is an inter-governmental forum in which Ministers responsible for transport can co-operate on policy. Its project on sustainable urban transport has defined recommendations to Governments on implementing sustainable urban travel policies. ECMT Ministers of Transport approved the recommendations in May 2001.

### European Associations

There are specific European associations, city networks and lobbying groups, which contribute to influencing the European decisions and promotion of a framework of sustainable transport which would favour a modal switch toward public transport, walking and cycling. With this they are working indirectly for the strengthening of Mobility Management. Some of these organisations also work directly in Mobility Management. However, a specific association concentrating mainly on Mobility Management issues on a European level is missing so far.

*ACCESS* and *POLIS* are both networks of European cities with the function to create exchange and discussion platforms for urban and sustainable transport and to raise awareness among decision makers and politicians on all levels. Mobility Management is an important issue, either indirectly through the promotion of a wide range of related themes (inter-modality, alternatives for private car-use, etc.) or through direct mentioning and involvement in Mobility Management projects.

Two organisations focusing on the public transport sector as a sectoral issue of Mobility Management are the *UITP (International Association for Public Transport)* and the *EMTA (European Metropolitan Transport Authorities)*. The importance of Mobility Management as a concept is mentioned within the mission statement of the UITP. Further sectoral organisations are the *European Cyclists Federation (ECF)*, the *European Car-Sharing (ECS)* and the *Light Rail Transit Association*.

Important non-sector associations are *the T&E (European Federation of Transport and Environment)*, the *AET (Association for European Transport)* and the *European Association – Research Group on Transport Policy assessment*.

### 5.2.2 Legal, Regulatory and Fiscal/Pricing Regulations

Despite the interest demonstrated on the issue at EU level through promoting a general programmatic framework, there are no direct binding laws and regulations regarding Mobility Management. The main principle relevant to concrete EU activities in this field is the principle of subsidiarity. Mobility Management is mainly an issue where binding laws – if regarded as necessary – are more efficiently taken at local, regional or national government levels. On the other hand, there are several indirect regulations which can influence the conditions for Mobility Management activities substantially. Two examples are public transport and air quality regulations.

One frame-setting regulation is the *Reform of the European Regulatory Framework for Public Transport*, which is introducing the principle of controlled competition for



the services in passenger transport. In that way a better performance of public transport and more transparency should be made certain.

As a second influential document, the *Council Directive 96/62/EC* of 27<sup>th</sup> September 1996 on ambient air quality assessment and management can be mentioned. Among other effects, it is seen as a trigger for the first edition of the French Car Free Day 1999 as well as for the Italian decree on Mobility Management for companies.

Further with the focus towards *fair and efficient pricing in transport*, the Commission already in 1995 has opened policy options for an internalisation of external costs of transport. This was an important contribution to a more realistic and comparable view on the full costs of the different modes of transport. Especially the research on *the role of charges and taxes* (final report April 2000, realised by DG TREN in association with DG TAXUD and DG ENV) delivered an analysis and comparison of the transport charges and taxes within EU member states with regard to commuter and business travel. Further it provided insight on the potential of “unconventional” forms of charging and taxation to support public transport. Although not targeting Mobility Management directly, there is no doubt that these efforts are of an enormous influence on framework conditions.

### 5.2.3 Financial Framework Conditions

One of the ways the European Union can favour the implementation of Mobility Management initiatives is by financing European research and development projects. This instrument has been used significantly since the mid-90's considering the number of projects on Mobility Management.

#### Framework Programme for Research and Development

The past European Research and Development Activities have been supported by the European Commission under the *4th Framework Programme*. Four projects out of a total of 27 in the Transport RTD programme can be related directly to Mobility Management. *MOMENTUM (Mobility Management in the Urban Environment)* and *MOSAIC (Mobility Strategy Applications in the Community)* were the two main projects, both undertaken between 1996 and 1998, including a broad range of partners throughout Europe and providing a research as well as a demonstration part. Together they developed a Common Concept for Mobility Management including a User Manual. *INPHORMM (Information on Publicity Helping the Objective of Reducing Motorised Mobility 1996-1999)* and *CAMPARIE (Campaigns for Awareness Using Media and Publicity to Access Responses of Individuals in Europe 1997-1999)* were the other relevant projects under this framework.

Six projects out of a total 52 from the first call of the *5th Framework Programme* are related to Mobility Management. *MOST (Mobility Management Strategies for the Next Decades, 2000-2002)* is the largest project under this framework. The other projects currently underway (*TAPESTRY, MOBILS, MARETOPE, BEST, CIVITAS*) are all dealing with issues related to Mobility Management.



In October 2000 the European Commission, DG TREN, launched the **CIVITAS Initiative** to support cities pioneering the development of urban transport. Wishing to encourage competitive alternatives to the use of cars in cities, the CIVITAS Initiative supports the best integrated and innovative proposals for the development of urban transport by committed European cities. The initiative includes large demonstration projects actually implementing packages of integrated measures including, amongst others, also innovative Mobility Management. A continuation, CIVITAS II, is foreseen with medium-sized cities under the **6<sup>th</sup> Framework Programme**.

Future European R&D activities relevant to Mobility Management will be carried out under the **6<sup>th</sup> Framework Programme**, which runs from 2002-2006. Although there is no direct reference to Mobility Management on the general level, it is expected that the subject is included under the subtopic *Sustainable Surface Transport*.

### European Funding for Implementation

A number of European programmes support the implementation of pilot projects directly or indirectly related to Mobility Management. The programmes belong to different Directorates General of the European Commission and tackle the aspects of Mobility Management in different ways.

The most important is the **SAVE programme** managed by the DG TREN, Energy and Transport, which identifies several priorities in the transport sector and carries out a significant number of projects directly related to different thematic areas of Mobility Management. In the period from 1996-2001 17 SAVE projects have dealt with Mobility Management (44 on transport altogether), among them:

- PROSITrans, Development of Products and Services to increase the use of the sustainable transport modes in Irregular Transport flows
- ? STREET, Sustainable transport and RUE in European towns
- TOOLBOX for Mobility Management in Companies
- Development of Sustainable Commuter Plans for public and private bodies
- ELMO – for a European Legislation on Mobility.
- TOMY, Toolbox for Mobility Consulting
- SUN, Saving Energy by using Mobility Management in schools
- EMOTIONS for Clean Urban Transport

Within **STEER** as a successor programme for implementation in the field of energy and transport (2003-2006), further Mobility Management projects will be accomplished in the future.

The **LIFE programme**, managed by the Directorate General Environment currently focuses on transport's contribution to better air quality. The European awareness initiative *In town without my car* was carried out under the Life Programme, as well various national projects (e.g. MOVE, GOAL or SMASH-EVENTS).

Under the **INTERREG** programme for co-operation in spatial and regional planning, **OPTIMUM** has dealt with the integration of Mobility Management into the spatial planning process and **TARGET** takes on Mobility Management among a wide range of other travel awareness issues.



#### 5.2.4 Framework in Education and Qualification

It can be said that a European framework on education in Mobility Management is just being developed recently. The measures taken so far chiefly concern a collection of information of the existing courses in different EU member states and the development of a training programme via seminars.

The project *PORTAL* aims at exploiting the results from EU research, including Mobility Management on all local & regional transport to generate new teaching materials and improve dissemination of existing materials, for use in leading educational institutions, distance learning and self-instruction.

The project “Training Programme for Urban Transport Measures and Policies”, *TRUMP*, was recently started with a view to develop an extensive European training programme. The training is targeted at transport professionals who are active in local or regional government or in public transport companies. The aim is to improve the competencies of these professionals in such fields as innovative transport planning including Mobility Management.

The *EPOMM*, the European Platform on Mobility Management is also dealing with education, as it is collecting information on training courses on Mobility Management.

#### 5.2.5 Organisational Framework

Concerning the organisational framework there is not yet any truly European organisation working for or practising Mobility Management.

The establishment of the *European Platform of Mobility Management (EPOMM)* can be seen as the main European initiative regarding an organisational framework. Following the objective to promote Mobility Management in Europe and fine-tune the implementation between the countries, EPOMM provides a forum and wants to develop a network of key players involved in Mobility Management. Workshops and newsletters are among the main activities. EPOMM has been supported by the European Commission to fulfil its role to support the exchange of information, as the European Council has seen it in its Council “Strategy on the integration of environment and sustainable development into the transport policy” (October 1999).

Beside several non financial resources like toolboxes, guidelines and databases developed by different European programmes, *ECOMM (European Conference on Mobility Management)* as a yearly conference for different aspects of Mobility Management has been supported by the European Commission since 1997.

#### 5.2.6 Conclusions

From a policy point of view it can be concluded that Mobility Management as such finds a positive climate in the European institutions and also from several associations and lobby groups. However, in policy documents Mobility Management, standing for the demand side and service approach of transport policy, is often not fully recognised



as an approach of equal weight. Rather than explaining this as a lack of interest in the concept, it should be explained from the perspective of the European Level. It is not expected that Mobility Management alone will solve traffic and environmental problems in Europe, but Mobility Management makes sense if it is embedded in a wider spectrum of local, regional, national and European measures. The example of the CIVITAS initiative, large-scale integrated demonstration projects for clean urban transport, where Mobility Management is one of eight equal policy approaches, shows that the value of Mobility Management is being acknowledged at the European Commission level. The overall framework conditions at the European level thus seem to be more favourable than at the level of some national governments.

When it comes to legal and regulatory activities, so far the subsidiarity principle has restricted specific actions by the European authorities. But the need for specific regulations, e.g. on mandatory mobility plans for companies and traffic generators is disputed at this stage since a requirement does not automatically result in high-quality implementation. More relevance can be found in the various indirect effects of European legislation and harmonisation on Mobility Management. The air quality directive is a good example of where a regulation in a related field has consequences for the transport sector and increased Mobility Management activities.

When it comes to funding of research and implementation of Mobility Management, the European authorities have already achieved a level well above the average national funding. In recent years Mobility Management slowly gained in importance and is now more or less recognised as a relevant research field in transport. It is included in integrated programmes as well as in activities in other areas (energy, environment, spatial planning, etc.). Although this is a good general framework it can be enhanced in the future to give demand-oriented strategies an equal weight in problem solving.

In the field of education and qualifications there is room for improving the awareness of the different qualification needs for Mobility Management. But it seems that dissemination and exchange, which have started, are the main European activities regarding this issue. The EPOMM network, which is driven both by the European Commission and by several member states, has been a starting point to provide an organisational framework to make the approach more well-known across Europe. It is a question if another, maybe more formal organisation at the European level is needed to promote and disseminate Mobility Management, e.g. in the form of a professional membership organisation.

Reviewing the entire framework conditions of the European level, recognition of a demand-oriented strategy such as Mobility Management as an approach of equal importance for tackling traffic problems has reached a visible and supportive level. Nonetheless, the full recognition of the approach and inclusion in policies requires effort and will need some time, also on the European level.



## 5.3 Framework for Mobility Management on a National Level

### 5.3.1 Introduction

The MOST project partners have analysed the framework conditions for Mobility Management at a national level for twelve European countries. Their individual reports have been the basis for a systematic comparison which is reported in this chapter. As this chapter cannot consider every detail explicitly, the 12 reports are in a separate Annex IV to make the complete information available. Also, a longer synopsis can be found in the specific MOST report on framework conditions. The authors of the 12 national reports are (in alphabetical order):

- *Austria*: FGM-AMOR
- *Belgium*: Langzaam Verkeer
- *Czech Republic*: CDV Brno
- *France*: Certu
- *Germany*: ILS
- *Italy*: STA Roma
- *Portugal*: CH2MHill
- *Spain*: CH2MHill
- *Sweden*: Swedish National Road Administration / Trivektor
- *Switzerland*: synergio
- *The Netherlands*: Vervoermanagement Nederland (VMNL)
- *United Kingdom*: Nottingham City Council.

The analysis shows the progress, which has been made since the projects MOMENTUM and MOSAIC have reviewed the state-of-the-art in Mobility Management across Europe for the first time (cf. MOMENTUM/MOSAIC 1996<sup>21</sup>). In addition to the summary analysis each chapter describes some highlights.

### 5.3.2 General Framework

The following two figures (source: Energy and Transport in Figures, DG Energy and Transport)<sup>22</sup> illustrate the growth of motorization in Europe and the current importance of the private car in passenger transport – being part of the problem which Mobility Management tries to tackle. Currently no data source is available which gives a comparable modal split overview including the non-motorised modes.

The fact that there is an enormous demand for motorised mobility, cannot be ignored by an integrative and demand oriented approach. Motorised modes of transport cannot be excluded in this approach.

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<sup>21</sup> MOMENTUM and MOSAIC Consortia (1996): State-of-the-Art in Mobility Management. Rijswijk, Aachen.

<sup>22</sup> [http://europa.eu.int/comm/dgs//energy\\_transport/en/links\\_en.html](http://europa.eu.int/comm/dgs//energy_transport/en/links_en.html)



**Motorization**  
Number of passenger cars per 1000 inhabitants

	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	EU15	index 1970=100
1970	214	218	194	26	70	234	133	189	212	197	160	49	155	284	214	184	100
1980	321	271	330	89	202	341	217	313	353	322	298	94	257	347	277	291	158
1990	388	309	447	171	309	415	227	483	480	368	387	187	389	421	360	393	214
1995	422	319	495	211	362	432	265	529	559	364	447	258	372	411	374	426	232
1996	427	331	500	223	376	437	272	531	558	370	458	277	379	413	388	434	236
1997	434	337	504	238	389	445	310	535	562	378	469	292	379	419	399	442	241
1998	440	343	508	254	408	456	309	545	594	382	481	311	392	428	404	451	245
1999	450	341	515	275	424	465	346	544	610	398	494	330	407	440	414	460	251

Source : Energy and Transport DG calculations

**Percentage of tax added to the price of a small new passenger car**

1998	21.0*	173.0	16.0	79.7	39.0	20.6	74.0	20.0	15.0	59.5	48.4	86.0	22.0**	52.4	17.5
------	-------	-------	------	------	------	------	------	------	------	------	------	------	--------	------	------

Source : VDA (example of small car used : VW Polo)

\*\* : FIN : after import tax on cars of 100%

\* : B : plus a registration tax which depends on engine power and type of fuel, also applicable to used cars but at reduced rates

**Table 5.3.2-1: Motorization by Country<sup>23</sup>**

Concerning the general political structure and the responsibilities in transport matters, MOST has drawn mainly from the LEDA project, which has analysed the legal and administrative framework for transport policy in the European Union.<sup>24</sup>

Focused on possible influences on Mobility Management services, being a flexible concept, no decisive differences could be found by a comparison of the structure of the states and of the governments. Of course there are many differences. But the effects on the legislative and executive structure which is relevant for framework conditions for Mobility Management only plays a role in some cases.

Differences mainly can be found in the degree of federalisation in the states' structure, in the degree of differentiation of competencies and responsibilities as well as in organisational proceedings. Such differences should have no critical influence on the overall level of Mobility Management activities.

Responsibilities are in principle organised as follows:

- *Top (national / federal) level: National ministries / federal bodies*

Mission: Development of nation-wide strategies; execution of nation-wide tasks. Institutions / public bodies mostly are in charge of / responsible for measures based on nation-wide regulations: Infrastructure planning (nation-wide roads), road building and maintenance (nation-wide roads), railways, airlines, executive and fiscal framework conditions, environmental legislation, taxes and charges.

<sup>23</sup> The original table number of the source is 3.3.1.2.

<sup>24</sup> LEDA Consortium (1998): An overview of the legal system in EU-countries regarding transport policies", Deliverable 1. Graz/Dortmund 1998

- *Medium (provinces / federal states) level: Ministries / bodies of federal states*

**Performance by Mode of Land Transport for EU15 by Country**  
(pkm) in % for 1999

	Passenger cars	Powered two-wheelers	Bus and Coach	Urban rail (tram & metro)	Railway
<b>B</b>	81.8	1.2	10.2	0.7	6.2
<b>DK</b>	79.4	0.8	13.4	0.0	6.4
<b>D</b>	81.4	1.8	7.4	1.6	7.9
<b>EI</b>	66.7	11.4	19.7	0.7	1.5
<b>E</b>	78.6	3.4	12.1	1.2	4.6
<b>F</b>	84.3	1.5	4.9	1.3	8.0
<b>IRL</b>	80.3	0.8	15.3	0.0	3.6
<b>I</b>	76.6	7.5	10.5	0.6	4.8
<b>L</b>	79.9	1.0	14.4	0.0	4.8
<b>NL</b>	81.5	1.9	8.1	0.8	7.7
<b>A</b>	73.1	1.7	13.7	2.9	8.6
<b>P</b>	78.1	6.3	11.0	0.5	4.1
<b>FIN</b>	81.6	1.3	11.3	0.7	5.0
<b>S</b>	80.2	1.2	10.1	1.4	7.1
<b>UK</b>	86.8	0.7	6.2	1.0	5.3
<b>EU 15</b>	<b>81.0</b>	<b>3.0</b>	<b>8.6</b>	<b>1.1</b>	<b>6.2</b>

Source : tables 3.5.4, 3.5.5, 3.5.6, 3.5.7, 3.5.8

**Table 5.3.2-2: Performance by Mode of Transport**

Mission: Implementation / realisation of tasks transferred by the upper level in fields with national responsibility; development of strategies and concepts for their own areas of responsibility. Institutions / public bodies mostly are in charge of / responsible for land use and infrastructure planning, building and housing matters, environment issues, shipping, transport plans, management of public road and rail transport, public transport.

- *Lower (regional / local / counties / communities) level: (Local) authorities*

Mission: Implementation / realisation of tasks transferred by the upper level in fields with regional / county-wide responsibility. Institutions / public bodies mostly are in charge of / responsible for planning permission, parking management policy, mobility plan, management of public transport, framework for cycling and walking, pupils' transport.

### 5.3.3 Political and Programmatic Framework

#### National Authorities

There is a large degree of variation with regard to the objectives and policies of national authorities dealing with Mobility Management. A distinctive line is to be drawn between those where the support is outspoken and direct or rather indirectly, supporting a more sustainable transport system. Since the support for Mobility



Management is on a continuum in some cases this distinction is not clear. Three groups of countries can be differentiated according to their national policies.

The Netherlands, Belgium, the United Kingdom and Switzerland are representing the countries where Mobility Management is included visibly in policy statements. In general the statements lead to specific policy action concerning Mobility Management. In the Netherlands, an early supporter of mobility plans for companies, the responsibility has recently been handed over to the regional level in an act of decentralisation. Nevertheless, the government is still supporting the approach, although it not as outspoken as before. In Belgium the objective to foster sustainable transport for the commute has led, for example, to requirements for companies to collect data on the commute as a first step and to fiscal reform. In the UK a new, integrated approach to transport, outlined in a White Paper in 1998, has led to several policy actions regarding commuter travel and school transport. In Switzerland, under the umbrella of a programme devoted to energy saving, several Mobility Management activities are covered, e.g. supporting the densest national car-sharing system in Europe. Particularly in the Netherlands and the United Kingdom this has led to a situation where national authorities are (or have been) the core catalysts for the further development of Mobility Management in their country.

For a second group of countries, this holds true to a lesser extent. In Italy, Sweden, France, Germany or Austria many references to a supporting policy on a national level are more indirect. The situation is mixed, though, since there have been developments in recent years. Whereas in Italy environmental legislation is a major driving force (see part B.), France and Sweden have only recently discovered Mobility Management as a policy ingredient. In Germany and Austria, several national policy element can be considered as supportive of Mobility Management e.g. support programmes for public transport or the objective of modal integration. The lack of a direct reference to, and responsibility for, Mobility Management leaves room for the improvement of framework conditions.

The third group of countries, which comprises Spain, Portugal and the Czech Republic in this analysis, is marked by an absence of any policy statement or activity on Mobility Management. These countries have other transport policy priorities, mainly dealing with infrastructure development. This does not imply, though, that the overall aim of a sustainable transport system is not given attention. In some cases the national authorities are in favour of such a goal, but this has not (yet) resulted in any policy support for Mobility Management.

Yet in each of the analysed countries and nearly for each of the topics with relevance for Mobility Management statements and stated preferences are being made (e.g. general mobility plans or national plans for sustainable mobility, support for public transport, fiscal reform).

Further, it is true for all analysed countries that the very first steps towards Mobility Management are characterised by efforts to integrate different modes of transport. At first, this happens without a clearly defined concept of Mobility Management.

In some countries, it has been stated that a certain degree of fragmentation of responsibilities can be seen as a barrier for the development of coherent Mobility Management policies. For example, in France or Germany the transport authorities have quite a differentiated organisation, which is rather modally oriented. But there is no indicator which might feed the suspicion that the non-existence of a central institution which explicitly would be in charge of Mobility Management issues is a



general hindrance for further development of Mobility Management services. Mobility Management should be seen as a typical cross-sectional task.

### Highlights

#### **United Kingdom**

With its White Paper in 1998, the government issued a clear policy statement for an integrated, sustainable transport system that is strongly supportive of Mobility Management. It has led to a number of subsequent activities directly concerning the advancement of Mobility Management. Companies, schools and lately hospitals have been identified as important trip generators. The Government wants to encourage widespread voluntary take-up of *travel plans (mobility plans)* and it wants to lead by example. Over 1000 government buildings have now developed travel plans. The Government is also looking to local authorities to promote them through the Local Transport Plan process. It has awarded grants to local authorities to employ 111 travel plan advisors across the country to help schools, businesses and other organisations in their area to make progress (budget of £9 million over three years). The government established the School Travel Advisory Group (STAG) in 1998 to spread best practice and to identify practical ways of reducing car use whilst at the same time improving safety on the journey to school. There is a Government funded programme that offers free site-specific advice. Information and guidance is offered through the transport ministry website ([www.local-transport.dft.gov.uk](http://www.local-transport.dft.gov.uk))

#### **Belgium**

The country has a history of pilot projects of *Mobility Management for companies* since the early 1990's and almost mandated mobility plans in 1999 (the draft law was withdrawn by a new government). In an attempt to foster a more wide-spread application, the national government started a policy initiative to promote the development of mobility plans for companies and wants to bring the relevant actors together. As a first step, data collection about the commute is a mandatory prerequisite for mobility planning for all companies with more than 100 employees. The government has issued a fiscal reform (no taxation of employer public transport benefits, equal deduction of commuting expenses regardless of mode) in support.

### **Political Parties**

Political parties shape the political agenda. Hence, a systematic analysis of their positions related to Mobility Management and its framework conditions is useful.

Political parties with an explicit or obviously clear ecological orientation tend towards support for more sustainable mobility. In consequence, instruments like Mobility Management belong to their political canon but Mobility Management itself is never mentioned explicitly. These parties are orientated either towards modes with explicitly less negative environmental effects like walking or cycling or towards modes with a more efficient use of energy like public transport. Additionally, they support a more rational use of individualised motorised transport modes, for example by preferring car sharing. More innovative elements of Mobility Management which lie beyond the classic technical approaches like more and better information, higher degree of integration of transport modes seem to be rather rare.

Parties with political concepts in which the topics of the ecological agenda are not so obvious, either because they are not explicitly mentioned or because they do not play



an appreciable role in the parties' ideology, clearly treat mobility and transport in terms of developing infrastructure, more and/or better technical solutions, reduction of congestion, better driving conditions in traffic. Elements of Mobility Management can be found isolated, but not embedded in an approach.

It seems that the concept of Mobility Management, the idea which underlies it, has not yet found its way into the national party debates and their political analysis. It is rather obvious that issues in terms of sustainability, environmentally friendly transport and so on are adopted in the programmes and statements of nearly all political parties but there is no clearly defined strategy reported to support the development and implementation of Mobility Management services.

Hence, support for framing ideas of Mobility Management in public awareness, for example, environmentally friendly actions, sustainability, demand-oriented mobility looks like the best way to ensure an open-minded political climate for the approach to Mobility Management in a long run.

### **National Transport-related Organisations**

Transport-related organisations can act as lobby groups and driving forces to spread the Mobility Management approach. Also, better knowledge of these organisations will highlight possibilities for creating motivational alliances and co-operation.

Public organisations can be found as well as private-non-profit organisations (PNP). Some work on very specific mobility issues some on transport in general. It is true that no real unique pattern can be outlined to describe their work. But one common characteristic is that nearly all have goals for mobility which is more environmentally sustainable. One similarity to the political parties is that most transport related organisations do not explicitly state the principles of Mobility Management.

The organisations can be classified in three dimensions:

1. *scope*: local or nation-wide
2. *type*: private-non-profit or public
3. *focus*: specific or general

In the following table 5.3.3-1 only organisations with a nation-wide scope are listed. The organisations for each country have been selected by the respective national researchers according to their relevance to Mobility Management.


**Table 5.3.3-2: National Organisations with relevance for Mobility Management**

Country Organisation	Type*		Focus
	public	PNP	
<i>Austria</i>			
Staedtebund	✓		Project funding and information provider (pro EPOMM)
ARGUS		✓	Promotion of sustainable traffic, especially biking
NEMO		✓	Network for Mobility Management (EPOMM focus point)
VCO		✓	Promotion of sustainable mobility and feasible solutions
<i>Belgium</i>			
BTTB / ACTP		✓	Lobby organisation of public transport users
Cyclists org.		✓	Lobby organisation of cyclists
KOMIMO		✓	Umbrella organisation of initiatives pro sustainable mobility
Pedestrian org.		✓	Lobby organisation of pedestrians
<i>Czech Republic</i>			
Healthy Cities net	✓		Umbrella organisation for making transport more healthy
VIA Foundation		✓	Support of modern and intermodal public transport
<i>France</i>			
DRAST / DTT	✓		Research and development on mobility, mobility advice for companies
ADEME	✓		Environment and energy management, travel plan for employees
RARE	✓		Net of the councils' environment organisation pro sustainability in transport
ACFCI		✓	Commerce & industry organisation pro Mobility Management in companies
GART		✓	Public transport authorities association
<i>Germany</i>			
VDV		✓	Association of Public transport companies with sub-committee on Mobility Management
FGSV		✓	Professional organisation with sub-committee on Mobility Management
ACE		✓	Car user association with aim for integrated mobility; active for company mobility plans
ADFC		✓	Lobby organisation of cyclists
VCD		✓	Promotion of sustainable mobility and feasible solutions
DVR		✓	Traffic safety council; company Mobility Management
BGW		✓	Accident insurance with activities in company Mobility Management
German Association of Cities (DST)	✓		Strengthen the cities' position in the field of public transport
<i>Italy</i>			
Euromobility		✓	Association for mobility managers, Information pool
<i>Portugal</i>			
ANTROP	✓		Association of road passenger transport companies
APVE		✓	Promotion of electric vehicles, pro sustainable mobility
<i>Spain</i>			
RENFE	✓		National rail company pro intermodality, acting pro use of public transport
A pie		✓	Lobby organisation of pedestrians, acting pro environmentally friendly cities
CONBICI		✓	Platform for local cyclists organisation on lower levels
Ruedas redondas		✓	Lobby organisation of cyclists

Country Organisation	Type*		Focus
	public	PNP	
<i>Sweden</i>			
Cykelfrämjandet		✓	Lobby organisation of cyclists
<i>Switzerland</i>			
VCS		✓	Promotion of sustainable mobility and feasible solutions
IG Velo Schweiz		✓	Promotion of improved consideration of bicycle traffic
Fussverkehr Schweiz		✓	Lobby group for pedestrians, Vision Zero
GAST	✓		Association of municipalities for car-free tourism
<i>The Netherlands</i>			
VMNL		✓	Explicitly dedicated to Mobility Management
ANWB		✓	Supportive of Mobility Management
Fietsersbond		✓	Lobby organisation of cyclists
Rover		✓	Lobby organisation of public transport users
NTF		✓	Teleworkers association acting pro Mobility Management
SGA		✓	Promotion of car sharing
<i>United Kingdom</i>			
CfIT	✓		Independent advisory body for implementation of integrated transport policies
TravelWise	✓		Changing attitudes and behaviour of car users towards more sustainability
ACT		✓	Association for commuters promoting travel plans
Pedestrian association		✓	Lobby organisation of pedestrians
Sustrans		✓	Encouragement of people towards more use of sustainable modes of transport
Transport 2000		✓	Searching for environmentally sustainable solutions for transport problems in each area of life

**Table 5.3.3-1: National Organisations with relevance for Mobility Management**

In the first place the overview makes clear that the majority of the relevant nationwide organisations are non-profit making and that their thematic focus is often oriented on (more or less) one topic of mobility. A large majority of organisations can be subsumed under user organisations or lobby groups (such as VCO, KOMIMO, Fietsersbond or VCD). Sustainability and environmental objectives often are on the actors' agenda. But it is important to note that many of these are rather small and have limited capabilities. In exceptional cases, progressive car associations belong to the active stakeholders for Mobility Management (e.g. ACE in Germany or ANWB in the Netherlands).

Only in a very few countries, are there specific organisations dealing especially with Mobility Management (e.g. ACT-UK, VMNL-NL or Euromobility-IT). The development of Mobility Management in Europe is not yet developed so far that these organisations can be considered commonplace.

Another group of organisations relevant to Mobility Management are the associations of transport providers, e.g. public transport associations. As these stakeholders belong to the core group of partners in any Mobility Management scheme it is a troublesome finding that not more of them can be considered as active.

In consequence, Mobility Management is an approach which benefits from non-public activities in fields which are not explicitly oriented towards Mobility Management.



From the public realm some countries have stated that their municipal associations are relatively active for Mobility Management, but the general level of activity seems to be low. Often, few of the general associations are actively engaged with Mobility Management, but rather specific networks with themes related to sustainability pursue the issue (e.g. National TravelWise Association in the UK, RARE in France or the Healthy Cities Net in the Czech Republic).

Although activities are not wide-spread across Europe, the first examples show the awakening of awareness of the synergies between Mobility Management and health, environment, energy and even commerce. Organisations such as ACFCI/FR, Healthy Cities/CZ, NTF/NL or BGW/DE have obviously realised that support for more sustainable mobility can be very advantageous for their own objectives. This leads to the conclusion that a reasonable share of support for Mobility Management can be realised even by getting absolutely non-mobility-related institutions active. This potential is not yet exploited enough, Mobility Management actors should spend more attention finding new partnerships in such fields and searching for possibilities to establish new co-operations in motivational alliances.

#### Highlights

##### **Spain**

The two main nation-wide *trade unions* developed an agreement with the IDAE (Institute for the Energy Diversification and Consume Reduction) to undertake five pilot projects between 1995 and 1997 to develop and implement mobility plans at various companies. In the publication *El Transporte al Centro de Trabajo* (Transport to the Work Centre, 1998), the legal basis for the responsibility of companies to assist workers to commute to their place of work is described. Further, measures that could be achieved through collective negotiation with the company to increase the use of sustainable transport modes by workers are explained. Since this document was published, one trade union has assisted in the development of mobility plans at several large industrial and business parks near Madrid and Barcelona.

##### **United Kingdom**

*National TravelWise Association* is a national network of local authorities, health sector organisations and passenger transport executives working together to promote healthy and sustainable transport. NTWA aims to reduce society's dependence on car use by changing attitudes towards car use and promoting more sustainable modes of travel, and lifestyles which require less travel. The idea of a national partnership came from the work by Hertfordshire County Council who encouraged local authorities to join forces in campaigning for sustainable transport. Today there are over 110 members, organised on a regional basis. NTWA's working groups research topics such as working with business, school travel plans and development control issues. NTWA collects and disseminates best practice from members and associated bodies, and keeps organisers up to date with national events and campaigns.

##### **Germany**

The *Association of German Transport Undertakings (VDV)* represents over 500 public transport companies. In 2001, its sub-committee "Mobility Management", together with the Federal Ministry of Transport, has published a handbook on "Mobility Consulting in Public Transport as an integral part of Mobility Management". In the view of the VDV, Mobility Management is important to improve the performance and customer orientation awareness of the public transport companies. The handbook guides the development of services and the organisation of mobility centres and includes a number of best practice examples. It also should promotes the idea of Mobility Management among public transport companies.



### 5.3.4 Legal and Fiscal Framework

#### Legal and Regulatory Framework

With regard to the legal framework conditions for Mobility Management throughout Europe the situation is complex since the details differ very much across the European countries. It is obvious that there are almost no laws dealing directly with Mobility Management. This is in line with the earlier recommendation of the ELMO project, which found that currently no laws are needed to make company mobility plans mandatory – but maybe in the future (cf. ELMO 2001, p.28).

Only Italy so far has taken up an early development from the United States to require mobility plans from larger employers in metropolitan areas. This is part of the programme to combat air pollution. But since the Decreto Ronchi is not a law but only a decree, no direct sanctions are connected to it (see highlight below). Such a regulation is certainly a direct influence on the development of Mobility Management because subsequently specific financing and qualification programmes followed. Whether the strategy of imposing Mobility Management on companies is the best way of action is under considerable debate. In Italy, it is argued that authorities need such a law to become active and to relate to the companies with the support of a regulatory framework. But it is not yet clear if the quality of the mobility plans is high where companies are forced to comply with the law instead of acting out of a self interest.

Other countries are following different strategies. Sweden, France, The Netherlands, Belgium or the United Kingdom do have regulations at a national level with very direct influences on Mobility Management. These are not only part of the transport regulations but often tied into planning and environmental laws or even health policy. In Switzerland energy legislation forms the basis for a national programme (Energie Schweiz) which is the source of funding for many Mobility Management projects.

In the field of *transport legislation*, not many direct references can be drawn on Mobility Management. The case of Belgium, where data collection about the commute is a mandatory prerequisite for mobility planning for all companies with more than 100 employees, shows another strategy to tighten requirements without being as far-reaching as the Italian law. The recent development in Sweden is a good example of how framework conditions can considerably change by new legislation. In 2001 a new Infrastructure Bill with the overall goal of a sustainable transport system was established (see below). As a result measures to influence the need for transport and the choice of transport mode (i.e. Mobility Management) have to be considered as a top priority before building any new road. Together with the starting pilots of Mobility Management the discussion on the approach has thus gained momentum. In the United Kingdom the Transport Act 2000 paves the way for local authorities to set up road user charging and to charge employers on workplace parking. This regulation is a strong backing for local Mobility Management efforts, although the discussion on new charges shows, how difficult it is to establish policies which contribute to a “push” from the single user vehicle as a necessary complement to the more “pull”-oriented services and incentives of Mobility Management.

An example for tying requirements for mobility plans into *health policy* is the strategy in the United Kingdom. In order to reach health targets the government has established so called National Service Frameworks. To reduce the risk for coronary heart diseases,



the standard establishes that all local health communities as employers should have developed mobility plans until April 2002.

Where direct legal reference is made to Mobility Management the lack of enforcement is a problem encountered. Both the Italian decree or the requirement for British hospitals to set up a mobility plan do not foresee any enforcement procedures.

*Environmental legislation* can be a source of support, because Mobility Management can be part of a comprehensive effort to achieve air quality or better environmental quality. The previously mentioned Italian decree was based on the concern for air quality in Italian cities and the Ministry of Environment is the driving force. Also in other countries, Mobility Management activities relate to air quality management. MOST site, the London Borough of Camden, for example, where 80% of air pollution is caused by road transport, refers with its green transport strategy directly to the UK National Air Quality Strategy from 1997, which is based on the relevant EU directive. In the Netherlands the integration of mobility and environmental management is seen as a good way to implement a more forceful instrument without turning to a direct law. Some municipalities, such as Amsterdam, are using the Environmental Management Act as a way to instigate Mobility Management among companies.

The integration of Mobility Management and *planning* is necessary for an early consideration of the transport demand and planning of services in order to cope with it. Only in a few countries have planning law been incorporated the possibilities of Mobility Management. France, with its law on urban renewal (SRU, see below) provides a good example of where a link between urban planning, mobility/transport and parking policies has been established. The law requires mobility master plans for urban areas with over 100,000 inhabitants, which will include Mobility Management activities. It also requires the establishment of a mobility consulting service for companies and large traffic generators. As such there is an indirect effect that has led to a stronger discussion on Mobility Management in recent years. In the United Kingdom more consideration on the relationship between land-use and transport has been given through Planning Policy Guidance Note 13 (PPG 13). It aims to reduce the growth in the length and number of motorised journeys. Besides covering key planning principles such as mixed use and density, the revised regulation issued in 2001 stresses non-car accessibility, sets new maximum standards for parking, and establishes the instrument of transport assessments for new developments. It is necessary that throughout Europe the laws on spatial planning or building regulations should consider accessibility by other modes than the car as an essential. Here standards are needed.

In many of the country reports (see e.g. Sweden, Austria, Portugal or the United Kingdom) it has been argued that the legal situation that has influence on Mobility Management is complex and that *barriers* can be found in the legal and regulatory system. In the United Kingdom, bus deregulation led to a situation of frequent and irregular timetable changes. This constitutes a considerable barrier in the effort to produce customised information services. Sweden reports a negative impact from public procurement based on an EU directive: since requirements can only be placed on a product or services but less on its production process (including transport), environmental requirements on the delivery of goods are more complicated from an administrative view. In Germany, an example shows how seemingly minor regulations can have an effect for the implementation of services. Here road traffic regulations do



not allow the reservation of public parking spaces for car-sharing vehicles. As such they need private premises, making the extension of services more difficult.

The examples show that effects originate from regulation that is not directed at Mobility Management and sometimes are even unintentional. In order to influence unfavourable conditions for Mobility Management it is necessary to screen such “inverse policies” for any negative effects.

In some cases it has been pointed out that there are regulations with regard to Mobility Management which are on the local level, which is not subject of this section. But it should be noted that in the Netherlands some local authorities demand mobility plans from companies which want to build new offices (e.g. ‘s-Hertogenbosch or Tilburg).

In general, before turning to specific laws to make mobility plans mandatory, it seems to be a good approach to relate Mobility Management with the planning laws or environmental requirements. In any case, the question of enforcement and quality control should be tackled. Laws will only help if the awareness of the problem, the public support and the know-how are developed suitably.

#### Highlights

##### *Italy*

In Italy specific regulations have been stipulated to support and initiate Mobility Management measures. In 1998 the Minister of Environment and the Minister of Transport issued the decree "Sustainable development in urban areas" with the obligation to nominate a Mobility Manager in cities with more than 150.000 inhabitants for each company or organisation with more than 300 employees (800 freelancers). It is the task of the Mobility Manager to collect and analyse all information concerning the daily home-work trips of all commuters and, based on this, to develop a mobility plan. Sanctions do not yet apply for companies which do not become active. Follow-up decrees in 2000 provide the funding for the Mobility Managers, for incentives to employees and promotion of car sharing initiatives. So far 1200 mobility managers have been appointed. The funding allocated to these activities is €13 million. Since the law does not foresee any penalties the implementation of mobility plans is progressing quite differently. For the end of 2002 an expansion to the original decree is planned, which extends the territorial area and includes new traffic generating sites such as schools or hospitals.

##### *Sweden*

In October 2001, the Government presented its Infrastructure Bill for a transport system that is sustainable in the long-term. In December 2001, Parliament adopted the direction and proposals contained in that Bill, and in March 2002 the Swedish National Road Administration was issued a directive by the Government to draw up a new national road transport plan for the period 2004 – 2015. The Swedish National Rail Administration was also directed to draw up long-term plans, and similarly the County Administrative Boards has to draw up county plans. In the directive to the Swedish National Road Administration, interim goals were stipulated for attaining a sustainable road transport system, and the so-called “four-stage principle” is to apply. Measures are to be analysed in the following descending order of priority:

1. measures to influence the need for transport and choice of transport mode
2. measures for a more efficient utilisation of the existing road network and vehicles
3. limited re-construction works
4. new investments and more extensive reconstruction works



*Highlights*

*France*

The relationship between urban planning, transport and parking policies is a strong precondition to develop Mobility Management. The recent law on urban solidarity and renewal (SRU) may encourage more active working as a result of the urban mobility master plan (PDU). All agglomerations of more than 100.000 inhabitants (almost 60) have to implement a PDU. The smaller ones can also implement a PDU voluntarily (almost 20-30 in progress). The SRU law promotes the development of travel plans in companies. It requires the urban public transport authority responsible for managing the PDU to set up a mobility consulting service for large companies and other establishments. These services will be implemented progressively as soon as the national guidelines to implement a travel plan (expected for the end of 2002) and for mobility consulting (expected for 2003) are published.

### 5.3.5 Fiscal Framework

There is no argumentation against the fact that taxes, charges and tariffs play an important role in the framework for Mobility Management. The fiscal treatment of the car and the other modes directly influences the price that the consumer pays for transport services and as such has an influence on travel behaviour, which Mobility Management sets out to shape as well.

As the MOST project did not conduct a full-scale comparative analysis of the taxation issue, basic findings will be presented together with some highlights, which are valuable information for a first assessment. The reader will find more details in the national reports in Annex IV. Additionally, an EU-wide review of transport charges and taxes has recently been conducted for the European Commission (cf. DG TREN (2000): Fair and Efficient Pricing in Transport – The Role of Charges and Taxes).

A central finding replicates the result of the ELMO project, that there are few stimulating fiscal measures, but some restrictive in the current taxation (cf. ELMO 2001, p. 14). The transport taxes and charges across the twelve countries comprise a mixed picture – not only across the different countries but also within a country –, with some providing an incentive and others a disincentive for Mobility Management.

In Mobility Management for companies the treatment of the commuting cost is a main factor. Here the right pricing signals are important to reach the commuter. In many countries commuting expenses are tax deductible (e.g. Austria, France, Germany, the Netherlands). But the principle balance between the modes differs. In France, the income tax deduction is only for commuting by car. In Germany the conditions have changed positively insofar that the tax deduction is now equal regardless of the mode used for commuting. Yet the amount has been raised to favour a long commute, which is not favourable for Mobility Management. In Austria a higher deduction is granted to commuters who have no realistic possibility to use public transport. In the Netherlands the signal towards the sustainable modes was more drastic: until 2001 all employees who lived further away than 10 km from their job were entitled to tax deduction. Now this is only granted to users of public transport or the bicycle, no longer to car users.

A very concrete fiscal problem often encountered in Mobility Management for companies is fringe benefit taxation. Incentives for employees, e.g. subsidies for public transport passes or bicycle equipment, are often treated as a benefit in-kind and



must be taxed. This is, for example, reported for Sweden. Yet workplace parking is mostly offered for free but this is not regarded as a taxable benefit. In Germany rebated public transport passes offered by the employer are not liable for taxation anymore, whereas the reimbursement of car commuting is tax-free for the employee, but is taxed with the employer (15 %). In the United Kingdom the Transport Act 2000 gives local authorities the power to charge employers for workplace parking, an effective measure in a comprehensive mobility plan. Currently a number of British authorities plan to implement such a scheme (among them MOST site Nottingham), but the policy is being delayed until April 2005 due to a controversial public debate.

The policies for company cars and business travel are another area, where adverse conditions for Mobility Management might be created. In Austria, for example, business car travel is reimbursed with a higher sum than public transport. The same holds true for Spain. Spanish tax laws are such that there is no incentive for businesses to encourage their employees to use public transport in lieu of private or rented vehicles for work purposes. From a company's perspective, there is no benefit gained from an employee using either public transport or private vehicles, as the company's tax write-down is the same in each case. However, from an employee's perspective, the higher reimbursement rate is an incentive to hire a vehicle.

There are two other subject areas which have indirect effects for Mobility Management: fiscal treatment of the car and the public transport tariffs. Both are not directly related to Mobility Management but, of course, in their general capability to fix prices, they can influence travel behaviour. The standards set here can have more influence than many Mobility Management schemes.

A last example should show that even very indirect conditions can prove to be effective measures to set a favourable framework. In France employers can receive a discount in their contributions to the social insurance for commuting accidents, if they implement measures to reduce car use. What seems to be a perfect example on how to include Mobility Management in related policy fields is not yet realised, because so far only company restaurants and the promotion of housing near to workplaces qualify, but mobility plans are not included.

### *Highlights*

#### *The Netherlands*

Until 2001 Dutch employees, when they lived more than ten kilometres away from their work, could deduct a certain amount from their taxable income for their commuter trip. Since 2001 only users of public transport and bicycles can deduct a certain amount, car drivers can no longer do so. Employers may compensate (part) of the commuter trips without being taxed. When employees use public transport the employer may pay all the costs. When employees use other transport modes and live more than ten kilometres away from their work, the employer can give a non-taxable compensation, that varies from € 780 to € 1560 a year. A driver of a carpool may be given € 0,28 a kilometre without being taxed. If this is the case his passengers get no compensation at all. Employers can give bikes to their biking employees up to a value of € 749 (incl. VAT). Employees who drive company cars can be charged up to 25 % of the car's original price including VAT yearly, depending on how much kilometres they use these cars for private trips. When an employee uses his own car for business trips, he may have a tax-free compensation of € 0,28 a kilometre. When he uses his own bike the compensation is € 0,05.



*Highlights*

*United Kingdom*

In 1999 the Government introduced a package of seven tax measures to encourage employers to establish green transport plans and help employees travel to work without using their own cars. As from April 1999, there is no tax on the following green commuting benefits provided by employers:

- works buses with 12 or more passenger seats (in April 2002 reduced to 9 passenger seats).
- general subsidies to public bus services used by employees to travel to work, provided the employees pay the same fare as other customers.
- bicycles and cycling safety equipment for employees.
- workplace parking for bicycles.

In addition:

- employers can pay their employees up to 12p per mile (since April 2002 20p) tax free for using their own cycles on business travel; and employees will be able to claim tax relief on 12p per business mile if their employer pays less than 12p or provides no payment (since April 2002 20p).
- an existing tax concession will be extended to help employers promote car sharing. This will allow employers to be tax-exempt for alternative transport to get car sharers home in exceptional circumstances, such as domestic emergency, working late etc.

The Inland Revenue is currently (January 2002) considering responses to a consultation exercise about employer subsidies to public bus services.

### 5.3.6 Financial Framework

Generally, in most of the analysed countries no grants or funding at the national level exists which is explicitly dedicated to Mobility Management. Corresponding to the framework conditions in terms of competencies and responsibilities, the financing or funding measures which could be seen as supportive for Mobility Management are spread over several different programmes, actions and ministries (e.g. transport, environment, health). In this sense, the public funding of Mobility Management is often indirect. To receive funding for implementing Mobility Management in the first line is a strategic matter: it is necessary to rely on various sources in a variety of programmes. This situation certainly does not lead to favourable conditions for beginners. National decrees for explicit funding of Mobility Management for companies (Italy), by funding mobility managers which work on school and company mobility plans (United Kingdom) or co-finance specific Mobility Management activities under the urban transport master plans (France) remain to be exceptions.

In the Netherlands, where Mobility Management started early as an initiative of the central government, the funding for Mobility Management has been decentralised in 2000. The provinces now receive budgets according to the level of congestion (see below). Also, Sweden with its local investment programmes (LIP) and Germany with regional co-funding of mobility centres from public transport funds are examples how Mobility Management is starting to be included in regular transport programmes.



In many countries where Mobility Management is not yet an established “mainstream” policy, co-financing the implementation of regular activities can be difficult. Even if pilot projects will be (co-)funded, the regular development of Mobility Management is usually not foreseen. The main reason for this is that generally infrastructure financing (both rail and road) is the main activity for transport expenditures at the national level. Additionally, the service nature of Mobility Management has the consequences that the ratio of personnel vs. infrastructure is unbalanced towards the former which causes difficulties in a transport system geared towards infrastructure investment.

Almost all countries have transport research programmes which follow the objective of a more sustainable transport or advancement of transport technology. Here we find some Mobility Management projects, although most partner reports state that Mobility Management is only a minor part of the research. Notable programmes to look for are NFP 25 and 41 (Switzerland), PREDIT (France), PROFIT (Spain), PODO II (Belgium) or “Mobility and Transport” and FOPS (Germany). As Mobility Management is not well-defined it is difficult to estimate the share of Mobility Management research. For direct research on Mobility Management, Sweden for example estimates the share to be under 1% of all transport research.

An overall estimation of the level of finance for Mobility Management in relation to other transport policies would be an interesting figure to judge the framework conditions in this respect. But for the MOST researchers it was generally not possible to quantify this cost. Austria reported that direct Mobility Management activities account for only 0.03% of the transport budget. A common finding, though, is the statement that direct funding for Mobility Management is only marginal. The existence of specific funding instruments for Mobility Management is a sign of a mature development of the strategy.

### Highlights

#### Italy

Two national decrees are providing subsidies for sustainable mobility projects at the local level. € 15 million are specifically provided for the creation of a network of mobility co-ordinators. The subsidies, which are distributed by the municipalities on a first-come, first-served basis, are destined for companies willing to implement a mobility co-ordinator. € 35 million has been made available to cities for different actions in sustainable mobility politics, including Mobility Management. To participate, interested cities should have joined the initiative "Car-free-Sunday" and appointed Mobility Managers.

#### France

From 2001 new grants are available from the surface transport direction (DTT) for studies under the urban transport master plan (PDU), particularly to promote mobility plans in companies and mobility centres (maximum level of grant: 35% of the studies' costs). Also there are grants from the agency for environment (ADEME) for the implementation of mobility plans in private companies and public establishments. 50% of the cost of studies made by a consultant (base: 75.000 €); from 20 to 30% of the cost of the implementation and the follow-up (base: 300.000 €). Currently these new grants are not well known and in demand. Fragmentation of the authorities in charge of the grants also influences the development of Mobility Management adversely.



*Highlights*

**The Netherlands**

In 2000 the national government decentralised its Mobility Management budget to the provinces and Cadre Law Areas. The annual budget is over €4,5 million. The number of traffic jams was the key on which this budget was divided. This means that the Randstad gets the most, over €3 million, and the three northern provinces together get a little over €100.000. In some cases a province or area has an extra budget, on top of the decentralised budget, e.g. the provinces of Gelderland and Noord-Brabant.

**United Kingdom**

Financial support has been provided for the pursuance of company and school mobility plans. Local authorities have been funded to employ a dedicated officer to work with schools and communities to launch these mobility plans. The national government has recently awarded grants to local authorities to employ 111 mobility managers across the country to help schools, businesses and other organisations in their area to make progress (budget of £9 million over three years). The Government is also looking to local authorities to promote them through the Local Transport Plan process.

### 5.3.7 Framework for Education and Qualification

For a long time, transport planning was an exclusive claim of economists, engineers or other technically oriented professions. But this is more a reflection of the sectoral dominance of these professions within transport planning during much of the last century. Corresponding to the opening of the area of mobility, practitioners and researchers are now drawn from different non-technical disciplines. Educational programmes also are more and more multi-disciplinary in contents.

Nevertheless, nearly in all analysed countries the educational approaches are currently at a very early stage. Executing the necessary change in professional orientation, the "educational scene" is exploring, according to the stratification of Mobility Management professions (mobility consultant, mobility manager, multi-modal, public facility, at companies etc.). Further, different kinds of actors are offering different contents: There are educational programmes, training courses, seminars and workshops, offered by universities, consultant agencies, transport organisations and so on. For example in the United Kingdom, Mobility Management is beginning to feature within the education curriculum of schools and universities. However, in the most countries if there are seminars or professional education, it is a single attempt but not systematically orientated towards lasting effects, nor built on a broad structured basis. There is no doubt that a certain multi-disciplinary approach is necessary because Mobility Management has many facets which cannot be provided satisfyingly by education following a "one size fits all" attitude.

*Highlights*

**Austria**

Since 1998 FGM-AMOR provides on demand professional training for mobility consultants in co-operation with the Wirtschaftskammer (chamber of commerce) of the province Styria. Also, during 2002 the Wirtschaftskammer in the province of Upper Austria has started professional training.



### Highlights

#### *Spain*

One example of a professional training course which includes Mobility Management is the postgraduate course “Planificación y Gestión de la Movilidad” at the Politechnical University of Cataluña. It is partly financed by the RACC (a drivers association). The course focuses on the causes and effects of mobility, especially concerning urban and mobility planning, Mobility Impact Assessments or demand control.

#### *Italy*

As a consequence of the law on company Mobility Management professional training courses for mobility co-ordinators/mobility managers are available. The brief courses of one week give an overview on Mobility Management: the legislative conditions, the impact of mobility and transport, analysis of the transport-demand, economic assessment, as well as methods of data collection, analysis and evaluation. The courses are mostly offered by small organisations (like Centro Europeo di Toscolano) that works in collaboration with ENEA, the Ministry of Environment and the Regional governments.

#### *Germany*

Universities have begun to incorporate Mobility Management into their curricula. For post-graduate studies there is a specific offer on Mobility Management at the University of Kassel. Suitable professional training is available in Germany which is geared towards the requirements of mobility managers or mobility consultants.

#### *Belgium*

The Flemish Foundation for Traffic Sciences (VSV) spent about € 500.000 in 2002 on courses, seminars and training about mobility. They also offer specific courses on company Mobility Management

### 5.3.8 Organisational Framework

This chapter differs to the section about organisations in subchapter 5.3.3. In that chapter, transport-related organisations have been analysed according to their position towards Mobility Management and their supporting activities. Here, only such organisational structures at a national level are addressed which are *explicitly* dedicated to or at least mainly focused on Mobility Management activities. In most of the analysed countries, an organisational framework at the national level which is explicitly dedicated to Mobility Management is still in early development. Because most of the initiatives are based on a local or at the best on a regional level, aspects relating to national organisational structures are few.

Especially in countries with a longer history in Mobility Management or where development is currently very dynamic the first organisations solely devoted to Mobility Management have started. In these countries clear definitions and policy frameworks for Mobility Management exist. These are mainly organisations for practitioners which have the aim of creating networks and exchange opportunities, to serve as knowledge centres and to disseminate best practice. Examples for these are Euromobility in Italy, Association for Commuter Transport (ACT) in the United



Kingdom, Vervoermanagement Nederland (VVNL) in the Netherlands or MzM in Germany. In other countries as a preliminary stage the first informal networks are being developed, e.g. in Sweden or Spain.

The EPOMM (European Platform on Mobility Management, [www.epomm.org](http://www.epomm.org)) currently comprises seven national focal points (see table below). The EPOMM is an international partnership aiming to promote and further develop Mobility Management in Europe. As such, EPOMM accelerates the exchange of knowledge also at national level.

Country*	Organisation	Contact
Austria	NEMO	nemo@ne-mo.at <a href="http://ne-mo.at">http://ne-mo.at</a>
Belgium / Flanders	Langzaam Verkeer	epomm@langzaamverkeer.be <a href="http://www.langzaamverkeer.be">www.langzaamverkeer.be</a>
France	CERTU	epomm.certu@equipement.gouv.fr <a href="http://www.certu.fr/transport/epomm">www.certu.fr/transport/epomm</a>
Italy	Citamobile	sozzi@fol.it <a href="http://www.cittamobile.it">www.cittamobile.it</a>
Netherlands	Vervoermanagement Nederland	bureau@vmnl.nl <a href="http://www.vmnl.nl">www.vmnl.nl</a>
Sweden	Swedish National Road Administration	bert.svensson@vv.se <a href="http://www.vv.se">www.vv.se</a>
United Kingdom	Cambridgeshire County Council	kevin.scobell@cambridgeshire.org.uk <a href="http://www.travelwise.org.uk">www.travelwise.org.uk</a>

\* Countries not listed are currently no EPOMM members

**Table 5.3.8-1: EPOMM National/Regional focal points**

But favourable organisational structures do not only imply that it is necessary to concentrate on forming new organisations. The promotion of an organisational climate where it is possible to form alliances of stakeholders in order to achieve a higher level of Mobility Management activity could be rewarding. One example is certainly the mobility covenant in Flanders (see below).

In each of the analysed countries professional journals are on the market which are more or less regularly publishing articles about Mobility Management. Beyond this, nearly in each of the analysed countries several organisations are offering relevant material, including surveys, guidelines, handbooks on both, Mobility Management in general and Mobility Management for companies. Further, many organisations are offering information and further material via their websites. For further details please refer to the national reports in Annex IV.



*Highlights*

***The Netherlands***

Vervoermanagement Nederland (VMNL) is a national association of regional Mobility Management centres, individual mobility managers, civil servants, commercial advisers and supplier of Mobility Management products. VMNL is mainly financed by its members, incomes from its annual conference and by grants of the national government.

***Belgium***

In Flanders so-called *mobility covenants* are being implemented. They constitute an agreement between the regional road administration, the regional public transport company and the municipality. All partners involved have to approve mobility plans drawn up at the local level. This arrangement tries to escape the former ad hoc planning policies. Flemish cities and municipalities are supported by the Regional authority to develop a local plan for sustainable mobility. This plan consists of several modules, including infrastructure measures but also Mobility Management.

***Italy***

*Associazione Mobility Manager EUROMOBILITY* is an association of mobility managers with the mission of creating a stimulating sustainable mobility solution in Italy. Euromobility is the only organisation dedicated specifically to Mobility Management. Their aim is to create a nation wide network of Mobility Managers offering an information pool and organising specific workshops.

***Germany***

The *Support Network for Mobility Centres and Mobility Management (MzM)* is a regional platform of supporters for Mobility Management engaged in transport organisations, administration, private consultants and NGOs seeking to exchange experiences and know-how, which is related to the implementation and operation of mobility centres and Mobility Management. MzM is organising regular meetings, discussing innovative forms of Mobility Management, and offers an exchange via Internet newsgroup.

***United Kingdom***

The *Association for Commuter Transport (ACT)*, formed in November 1997, provides support to organisations that need to reduce the number of employees and visitors driving their cars onto site, through the introduction of a Travel Plan. ACT Members have access to a range of benefits including; specialist advice, information on the latest legislation and best practice, training and networking. ACT is a non-profit organisation, working closely with the Department for Transport (DFT). Current members include Local Authorities, Government Organisations, Transport Operators, Transport Consultants, Commercial Businesses, Universities & Colleges, NHS, NGO's & Partnerships, Charities & Campaigns and Individuals.



### 5.3.9 Conclusions

As a result of the cross-sectional analysis through the twelve European countries the successful implementation of Mobility Management needs at least three pillars:

- A multi-modal oriented mobility infrastructure with a good performance;
- A co-operative administrative background which is committed across all levels;
- A well developed communication strategy and network for keeping involved stakeholders and of course the (potential) users.

But the basis on which these pillars must be grounded is a broad acceptance in the public of the need for more sustainable mobility.

There is no doubt this is not a realistic picture of the current status of Mobility Management in most of the analysed countries. But there are numerous initiatives which feed the expectation that Mobility Management will become an instrument which is taken for granted instead of an exceptional issue as it often is today.

Looking back at the specific situation in the analysed countries shows that things are evolving positively. The MOMENTUM project in 1996 compiled a state-of-the-art for Mobility Management through Europe. The main focus at that time was on the status of practical implementation. Also, the framework for several countries was assessed roughly. The table on the next page shows a comparison between the assessments from 1996 and now. We can see that the development is rather positive, but that the speed varies. Whereas some countries develop slowly but steadily (e.g. Germany), some have made quite a leap in the last years (especially the UK, Italy, Sweden or France). One reason is certainly the activity of the national authorities.

The situation in each country is not always congruent. In country A there might be a good policy, but a legal and fiscal situation favouring the car and little qualification of professionals. In country B there might be much activity by non-governmental organisations but little administrative policy support. The final classification matrix (cf. Table 5.3.9-2) should help to gain both an European overview, especially about the degree of the development of certain aspects of Mobility Management, and hints as to which countries could function as catalysts on particular areas of Mobility Management.

*Please note:* Although the countries shown in this matrix are chosen thoroughly it is neither a complete nor a concluding compilation. These countries are clear examples in their fields and adequate to argue strongly the case for catalyst countries. Further, it is very useful to look into the National Reports in Annex IV if one is searching for experiences on a specific topic, taking also into account the various Highlights which have been assembled in this chapter.



Country	Stage 1996	Status 1996	Development 1996-2001	Contributing Factors
Netherlands	4-5	well developed, organisational framework, incentives	++	decentralisation, continuous support, broader horizon
Germany	4	young topic, pilot status, broad vision	+	increased discussion and awareness, little policy take-up
Belgium (Flanders)	3-4	regional competence, transport plans	++	mobility covenants, fiscal improvements
United Kingdom	3	policy discussion, local activities	+++	strong national policy, financial support, fiscal incentives, organisational diffusion
Austria	3	infancy status, non-governmental activities	O	limited breakthrough, government interest
Switzerland	2-3	integrated approach non-existent, bottom-up development, progressive public transport	++	funding programmes, development of Car-Sharing
Sweden	2-3	sustainable transport policy, political backing, concept new	++	Transport Bill 2001, quick dissemination
Italy	1 (3)	early stage, local examples	+++	Decree "Sustainable Development" of 1998, financial support
Spain	1 (3)	evolving framework, integration of modes	+	regional transport consortia
France	1-2	limited presence, focus on major infrastructure	++	PDU urban mobility masterplans, mobility advice for companies
Portugal	1-2	early stage, lack of discussion	O	limited initiatives

Stages of Development (MOMENTUM 1996):

- 1: Improving alternatives
- 2: Encouraging less car use
- 3: Mobility Management in its infancy
- 4: Mobility Management as a project
- 5: Mobility Management as long-term process

Development 1996-2001:

- +++ rapid development
- ++ steady development
- + slow development
- O little development

**Table 5.3.9-1: Development of Framework Conditions in Europe 1996-2001**

There is no doubt this is not a realistic picture of the current status of Mobility Management in most of the analysed countries. But there are numerous initiatives which feed the expectation that Mobility Management will become an instrument which is taken for granted instead of an exceptional issue as it often is today.

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*Please note:* Although the countries shown in this matrix are chosen thoroughly it is neither a complete nor a concluding compilation. These countries are clear examples in their fields and adequate to argue strongly the case for catalyst countries. Further, it is very useful to look into the National Reports in Annex IV if one is searching for experiences on a specific topic, taking also into account the various Highlights which have been assembled in this chapter

## Mobility Management Strategies for the next Decades



Country Type	Policies National Authorities	Objectives and Strategies National Organisations	Legal and Fiscal Framework	Public Funding	Education and Qualification	Organisational Conditions
<b>CC</b> Catalyst Countries	<p><b>United Kingdom</b> Central Government is pushing the issues of Mobility Management for companies and schools</p> <p><b>Switzerland</b> General orientation on sustainability in transport policy of the national government</p> <p><b>Belgium</b> Supportive attitude of the national Government for Mobility Management in companies and national plan for sustainable mobility</p>	<p><b>United Kingdom</b> A range of organisations and networks work towards developing Mobility Management</p>	<p><b>The Netherlands</b> Fiscal rules have been improved to support company Mobility Management</p> <p><b>Sweden</b> The Transport Bill from 2001 supports Mobility Management in a positive manner</p> <p><b>Italy</b> A decree requires companies to draw up mobility plans and establishes a support structure</p>	<p><b>The Netherlands</b> A budget for Mobility Management is available to the regions according to levels of congestion</p> <p><b>Italy</b> Funds are provided to municipalities and companies in relation to the legal decrees</p> <p><b>United Kingdom</b> Financial support is available for installing mobility managers at local authorities to work with schools and companies</p>	<p><b>Austria</b> The first professional training for mobility consultants was developed</p>	<p><b>The Netherlands</b> There are long established regional structures for consulting of companies &amp; as guidance and software</p> <p><b>United Kingdom</b> School Travel Advisory (C) to spread best practice reducing car use on the journey to school.</p>
<b>TC</b> Threshold Countries	<p><b>Austria</b> Transport and Environment Ministries are conducting pilot projects</p> <p><b>Germany</b> The modal organisational structure of the Transport Ministry is a hindrance for a multi-modal approach such as Mobility Management.</p>	<p><b>Switzerland</b> The awareness of large (public) transport providers is rising</p> <p><b>Germany</b> A number of large and small organisations are involved in Mobility Management</p> <p><b>Belgium</b> Several non-governmental actors work for the objectives of Mobility Management</p>	<p><b>France</b> Legal framework on urban transport master plans (PDU) supports Mobility Management</p>	<p><b>France</b> New grants are available for companies and public transport authorities but are little known</p> <p><b>Sweden</b> Some funding is available but its share is rather small compared to the overall transport budget</p>	<p><b>Italy</b> Short courses for mobility coordinators are available</p> <p><b>Belgium</b> Several possibilities for professional training and seminars including Mobility Management</p> <p><b>Sweden</b> Courses for mobility coordinators are available, seminars are held in different places</p>	<p><b>Spain</b> Transport consortia have been created at the regional level which also implement Mobility Management</p> <p><b>Germany</b> Existence of several handbooks and guidance; pilot projects have produced supportive</p>
<b>FC</b> Follower Countries	<p><b>Spain</b> At present there are no specific objectives, policies or strategies at the national level</p> <p><b>Czech Republic</b> Broad discussion, dissemination of results and best practices is needed to initiate a development</p>	<p><b>Sweden</b> Almost no strategies relevant for Mobility Management</p> <p><b>Portugal</b> Few transport related organisations or lobby groups relevant to Mobility Management</p>	<p><b>Austria</b> The existing framework favours car use and has seen few changes</p> <p><b>Czech Republic</b> A legal framework in support of Mobility Management is lacking</p>	<p><b>Portugal</b> National level funding for Mobility Management is not significant</p> <p><b>Czech Republic</b> No public budgets in support of Mobility Management</p>	<p><b>Portugal</b> Transport is led by engineers with few training offers for Mobility Management</p> <p><b>Spain</b> The educational framework does not actively enhance the development</p>	<p><b>France</b> The fragmentation of national authorities leads to disorganised initiatives</p> <p><b>Austria</b> The organisational framework is still underdeveloped but it is positive</p>

**Table 5.3.9-2: Status of framework conditions in selected countries and areas**



## 5.4 Framework for Mobility Management on a Local Level

### 5.4.1 Introduction

At a local level, most countries grant considerably freedom of action to local authorities regarding the road network that is of their jurisdiction, in particular transferring powers relating to parking management, traffic calming, public transport, cycling and walking (for example). This fact has important implications for Mobility Management and verifies the statement that the future of Mobility Management relies heavily on the priorities of local authorities.

The framework for Mobility Management differs considerably not only from one country to another but also among cities in the same country. There is a big variation between cities with a long tradition in sustainable transport systems and cities where Mobility Management is a new concept and still to be adopted. Lund (Sweden) for example has been working towards a sustainable transport system since the seventies and Mobility Management initiatives are now an essential part of its transport policy in an integrated effort to achieve an environmentally friendly transport system for the city. On the other hand, cities such as Athens (Greece) or Málaga (Spain) are only now beginning to consider and adopt Mobility Management principles.

Mobility Management consists of measures, which in many cases are not compulsory, and therefore it needs not only intense promotion but also global consensus and support. Here the role of the municipalities is crucial in bringing all the interest groups together for a common effort on the promotion of a sustainable transport system.

Moreover a sustainable transport system and therefore Mobility Management cannot be considered independently from other local policies such as environmental and land use planning. This makes necessary the full involvement and support of all-municipal bodies and interest groups to achieve the desired sustainable city model. Good examples of this can be found across Europe especially regarding land-use and transport planning co-ordination. Co-ordination is maximised in some places such as the Canton of Zug where co-ordination is always given at the local and regional level or at Málaga, Athens and Münster where the same governmental body rules both, or as in Bremen where any new urban development has to take into consideration accessibility for sustainable modes of transport's.

Mobility Management needs to create alliances and partnerships among all the parties and actors involved, both public and private, particularly regarding financial issues where private contributions open the scope of Mobility Management and give it a wider dimension. The weakest point for the development of Mobility Management across cities in Europe is the lack of sharing responsibility and devoting funds from the private sector.

For a rational approach to local traffic problems, the regional level cannot be disregarded since regional and national roads feed into the local network. This makes necessary either close co-operation among different municipalities and the regional



level or a regional organisational structure or regional body to ensure co-ordination. For this, different models have been chosen across Europe. In the Province of Limburg, this is overcome with the endorsement of covenants between the municipalities and the Flemish government. In Athens, a Metropolitan transport Authority has been created and in Málaga, initial steps have been taken to form such a body.

For a successful implementation of Mobility Management, there is a need to develop a multi-modal approach also for the infrastructure level (as well as regulatory level). The alternative mode infrastructure supply also differs considerably across Europe, from cities where alternative modes are highly accepted and specific infrastructures are provided to cities, mainly in southern countries, where this infrastructure is sometimes almost completely absent.

The localities that are analysed in this chapter are shown below:

Locality	Population (Millions)
City of Athens	4
City of Rome	2.8
Province of Limburg	0.75
City of Málaga	0.57
City of Bremen	0.55
City of Nottingham	0.28
City of Münster	0.26
Canton of Zug	0.1

**Table 5.4.1-1: Population of case study areas**

## 5.4.2 Political and Programmatic Framework

Local authorities often have *direct responsibility for land use and transport planning*, and they can use this power to effect a direct and positive impact on mobility, using Mobility Management strategies. In addition to holding these responsibilities, the existence of *a transport plan or well-defined transport policy* is a strongly supportive framework condition, as it provides a driver for Mobility Management initiatives.

For example, the City of Nottingham has a five-year Local Transport Plan which has as its main focus the attainment of a sustainable and integrated transport system. The City Council has a Transport Strategy Team which is responsible for co-ordinating the Local Transport Plan, to monitor its progress and targets. Mobility Management is used to facilitate the process of reaching this objective, through strategies including support for commuter travel plans, area based Mobility Management partnerships and information and awareness measures.

Where local authorities lack the ability to directly address mobility problems that they have identified, the implementation of Mobility Management is hindered. Greece, for example, has a very centralised government. The national government is responsible



for all transport and mobility issues, and local authorities can only put into practice what is decided at a national level.

In general, *Mobility Management is seen as a supporting strategy* to transport and urban planning. Often the aim of Mobility Management is to support the usage of an existing or developing transport network. The Canton of Zug has a transport policy for the region that includes Mobility Management as means to drive the improvement of the public and non-motorised transport networks within the Canton, and to promote the increase of the use of sustainable transport modes.

Local authorities are the government body closest to the users of transport and mobility services. Hence they often play a key role in identifying user needs as well as devising, financing and implementing measures to meet those needs. These roles are demonstrated by the example of Málaga. Málaga's Mobility Agreement ("Pacto por la Movilidad") is a good example of political awareness of the need for Mobility Management and the critical role of stakeholder participation. The Town Hall of Málaga entered into a dialogue with the people of Málaga through various channels (including a web-debate).

### 5.4.3 Legal, Regulatory and Fiscal Framework

Local authorities typically have the ability to utilise legal and fiscal tools to effect their transport and planning policies, and hence have control over this framework condition.

Rome has adopted a "*carrot and stick*" approach of using Mobility Management measures to "pull" people towards public transport, with regulatory measures to "push" people out of their cars. In addition, Rome's legal framework is among the most strongly supportive of Mobility Management in Europe. Rome's pull factors include new or improved public transport infrastructure, and Park-and-Ride facilities. Push factors include (for example) restrictive parking policies (cost per hour increases with proximity to city centre) and electronic gates to regulate authorised vehicle access to the city centre. The supporting regulatory framework includes "Decreto Ronchi" (27/03/98). This decree states that firms and public authorities with units of more than 300 employees should adopt mobility plans and appoint a mobility manager. (for more details cf. Annex IV National Report Italy, or Chapter 5.3.4)

The difficulty that local authorities have with using this framework condition in a punitive manner is that it is politically unpopular. It has been found that the people of the Canton of Zug have a general acceptance for the use of sustainable transport modes, but with no car restrictions if possible. Zug has a good public transport network, satisfying political and organisational frameworks, apparently high awareness of mobility issues, and continuing high levels of car use.

Local Authorities can use their regulatory powers to achieve Mobility Management goals, even when the regulations do not specifically refer to Mobility Management. For example, planning authorities can require that landowners include Mobility Management measures in their development designs, in order to obtain construction permission (the city of Zug has done this in two former industrial areas undergoing redevelopment). For this approach to be accepted, government support must be given to landowners to develop their site-based Mobility Management plans – that is –



institutionalised mobility consulting. (Efforts in this direction are also currently being made in Zug).

With supportive political framework conditions, legal, regulatory and fiscal tools have the potential to make the greatest positive impact on the development of Mobility Management and the achievement of a modal shift to sustainable transport.

#### 5.4.4 Financial Framework

For the implementation of Mobility Management initiatives at a local level, the financial framework is largely dependent on the political and programmatic framework. If the political and programmatic framework conditions can be improved through awareness and projects that catch the attention of planning and funding authorities, then the other framework conditions will follow. The popular notion of a lack of funding for Mobility Management must be put more precisely: funding is being provided in proportion to the perceived degree of positive impact that Mobility Management has on mobility problems.

This is exactly the situation in Bremen, one of the most experienced Mobility Management cities in Europe. A modal shift towards environmentally friendly transport is an overall political goal of both the national and city governments. No budget exists specifically for Mobility Management, but out of the €70 – 80 million annual subsidy to public transport in Bremen, funding has been provided for numerous Mobility Management initiatives including (for example) trip planning information on the internet, staffed information services, real time PT information at all PT interchanges, and a season ticket integrating public transport with car sharing (smart card technology).

The same applies to public transport companies (at local, regional or national levels). If there is corporate awareness and acceptance about the effectiveness of Mobility Management, then Mobility Management measures will be implemented.

However, this positive framework condition primarily applies to localities that have a positive awareness of Mobility Management, and wish to implement it at a city-wide level. Funding is still needed to demonstrate the effectiveness of Mobility Management to localities where Mobility Management is a novel concept.

The Mancomunidad of Islantilla (Spain) is a locality that has limited public transport infrastructure, let alone Mobility Management-type services. This site has reported that its participation in MOST has resulted in increased awareness of Mobility Management among the local authorities and politicians, who now intend to continue the development of Mobility Management services due to the beneficial impacts that it has on tourist mobility in their locality.

The experience of the Province of Limburg highlights a funding source that requires further investigation: in this locality, Mobility Management for schools is sponsored by the KBC Bank and Insurance company. This is the only example of private sector funding that has been identified in the local level reports, and it appears to be driven by a perceived public relations benefit for the company involved.

In summary, the financial framework at a local level is positive if the political and programmatic framework conditions are strongly positive. Continued and additional



funding is needed to demonstrate Mobility Management to localities with a low awareness of the concept, as well as for site-based Mobility Management. The involvement of the private sector is necessary in sharing the responsibility for transport problems as well the financing of Mobility Management.

#### 5.4.5 Organisational Framework

A central criterion for a positive organisational framework is the existence of *a metropolitan transport authority* with ultimate responsibility for *the co-ordination of all transport modes* within the locality. An organisation with this responsibility has the ability to integrate tariffs, co-ordinate timetables, and implement consistent Mobility Management initiatives across all transport modes.

Examples of these organisations include the *VBN* of Bremen (Verkehrsverbund Bremen/Niedersachsen), the *Zugerland Verkehrsbetriebe* of the Canton of Zug, and the *Consortio Regional de Transportes de Madrid* (Madrid's regional transport consortium).

Other Mobility Management supportive organisations frequently exist in many localities. One example is the Commuter Planners Club in the city of Nottingham. This is a partnership that includes businesses, local government authorities, politicians and the media. The partners of this organisation invest human resources, money and infrastructure to implement “pure” Mobility Management.

Like the financial framework, the strength of the organisational framework is largely dependent on the political conditions.

#### 5.4.6 Conclusions

At a Local Level, if the political and programmatic framework condition is strongly supportive of Mobility Management, then the other framework conditions will follow. Hence, future of Mobility Management is primarily dependent on the awareness, understanding and backing of local authorities. Funding needs to be provided to develop this most important framework condition, and to develop site-based Mobility Management.

Particularly on a local level, opportunities for public-private-partnership and private sector financing for Mobility Management initiatives are strong if it can be demonstrated that the improved public relations with the community will directly benefit the company in question. Further investigation of private sector funding opportunities is recommended.

The legal, regulatory and fiscal framework is a field where local authorities have only partially direct control. For local regulations they have considerable ability to adapt it to local needs. Strengthening of this condition will naturally occur with increased political will.



## 5.5 Recommendations

Mobility Management is a co-operative process, which relies heavily on alliances of different stakeholders. To implement Mobility Management schemes successfully on a local level various influences can either be supportive or restrictive. All conditions not under direct control of those persons and institutions, which are implementing mobility services can be subsumed under the term *framework conditions*. This chapter has shown that these conditions can be manifold and complex: several levels of administration; several aspects from laws, financing to organisational structures; both public and private actors.

The main result of the analysis is a model, the P.A.I.R. scheme, which makes the most important influences on Mobility Management comprehensible. The main aim is to enhance the ability of policy makers to assess their situation, whether it be locally, on a national or European level. Following a detailed description, the need for action in terms of urgency and difficulty will be discussed.<sup>25</sup>

### 5.5.1 The P.A.I.R.-Scheme for improving framework conditions

The **P.A.I.R. scheme**<sup>26</sup> (cf. Figure 5.6-1) is the main outcome of this MOST analysis. It differentiates six domains, which have been identified as crucial factors for success.<sup>27</sup> Whereas the analysis of framework conditions in the MOST project was structured with regard to ad-hoc categories (e.g. political, financial, organisational; see 5.1.1), the recommendations in the P.A.I.R.-scheme have a different structure. The scheme is process-oriented and follows the principles of quality management. As such, it is easier to attribute the contributing factors for success – and improve them.

Four domains are concerned with the core conditions:

- **Policy** – high-level guidance and course of action
- **Actors & Structures** – people and organisations, agency and exchange
- **Integration** – links with transport and non-transport policies
- **Resources** – available means and sources of support

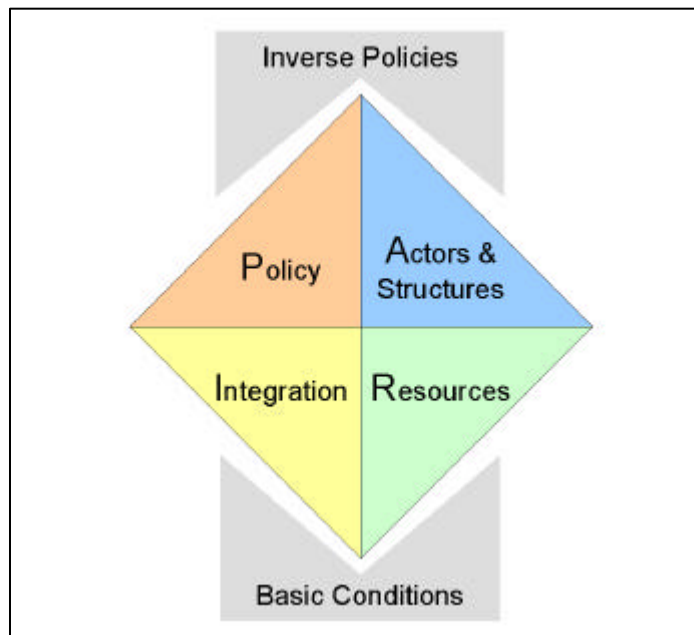
<sup>25</sup> The recommendations drawn in MOST for Mobility Management underline the general recommendations of the OECD/ECMT project on sustainable urban travel policies (cf. ECMT: Implementing Sustainable Urban Travel Policies. Key Messages for Governments. Paris, 2002.). Here, a supportive national framework was called for which is coherent, both internally (in transport policy) and externally (links with other policies)

<sup>26</sup> The acronym is formed by the four main domains and means ‘even’ in French.

<sup>27</sup> *Note:* This chapter deals with the framework conditions only. The scheme does not include any elements of the implementation process of Mobility Management. This is for instance being described in chapter 6 of the Final Report or in other MOST reports (D 5 and D 7)

Furthermore, two domains show their impact in a more indirect way. Nevertheless these are of equal importance for successful implementation of Mobility Management:

- **Basic conditions** – fundamentals and starting points
- **Inverse Policies** – goals and actions with a contrary effect



**Figure 5.6-1: The P.A.I.R.-scheme for improving framework conditions**

In the following the main themes in each domain are characterised. Also, a suggestion is given, which level needs to act primarily if there is room for improvement.

## Policy

- (1) *Leading policy documents should be clear and include Mobility Management.*

The right political framework conditions are a core requirement for successful Mobility Management. Transport policy usually builds on several lead policy statements and documents. Mobility Management approaches should be included in these and should be reflected in their general objectives and strategies.

Level: European, National, Local/Regional; Private Sector

- (2) *The argumentation for applying Mobility Management should reflect the prevailing societal needs.*

Mobility Management can be implemented for various reasons and with differing objectives. Whereas environmental concern has been a longstanding motive for Mobility Management, increased efficiency or a reduction of congestion can be of equal importance. To achieve favourable conditions for Mobility Management it is important that the argumentation follows the primary societal concerns and themes of discussion.



Level: European, National, Local/Regional

- (3) *Responsibilities between sectors (public, private, public-private-partnership) and levels of government (local, regional, national) have to be clearly assigned*

Several levels of government are involved in Mobility Management and their respective role needs to be clear. On each level, but predominantly on a local or regional level, private activities play an important role. Both private and public actors need a sound understanding and acceptance of the approach. Since Mobility Management can both be initiated in the public or the private realm, but is mainly concerned with the establishment of public-private partnership, the relation of the sectors needs to be defined.

Level: European, National, Local/Regional; Private Sector

## Actors & Structures

- (1) *A successful promotion of Mobility Management needs anchor points.*

Mobility Management strategies depend on certain structures and agents (“anchor points”). Therefore a clear responsibility needs to be assigned within the administration on all levels. But promoters are also crucial among non-governmental organisations, lobby groups etc. Here, active individuals can become champions for the development of respective strategies.

Level: Local/Regional, Private Sector, National, European

- (2) *A co-operative and communicative mode of governance offers a greater ability to implement Mobility Management.*

Mobility Management is an approach which relies heavily on co-operation between different stakeholders. As such it needs a co-operative administration. Communication, networking, exchange, consultation and involvement of stakeholders are some key principles for such a mode of governance.

Level: Local/Regional, National

- (3) *The approach needs to be consistent across levels and sectors.*

The development of Mobility Management can start from the top with high level authorities as driving force or from the bottom with local activities. But whether the development is top-down or bottom-up – “political marketing” is needed to achieve a consistent approach across levels and sectors (cascade policies).

Level: European, National, Local/Regional

- (4) *Qualification of key personnel beyond technical knowledge is crucial.*

Since Mobility Management is as much a communication as a technical task, such qualification should go hand-in-hand. Existing personnel should receive further training. New personnel should be recruited from a wide range of disciplines.

Level: European, National, Local/Regional; Private Sector



- (5) *There could be a need for more formal organisational structures, if the embedding of Mobility Management in existing organisational structures is too slow.*

In a first step Mobility Management issues should be incorporated in the existing structures in the fields of transport, planning, land-use, environment, health etc. If the existing organisations are not willing or able to cope with the extended demand, a formal organisational structure devoted to Mobility Management should be considered both as a competence centre and as a promoter.

Level: National, Local/Regional, Private Sector, European

- (6) *European exchange and co-operation offers the opportunity to learn from best practice – including in the field of framework conditions.*

Exchange principally of information Mobility Management in Europe should not only be on implementation and best practise but also on the best framework conditions. The analysis of transferability is a priority.

Level: European, National

## Integration

- (1) *Mobility Management policies should reflect the multi-modal nature of the approach.*

According to the multi-modal nature, the first step of integration should give attention to all transport modes including interchanges. Although the sustainable modes (public transport, cycling, walking, shared car-use) are priorities, the individual car should be included.

Level: European, National, Local/Regional; Private Sector

- (2) *A combination of push and pull, “carrot and stick” measures in transport policy will assure a higher degree of effectiveness.*

The combination of push and pull measures offers the opportunity to link Mobility Management with established transport policies such as infrastructure investment, regulatory or fiscal instruments. Mobility Management should not be seen as a panacea by itself but rather be integrated with the full catalogue of environmentally sustainable transport policies.

Level: Local/Regional, National, European

- (3) *Making the technical link is important for the further development of Mobility Management.*

Combining mobility services with telematics, traffic management and IT-solutions will enhance the advancement of Mobility Management. Whereas Mobility Management has often been associated with a less technical approach, in the future we will see a further integration of Mobility Management and telematics in the area of information and organisation.

Level: Local/Regional, Private Sector, National, European



- (4) *The early integration of Mobility Management with land-use planning and development policy is often cited but hard to achieve.*

Another beneficial integration is that of land use-planning and Mobility Management. The possibilities to apply Mobility Management will increase if it is a fixed element of all new development (both residential and commercial). Here, a revised planning framework is needed in most countries.

Level: Local/Regional, National

- (5) *A high potential can be assessed for linking Mobility Management to non-transport related policy areas.*

MOST has shown that there is a considerable potential to link Mobility Management with non-transport policies, that are sharing some of the objectives (e.g. quality of life, better health, safer environment, efficiency). Progressive integration of such policy areas with transport offers the potential for new motivational alliances and reaching out to areas such as education, health, environment, social inclusion or business development.

Level: National, Local/Regional, European,

## Resources

- (1) *Knowledge is the most important tool – therefore research and innovation on Mobility Management is necessary.*

Despite the growing research effort in the field of Mobility Management, there are various themes that need further investigation. Changing mobility behaviour is a complex task which is not yet fully grasped. Moreover, the evaluation of effects of Mobility Management on mobility behaviour needs a stronger evidence base and requires long-term research.

Level: European, National

- (2) *Long-term financing for Mobility Management must be secured.*

Funding for Mobility Management does not necessarily have to come from public sources alone, but specific (national) programmes will help. If no specific Mobility Management funds exist, there is a need for practitioners to be “creative” with existing programmes. The contribution of private funding, especially from the business sector, needs to be explored.

Level: National, Local/Regional, Private Sector

- (3) *Information and guidance are necessary to achieve high quality implementation.*

The existence of specific information on concepts, tools and best practise examples, general guidance through handbooks or consulting services for Mobility Management applications is essential.

Level: National, Local/Regional, Private Sector, European



- (4) *In the long run quality standards and quality management are instruments that are essential to secure the quality of service and also cost efficiency.*

MOST has started to incorporate quality management into Mobility Management through the use of the EFQM model. As a general framework standardisation, processes and quality management characterise more advanced stages of Mobility Management practise.

Level: Local/Regional, National, Private Sector

- (5) *Legal resources can be an important support for Mobility Management, but the need for legal requirements is disputed.*

The need for a legal requirement for Mobility Management, e.g. for companies to develop Mobility Management plans, is being disputed. On the one hand this ensures fundamental support to local authorities, on the other hand it does not necessarily ensure the quality of the measures. Often small incremental changes in the existing legal framework will be of more help than substantive changes in law, e.g. concerning the fiscal treatment of (financial) incentives for employees.

Level: National, (European)

## **Basic conditions**

- (1) *A sufficient and quality supply of alternative transport modes is the backbone.*

Without a good supply of alternatives to the single occupancy car all information and communication efforts of Mobility Management are fruitless. Therefore the first step is to work on to implement continual improvements to the provision of alternative modes (including infrastructure measures).

- (2) *The overarching objective of a sustainable transport system must be supported.*

Mobility Management is a policy approach which clearly supports the objective of a sustainable transport system. If general transport policy on the different levels, and the vision of the main stakeholders, is not geared towards this goal the conditions for Mobility Management are quite unfavourable.

- (3) *The status of “mobility culture” especially regarding alternatives to the car is important and needs to be developed.*

The notion of “mobility culture” stands for shared attitudes, values, goals and practices that characterise a city, region or country concerning mobility. It includes the pattern of knowledge and behaviour regarding the transport modes. The existence of a cycling culture for example supports the development of multi-modal services. Another central issue is the treatment of public transport – as part of community services or as marginal mode for those without access to a car.



## Inverse Policies

- (1) *There is a need to review all policies (transport and non-transport) for any unintentional, contrary effects on Mobility Management.*

Even if the supportive framework for Mobility Management is well developed and balanced in all areas, there can be important driving forces which counteract any effort towards an effective implementation of Mobility Management. Inverse policies is a term for all policies which develop unintentional contrary effects for Mobility Management. These can be both transport and non-transport policies, e.g. heavy road infrastructure investment, planning requirements which require a definite number of parking places or a tax system which does not allow an employer to financially support rebated public transport passes for its commuting employees. A rigorous screening of all potential inverse policies for Mobility Management should result in a number of initiatives to take away barriers.

### 5.5.2 The Need for Action

The P.A.I.R.-scheme guides policy makers in their effort to detect the most important barriers and support structures for Mobility Management in their city, region or country. The scheme does not prioritise the activities required to overcome barriers.

The areas for action can be characterised in two dimensions:

1. The **degree of urgency**: The urgency will vary according to the status of Mobility Management in each country or region, so it is difficult to come up with a general ranking.
2. The **degree of difficulty**: The ability to act and the possibilities for reforms differ greatly in the areas outlined above. Where it is easy to produce better information or guidance or to fund specific research, it can be quite difficult to achieve changes in the legal system or to “produce” a bicycle culture where there is no tradition of cycling. The difficulty will also range across Europe: what can be difficult in one country might be quite simple in another.

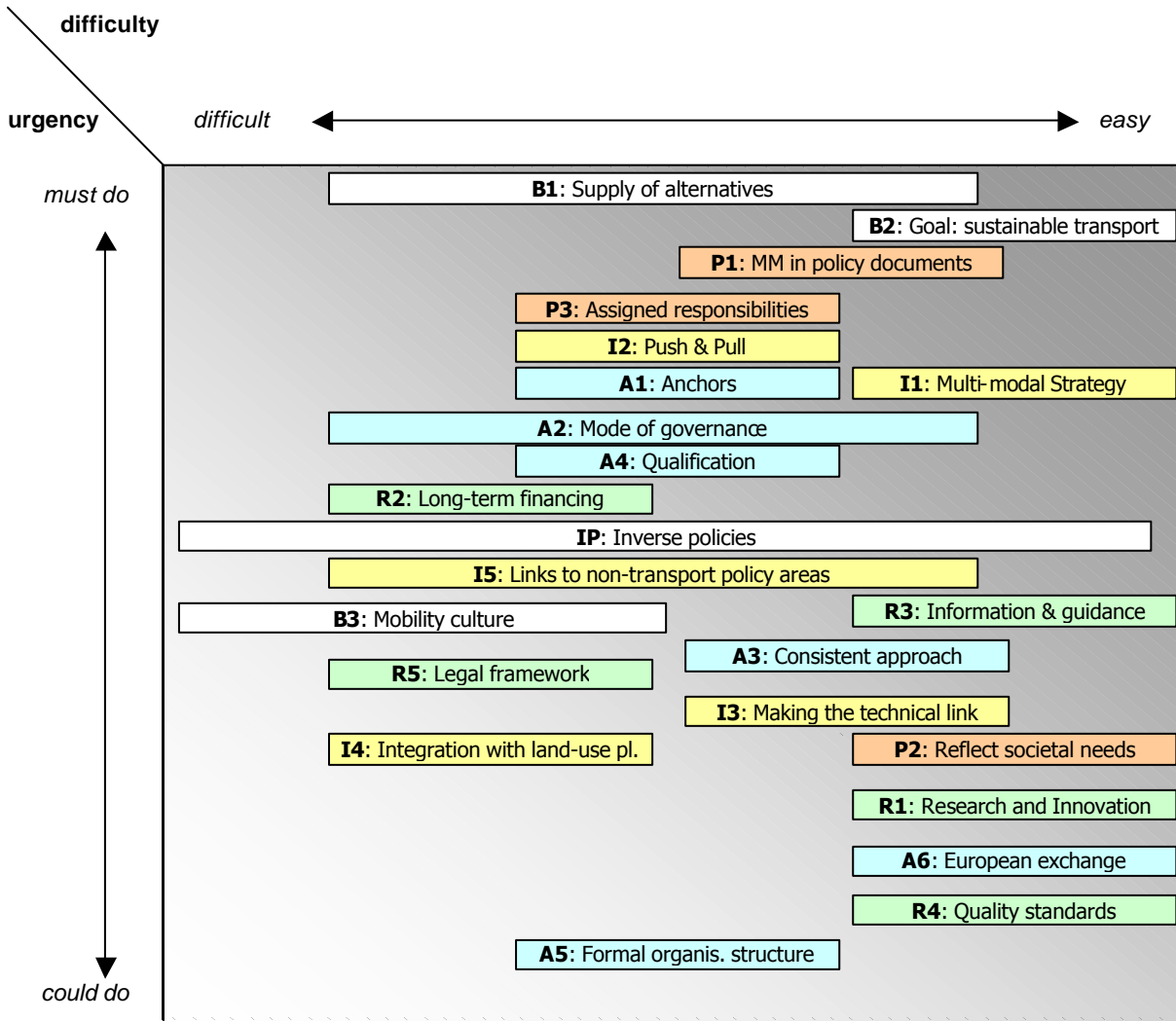


Figure 5.7-1: Recommendations according to their degree of urgency and difficulty  
MM = Mobility Management

Figure 5.7-1 is a first suggestion on where to locate the 23 recommendations from the P.A.I.R.-scheme with regard to urgency and difficulty. It is a general scheme that does not allow for any differentiation according to country. In some cases a possible range for the degree of difficulty has been outlined. The matrix does not result from any empirical research on this question within the MOST project, but was developed as a hypothesis by the researchers. As such it has to be understood as a first contribution to a discussion.

Highest priority should be given to all measures which are both easy and urgent. Respectively, lowest priority should be given to those measures which are difficult and not urgent. Therefore, the order of priority runs in a diagonal through the matrix with the highest priority in the upper right hand corner of the box. The grey shading in the background should identify the priority – the darker the higher.



Not surprisingly the result of this exercise gives indications as to the need for action which echoes a certain development that Mobility Management is taking across Europe. The scenario is as follows:

With a good supply of alternative mobility options and the general goal of sustainable transport as a solid background, a first step includes the approach of Mobility Management in the leading policy documents, works on multi-modal integration and the production of good guidance on the subject. A sound understanding and acceptance by the public and private sector leads to shared responsibilities. At the same time the mode of governance is being developed towards a co-operative and communicative style and the possible effect of inverse policies is closely examined. Anchoring points for Mobility Management are being developed, co-operation is fruitful and the different levels of authorities follow a consistent approach that embeds Mobility Management in a balanced strategy of push & pull-measures. The argumentation for Mobility Management fully reflects the prevailing themes and step-by-step the links to non-transport policies are being explored. The qualification of the stakeholders is broad and interdisciplinary and includes social and behavioural skills. There is a sufficient level of research and innovation on Mobility Management. Now the foundation is laid to tackle the more difficult issues: the integration of Mobility Management and land-use planning is better understood, the legal framework undergoes incremental positive change, but quite supportive reforms and long-term financing can be secured. Slowly the mobility culture is undergoing a transition which results in a positive change in travel behaviour.

If this scenarios sounds too positive, it certainly is. In the real world development will never be straightforward but will suffer from discontinuity, conflicting interests, standstill or setback. Forward looking policy makers are needed to push the development. This chapter has given a clear picture on the status and possible development of framework conditions for Mobility Management across Europe. Now action in many different areas needs to be taken.



## 6 Key Conclusions from MOST

On the basis of the research results of each individual site (as summarised in chapter 4), key conclusions about successful strategies of Mobility Management could be extracted. They are the main issue of this chapter.

First, recommendations for the planning, implementation and evaluation of Mobility Management are presented at a glance in the form of checklists. Later in the subchapters, those recommendations are elaborated more upon.

### ***Start-Up Phase***

- Create an appropriately qualified and staffed project team, with clearly defined responsibilities.
- Identify one main key actor to take the leadership and coordinate activities and partners.
- Be sure to start-off with good co-ordination of all important stakeholders. Repeated meetings are important and necessary to keep them aboard and motivated and to secure their support for the project.
- Don't forget to involve end users to better target your project and implement the most appropriate services.
- Have one person responsible for the project, and create a feeling of ownership among the project team by providing opportunities for feeding back their ideas, and opinions at different stages of the process. This person should consult other stakeholders during the various stages of the project.
- Define the problem to be solved and clearly indicate reasons, objectives and benefits of your project together with a vision and mission statements.
- Demonstrate connections and synergies with other local initiatives or policies.
- Prepare a blueprint plan (showing key tasks and a provisional timeframe, rather than all project steps in detail) to provide a basis for subsequent project phases and to assist in gathering support from stakeholders and funding agencies.

### ***Involvement of stakeholders***

- Include the stakeholders in the discussions about the problems and pressures that have led to the need to introduce mobility management. Inform the stakeholders about the problems and ongoing discussions and invite them to participate.
- Listen to the stakeholders and actually take into account their suggestions or complaints. This can be done in an unstructured (e.g. complaint mail box) or structured way (e.g. surveys).



- ☑ On the side of the clients, include local and regional PT-providers, local and/or regional transportation administration, different departments of the company or of the city and consider cooperation with external consultants or universities.
- ☑ On the side of the users, encourage individuals from the target group to join the project team to review the user orientation of the services planned to be implemented.

### **Base-line Analysis**

- ☑ Conduct a Base Line Study, and allow sufficient time and funds to undertake it properly, including a user survey. Depending on the scope of your project, and if resources or specific expertise are lacking, utilise external consultants to assess the accessibility of the site, city or region by different transport modes, as well as to prepare and carry out the user survey.
- ☑ When questions are asked to the users about their travel behaviour and their future needs via personal surveys, give people the chance to state their needs and problems and let them make suggestions for improvements. Motivate them to fill in the survey questionnaire by offering incentives, and let the survey be accompanied by a letter of support from the chief executive, mayor or aldermen to encourage the target group.
- ☑ Give feed-back to all stakeholders on results obtained from questionnaire surveys or counts: individual feed back via short notes, by a press release, by organising a meeting, and/or by organising focus groups to discuss the results and keep them informed about all the steps and successes in the Mobility Management process.
- ☑ Define quantified and measurable objectives derived of the results of the base line study. Be ambitious when setting quantified targets, but be realistic when considering the assessment level at which those targets are set at, and the time frame in which they can be achieved. Failure to meet a quantified objective should not be considered as failure of the project – any positive impact toward achieving sustainable mobility is a success.

### **Conducting a survey**

- ☑ Consider co-operation with local universities or experts to do the evaluation, especially if the obtained data strongly determines long-term future plans. In this way, conflicts of interest can be avoided and you can maintain objectivity.
- ☑ Ensure that the questions within the survey are going to provide you with the data that you really need. Ask yourself – can I easily connect the project objectives with the expected data from the baseline study? Will it be comparable/compatible with my approach to monitoring and evaluation after the measures are in place (i.e. will it enable a before/after comparison)?
- ☑ Regarding the design of the survey, it must be well written and structured in such a way as to extract the maximum amount of useful specific information in the shortest possible time. Avoid using jargon and write the survey in common language. People will lose interest or refuse to do the survey if it is too time consuming or repetitive.



- ☑ Piloting the survey on a sample of the target group is important, it helps to tailor the survey to maximise the response rate, to refine questions, and ensure that the questionnaire is not misinterpreted in the actual survey.
- ☑ Be sure you survey your actual target group. Ensuring that the respondents are from your target group is not as difficult for site based mobility management, but becomes more uncertain for city wide or regional projects, and the location of the survey has a major impact on the source of the respondents. The first question of any survey should confirm that the respondent is from the target group.
- ☑ Sometimes continuous monitoring can be done rather easily and quickly - and provides convincing proof of the usage of offered services (for example, customer counts, satisfaction and usage surveys in a mobility centre can be done by marking ticks on a pre-prepared sheet).

#### ***Designing of Mobility Management services and instruments***

- ☑ Target and design your services carefully to fulfil the needs of the addressed user groups. The success of your Mobility Management project depends on the appropriate selection of services for your target group, and the vigour with which they are “sold” to the target group.
- ☑ Seek opportunities to integrate new mobility management services into existing mobility management activities or related measures (e.g. addressing health improvement or environmental concerns).
- ☑ Consider to provide a mix of ‘soft’ and ‘hard’ measures (such as those that build on existing infrastructure) and try to cover different transport modes in order to appeal to a broad audience.
- ☑ Provide basic services first (e.g. information and advice about public transport), as these often have the greatest impact on sustainable mobility for the least amount of effort.
- ☑ Use a headquarter, from which the actors involved in the mobility management act. This headquarter should work as a contact point between the project team and the involved stakeholders (incl. the target groups). If possible, it should be visible and personally accessible.
- ☑ If utilising a publicly accessible Mobility Centre as a headquarter, efforts need to be focused on marketing, and stimulating demand for integrated services, as well as providing them in the most efficient way.
- ☑ Develop a Mobility Plan. While some sites felt that an informal working group was adequate to guide the project, the benefits of a Mobility Plan (such as greater ease of justifying the project, better project continuity and a mechanism for measuring progress and allowing feed back) are well worth the effort required to prepare the plan.

#### ***Measuring Impacts***

- ☑ Embrace evaluation to satisfy both yourself and other researchers or funders, to show that your efforts are producing results or to highlight areas for improvement.



- 
- Already early in the project, incorporate monitoring and evaluation into your project plan - setting aside 10 % of the budget is not uncommon.
  - Try to set measurable objectives, which can be quantified. They allow for more focused performance monitoring, project adjustment, and reporting.
  - Monitor your project to measure the progress against the established objectives or against the forecasted results.
  - Surveys and / or counts before and after the implementation of Mobility Management are necessary to determine the usual mode of travel and then the modified travel habits of the target population.
  - The evaluation of Mobility Management results should consist of a combination of soft and hard findings. The MOST Monitoring and Evaluation Toolkit suggests different assessment levels for that:
    - A - Knowledge of Mobility Management Services
    - B - Usage of Mobility Management Services
    - C - Satisfaction with Mobility Management Services
    - D - Acceptance of Travel Option
    - E - Experimental Individual Travel Behaviour
    - F - Satisfaction with Travel Option
    - G - Permanent Individual Travel Behaviour
    - H - System Impact
  - Try to gauge the comparative cost effectiveness when comparing input with output and outcome.
  - Publicise results and use your studies to promote your activities. Report about your successes to own employees, financing bodies, decision makers and the general public to show the benefits of your project. Feed back the results to the stakeholders and target groups involved to keep them up-to-date and motivated.

***Efficiency of the implementation process***

- Utilise knowledge of quality management for your project to prevent struggles against adverse circumstances and counteracting parties. In addition to evaluating results, this means to pay attention to the implementation process. This includes project leadership, the created vision, the overall policy objectives, the personal and financial resources, partnerships and transparency of decision and implementation processes.
- The process assessment should focus both on positive and negative issues. As this might be judged differently from different perspectives, project staff and all important stakeholders (i.e. clients as well as user groups) have to be involved in the assessment.
- A two stage approach guarantees that every opinion is heard: 1) an individual and independent assessment feeds 2) the discussion of a round table meeting, hereby taking up agreements and disagreements.
- Stay flexible. Use the targeted objectives to control the process of implementation and remain flexible enough to correct and revise a plan if the monitoring shows that things are developing in the wrong direction.



Some of the recommendations presented might seem like everyday reasoning but still, they are often not considered in practise. The subchapters elaborate more on details. They are structured as a basic guidebook, in the sense that they reflect the step-by-step process of implementing a Mobility Management project. 6.1 addresses the start up phase of a Mobility Management project, covering the main issues that are encountered when “Getting Started”. 6.2 examines the implementation phase itself. It assesses stakeholder involvement, base line studies and the definition of objectives and covers the selection of Mobility Management Instruments and Services. 6.3 explores monitoring and evaluation, which are key activities for practitioners and which are of interest to policy makers. The reasons for monitoring and evaluation, and the methods used to conduct these activities are covered in depth. Self-evaluation and its benefits are also considered.

Throughout the subchapters, examples of MOST sites are provided in boxes, to illustrate these conclusions and provide evidence.

## **6.1 Start-up Phase**

Common sense, planning and good organisation are at the foundation of every good Mobility Management project. Nonetheless, the experiences of MOST have shown that there are many issues to keep in mind when undertaking the various stages of a Mobility Management project, and when these issues are addressed, they can show the differences between a great project and that of a good one.

Different elements must be taken into account while initiating a Mobility Management project. The planning and design stage is the critical stage of all kinds of projects (not just for Mobility Management), as it has the greatest impact on a project’s subsequent execution. The initiation of a Mobility Management project also has a significant impact on its ultimate success. Especially the involvement of different actors from the very beginning is of utmost importance:

### **6.1.1 Involving the actors**

One person or a group of people must be identified as responsible of the project. His/their main role is to get the project started, to support it, and to guide it and coordinate it throughout the various stages.

Attention must be taken to the composition of the project team during the initiation phase to ensure that it has sufficient qualified staff for the planning phase and the implementation of the project.

Clearly defining the responsibilities of the project team and its constituents (as well as those of the partners and funding bodies -who are both possibly less active on a day-to-day basis) will ensure that the project runs smoothly from the starting phase onwards.



Partnerships must be established with different stakeholders sharing a common purpose. Projects where the support of stakeholders is not obtained in the initial phase can face serious obstacles.

Successful Mobility Management services are achieved when there is a great deal of commitment, not just from the users themselves, but also the organisations they may work for, the local public transport providers and other key stakeholders. Once implemented, over time the services will become part of everyday life and support the culture of the organisation or city they are designed to assist.

Mobility management services not only rely on commitment but also on the visible support of key stakeholders or senior managers. Support can be either financial or personal e.g. senior managers attending meetings about the proposed project, publicity material promoting mobility management, official interviews with the media, press releases, giving up preferential parking spaces etc.

The person responsible for the project must be able to co-ordinate and manage all project stakeholders.

Within the project team, someone must be identified to manage the day to day needs of the project, and someone to liaise with policy makers, transport operators and funding bodies to ensure that the project is integrated and consistent with broader transport and urban planning policies and programmes.

MOST found that projects or teams that combined and offered a mixture of all the competencies of the Mobility Management instruments were more successful in establishing longer lasting Mobility Management than others.

MOST has found that the most successful sites were the ones where the person responsible for the project was the same person who was able to sell the concept of Mobility Management to a range of stakeholders and gain their support. Some of these stakeholders became partners in the project, contributing financially (e.g. tourism companies or public transport operators), whilst others contributed information about their mobility behaviour and needs (the end users of the services).

#### *MOST Examples*

The project undertaken in the Canton of **Zug** (to raise the awareness amongst families in the region about making leisure trips without using a car) provides an excellent example of how to initiate a Mobility Management project. The driving organisation behind the project had one individual specifically responsible for its day-to-day management as well as co-ordination with transport and tourism organisations. This person first obtained the support of the key partners necessary for the project – the Department of Public Transport of the Canton of Zug, the president of the regional tourist office, the regional transport company as well as local retailers (e.g. restaurant owners). The key partner was the government department – it was reported that with government support, the other partners readily agreed to participate. The Canton of Zug has political frameworks that are highly supportive of Mobility Management (partly due to participation of the regional government in prior Mobility Management projects) which helped to facilitate the initiation phase. Once the support of the partners was obtained, a meeting was held to clearly define the expectations, roles and responsibilities of each partner, to design the Mobility Management services in a targeted way and to exploit synergies. This project was subsequently undertaken in a very smooth fashion, largely due to the strong foundations laid in the initiation, design and planning phases.



The **Sandwell** General Hospital (UK) formed a “Green Travel Plan Steering Group”, comprising of the main stakeholders involved in the development of Mobility Management at the hospital. This group should co-ordinate the partnership between the hospital, council, local public transport operators and user representatives. This was considered by all partners to be very useful for defining targets and involving all stakeholders. However, it had not been established in the very beginning of the project's cycle, which created a series of problems. In particular, new mobility improving measures that they wanted to introduce were not implemented due to a number of financial and political/bureaucratic barriers, and that staff felt they did not have the time or resources to implement them effectively. In addition, there was no full-time person to co-ordinate the Mobility Management activities on a day to day basis, which resulted in work overload and further delays.

Residents in the neighbourhood of the Rhodarium project in **Bremen** felt that their fear of increased traffic in the area was not sufficiently taken into account during the planning stage of the project. Some residents used their political influence to have the whole project reconsidered. Planned actions had to be postponed or replaced, a redesign of the plan - now explicitly accounting for the neighbours - had to be realised.

Sophisticated schemes for coordination between stakeholders have been elaborated by Leipzig and Rotterdam: they lay down, when to integrate whom for which tasks and, hence, provide clear guidance for anybody involved in the organisation of the reconstruction of the tramlines in **Leipzig** or of the large-scale events in **Rotterdam** (European Championship, Marathon). By recruiting actors from all kinds of partners, their competence for the assigned tasks is guaranteed.

In **Porto**, the responsible co-ordinator managed to integrate all 5 public transport providers (comprising of different operators themselves) into the project, with the result that all their data and ticket sales rights were transferred to the newly established Mobility Centre.

### 6.1.2 Financial Support

The project team needs to have credibility in the form of recognised community support and/or political backing to obtain the support of funding agencies. The definition of a detailed or blueprint action plan might help in gaining support and funding. MOST found that sites having a detailed action plan avoided problems of discontinuity due to personnel changes and gained financial commitment from key stakeholders more easily than those sites who did not have a detailed action plan.

Financial support might come from various government bodies, public transport operators or, less frequently, the private sector.

Direct benefits for a private company, for instance in terms of public image, should be considered when approaching the private sector asking financial support for Mobility Management initiatives. Private funding can be expected also for site-based Mobility Management for employees. Here the employer might have an incentive to invest into mobility management measures e.g. in order to cost effectively reduce the need for parking space for on-site development or to create a sustainable image among the employees and the public.



*MOST Example*

In **Limburg**, a bank and insurance company sponsored a Mobility Management project for schools. This financial support in production and printing costs of campaign materials appears to be driven by a perceived benefit for the company in terms of PR and image.

### 6.1.3 Integration of Policies

The establishment of synergies with other local initiatives and policies not directly related to mobility can justify the start up of a Mobility Management project and help its implementation, as well as ensure its long-term viability and integration with the organisation or region. “Synergy” essentially means “connection”, benefiting all parties. In this context it means showing a concrete link between Mobility Management and other issues of concern.

One example are local recruitment and relocation packages. Policies that are designed to encourage employees to live near their workplace e.g. financial benefits to assist relocation costs or advertising posts in the local media, can be effective in reducing commuting distances, thereby usage of other sustainable modes can be seen as a viable alternative.

In the majority of the sites in MOST, we see that the mobility management activities deployed were not stand-alone projects but were well integrated into a wider strategy of the city or of the company. These sites demonstrated that objectives of mobility management are more achievable if they fit into a wider strategy of the organisation, city or region with respect to issues such as sustainable urban development, tourism or environmental issues.

*MOST Examples*

All mobility management activities developed by the mobility centre in **Lund** fit into the overall LundaMaTs-sustainable transport plan of the city of **Lund**, with mobility management as one instrument of realising this plan. The overall aim of LundaMaTs is to reduce the 1990 CO<sub>2</sub> emission levels by 5% by 2005, and by 20% by 2020.

The work wise project in **Nottingham**, that aims to enhance the mobility of unemployed people derives from the local transportation plan of Nottingham City Council which highlights the relations between mobility and social exclusion.

The development of mobility plans and assignment of mobility co-ordinators at **Roman** companies fulfils the regional law, which requires this for companies of more than 300 employees or more than 800 freelancers.

At **Sandwell** General Hospital, transport is included as one of the strategies for change in the health improvement programme 2001-2002. Within this context, the hospital is not only interested in reducing congestion on site but is also concerned about the environmental impact of vehicle emissions. National health sector policy provides the supportive framework for this, as it requires hospitals to set up site travel plans for their employees.



The mobility management objectives of the actions in **Sintra** were closely linked with the aims of sustainable development due to the declaration of **Sintra** and its environment as a world heritage site. There is also a strong link with the tourism policy of the city of **Sintra**.

**Camden's** Mobility Management services form an integral part of the council's Local Agenda 21 Plan to promote sustainable development. Their Local Agenda 21 Plan makes connections between housing, transport, waste, health, education and democracy. Their Mobility Management projects primarily make connections between transport, housing and health. In addition to objectively measured success, by demonstrating links with other issues of concern and how they help to solve them, these Mobility Management projects have secured funding and a role within the council's transport related and urban planning activities.

The fundamental characteristic of Mobility Centres is that they provide integrated services for all modes of transport. Within this topic the experience of **Prague** in establishing the first Mobility Centre in an accession country was extensively examined during the MOST project and it offers sound lessons for the initiation phase. An assessment of the initial phases of this project has shown that connections with the city's wider transport strategy, user orientation, personnel resources and empowerment of the project group have been well established. However, communication with, and involvement of all relevant stakeholders, as well as lobbying of decision makers to obtain support and ongoing funding, were activities that could have been done better.

#### 6.1.4 Defining the Project

Regardless of the source of financial support, as a practitioner, whether in a private sector mobility consulting organisation, or as part of a local government transport or urban planning department, it will be your responsibility to justify the project's expenditure. The reasons, objectives and benefits of the project need to be clearly defined, otherwise overall justification of the project based on its level of success for the money spent will be very difficult.

Successful MOST sites justified their projects to funding bodies in a variety of ways. The fundamental reason for the project is always to address a tangible, well-defined problem related to mobility. The experience of MOST has shown that successful implementation of Mobility Management is easier when there is a visible problem, such as congestion, or limited parking, and that changes are easier to introduce if stakeholders are widely aware of the problems in advance.

Hence the first thing to do is to clearly define the problem that the Mobility Management project is trying to solve. This can be incorporated in a set of mission and vision statements, the development of and presence of which provides a focus for the project and assists its justification to funding bodies. A vision states the organisation's/project's ideals. These ideals or ambitions are almost by definition idealistic. They need to serve as a guideline both internally and externally. An example of a vision statement might be "To have a cleaner, greener city without congestion." A mission statement is a short sentence that describes the basic function of the mobility management project in the society (in the city/region or at the site), telling the outside world what business you are in. A mission statement might be "To improve tourist mobility through the provision of better public transport information



services”. In addition to assisting the sale of the concept to funding agencies and providing a focus for the project group, it also provides the basis for the definition of measurable objectives (to be discussed in detail in the next subchapter).

## 6.2 Implementation Phase

This chapter considers the process of implementing a Mobility Management project - a two step process:

- **Planning** – base line studies and definition of objectives (6.2.1 to 3); followed by,
- **Design** – of services and instruments, and the preparation of a Mobility Plan that integrates all aspects of both implementation steps and sets out what action is required to achieve the project aims (6.2.4 to 6).

The actual implementation of the project is achieved by following the plan. The range of practical difficulties encountered by the MOST sites during the execution of their Mobility Management projects is diverse, and the barriers are similar to those experienced by other types of projects. These barriers can broadly be categorised as political, financial, economic, legislative and social. Hence, in this chapter the focus will be on the planning and design aspects unique to Mobility Management.

### 6.2.1 Involvement of Stakeholders: Clients and Users

As already mentioned, stakeholders are people and groups that have an interest in your Mobility Management project. The main stakeholders in a Mobility Management project are

among the clients:

- the local and /or regional transportation administration
- other departments of the company or of the city

among the users:

- interest groups within or representatives of the target groups: tourists & visitors, residents, staff & employees, students & pupils, disabled people, residents and other representatives of the target group

The reason why stakeholders should be involved is clear – they provide information, assistance and support on the one hand, while on the other, they can disrupt or terminate the project if their views are not sufficiently taken into account. Hence, adequate and timely stakeholder involvement is essential.

#### **Clients**

The local and regional PT-providers are important to gain all necessary information about the current public transport situation: the existing services, missing links,



records about the use of the services, etc. As many sites developed Mobility Management-services to improve the use of public transport via new services, combined tickets, or a more integrated offer of PT-information, the PT-providers often played a key role in the planning and implementation phase. They also played an active role as links to their (potential) users by distributing questionnaires to PT-users.

The local and/or regional transportation administration has an important role as a supporter in all respects: logistics, information, defining the overall framework and transportation situation. It also has far-reaching and direct involvement via manpower and financial input. At many of the MOST sites, they have been a full project partner involved from the initiation, the planning and design phase in city wide Mobility Management applications as well as site based Mobility Management applications. This might not be surprising given their position: they often have a good understanding of the financial and juridical framework and its possibilities to design services and initiatives.

Involving different departments of the company or of the city in the mobility management process. This primarily includes the urban planning and transport departments. However, integration of the marketing department of the company or the tourist department of the city will also add skills and expertise with respect to user orientation and/or communication etc. Also the information technology department can be useful for logistical (information technology) support and expertise.

Some site based mobility management projects strongly felt the need to involve people from different departments representing different levels of the organisation.

If expertise cannot be found within the organisation and its departments, external consultants can be hired. In some cases, during the planning phase there were close ties with local universities to assist on more technical tasks and help the mobility management team during the information gathering, monitoring and evaluation activities. This has been the case with *Surrey*, *Porto* and *Barcelona*.

#### *MOST Examples*

One example showing how the PT-provider successfully took the lead in setting up Mobility Management activities is that of LVB Leipziger VerkehrsBetriebe, provider of tram and bus transport in the city of **Leipzig**. Three LVB-departments were involved in the planning and design stages of the Mobility Management actions that accompanied the reconstruction of the tramlines causing temporary interference with normal transportation and accessibility: departments of construction, transport planning and marketing. Close contact was kept with the construction companies so that the LVB departments provided and received up-to-date information. Consultations with the local shopkeepers and residents were organised to see how the inconveniences caused by the public works could be minimised. To this purpose, a team of Mobility Management consultants was formed within LVB who received special training.

The other sites in MOST in which the local PT-provider had a central role in the project team are that of **Camden** and **Zug**. In the **Camden** example, the travel and information centre for the public and council employees (Camden Direct) is a successful realisation of the strong partnership between Camden council and Transport for London (TfL, the main PT-provider in Greater London – buses, light rail, trams and river services).



The two Swedish sites within MOST (**Lund** and **Karlstad**) can be used as examples of Mobility Management initiated and driven by the local government responsible for transportation and environmental (**Lund**) and health (**Karlstad**) issues. In **Lund**, an overall sustainable transport plan (LundaMaTs) has been set up covering all kind of activities (infrastructure works as well as Mobility Management management) centred on five themes. All Mobility Management activities are managed by a Mobility Management team situated in the Mobility Centre, with the City of Lund having overall responsibility for the project. This team develops all kinds of Mobility Management projects towards different target groups. Trivector, a private consultant in transport planning and mobility management, supports them in their activities.

An example of interdepartmental co-operation is in **Navarra**, where an Interdepartmental Committee has been established. The Committee is made up of four departments: health, transport and communications, social welfare and culture; they are responsible for the well being of disabled people in the region.

Another example is in **Rotterdam**, where each time a special event is planned (such as the Rotterdam Marathon or European Football Championship), a meeting is held with representatives of all departments in the city council. During the meeting it is decided which departments should be involved in the organisation of the specific event, depending on the skills required to deliver the event. A decision is also taken to establish special working groups, such as the 'Transport' Group when the City expects a large traffic flow will be generated as a result of the event. In this working group on transport, RET (the regional transport company) is always involved, as well as the City's Department of Urban Planning and Police Department.

**Sandwell** General Hospital encountered a problem because different departments within the local authority could not agree on the number of car parking spaces the hospital was allowed to construct. From **Sandwell's** experience it is clear that mobility management measures need to be developed and agreed by a group of individuals representing different aspects of the organisation: human resources, estates facilities and environmental management, together with representatives of unions or staff bodies. A committed Public Relations department of the GKK has been very helpful for the Mobility Management team to present their ideas to individuals in the target group as well as to people within the city of **Graz**.

### **Users**

The target group and/or its representatives. Involving the target group in the planning phase of the project is considered crucial for the success of the project. Although not always easy to obtain, user participation in the planning phase is the basis for promoting the planned activities, designing and adapting the services to the user needs, gaining interest or acceptance of the services implemented, gaining ownership of new initiatives or even starting off the active involvement of the user group.

The MOST project identified a number of target groups which it wanted to direct its attention, namely students & pupils, staff & employees, tourist and visitors, disabled people, unemployed people and residents. These groups are characterised by either trip purpose (students, pupils, staff, employees, tourists and visitors), location (residents) or socio-demographic characteristics. They all differ in the way they can play an active role in the planning and design phase of the mobility management process.



**Staff and employees** within an organisation can be rather easily informed about the development of mobility management by using existing channels of communication, such as in-house newsletters, e-mail, notice boards, meetings or leaflets containing the results of questionnaires. Other opportunities exist to engage staff and employees in the actual process; for example, employees can participate through a formal process of staff consultation. Within MOST, a range of forums have been used to consult staff about plans to introduce mobility management including Green Travel Plan Steering Groups, user groups (e.g. bicycle user groups) and staff meetings.

#### *MOST Example*

In **Rome**, the success of the governmental initiative to enforce mobility plans for companies by law is not only based on attractive financial support and actual improvement of accessibility to the companies by sustainable modes (top-down-approach). Once employees of other (non-participating) companies heard of their personal benefit of receiving reduced fares for public transport ticket in case their company participated, those employees started to push their employers to get active (bottom-up approach).

Similar to the staff and employee target group, it is relatively easy to inform and consult the **pupil and student target group**, as a large number of young people are situated in the same location (school or higher education institution). To encourage young people to participate in the development of alternative services, schools in particular, need to ensure that learning about *mobility management is fun and exciting* and that classroom activities are applicable to 'real life'. Unlike the staff and employee target group, those individuals planning to develop mobility management services within schools and higher education institutions need to plan their activities around the school terms. Those individuals responsible for developing mobility management services need to agree a programme of works with the teachers and parents before or at the start of the academic year.

As the target groups of **tourists and visitors** tend to stay within a city or region for a short period of time, it is very difficult to actively encourage individuals to participate in the process of developing mobility management for that area. However, as they have a significant impact on seasonal population fluctuations and mobility, their comments and experiences are very important and should be included in the decision-making process. Those sites within MOST who have been responsible for addressing this target group have found questionnaires (which ask for details about origin, itinerary, transport to and within the area, views about collective transport and awareness of existing services, particularly those provided by mobility centres), to be the most beneficial method of gaining information.

#### *MOST Examples*

**Rotterdam** conducted a survey during the yearly marathon with 200 respondents in the sample. Using these results the best channels of information (namely the radio) about the mobility related activities could be identified to help plan for the next marathon. At the same time, **Rotterdam** learnt that a dedicated circle tramline worked well for visitors to the cultural capital 2001



but was of no assistance at all for visitors to the European Championship 2000. The destinations that could be accessed by the circle tram were simply not attractive for the target group of football fans. In the **Málaga** example, the views of tourists visiting the area were collected by the use of a survey and through a series of short interviews. Once again, the results of the survey and interviews were used to justify the implementation of mobility management services. The **Zug** example (mentioned earlier) showed how mobility information could be collected at the same time as organising a fun competition for children.

In some respects it is quite easy, compared to the visitors and tourist target groups, to encourage the **resident target group** to participate in the process of initiating mobility management in their locality. The examples within MOST have shown that sites have involved residents in two ways, 1) via questionnaires and surveys and 2) face to face interviews.

#### *MOST Examples*

**Athens** assessed the likely acceptance of restricting the private car from the city centre during the Olympic Games. The city introduced two car free days in order to find out what residents thought of the scheme before its planned implementation during the Olympic Games. A survey was carried out to test the views of the public about the car free event. Secondly, the local government within **Athens** carried out a set of interviews with local residents within the city to assess their reactions, in more detail, towards the car-free city centre proposal. Another example that shows how important the involvement of the group of residents is in the very beginning of the project is the Rhododendron park in **Bremen**. The residents living in the vicinity of the originally planned Rhodarium (in 1997) had a more pessimistic view on the induced traffic as a result of the planned site development. They were against the new site development and blocked the plans. Now a smaller version of the "edutainment centre" will be build. The originally planned mobility management services were developed nevertheless as long as they concerned information provision on sustainable travel to the park (and the planned edutainment centre). But the intended combined ticket for PT and entrance fee to the edutainment centre had to be delayed until the finalisation of the centre which will only be realised after MOST. Only after the original plans were changed, was the whole project approved by the residents. Political support was restored and the planning of the services could restart after a delay.

**Disabled people** can be contacted and encouraged to participate in the development of mobility management services in a number of different ways.

#### *MOST Examples*

In **Navarra** the project team focused on providing services for mentally disabled people. The team took the decision to devise a number of questionnaires targeted at the different stakeholders (users' relatives, centre staff, transport companies, volunteers and relevant associations) involved in providing care for disabled people within day care centres. The Mobility Management team in **Navarra** decided against surveying the actual users, as they were concerned that expectations would be raised amongst this group and the local government would not be able to meet their demands. The questionnaires were designed to find out more information about the mobility needs of the users, the distances



travelled and the cost of providing specialist transport. The results of the questionnaires were then used to inform key decision-makers about the mobility management services mentally disabled people in the **Navarra** region required. The **Sarajevo** example provides an alternative approach. Within the MOST project, the local government within **Sarajevo** have concentrated on providing mobility management services for physically disabled people. The city works in partnership with various groups representing disabled people, transport providers, employers, business associations and non-governmental organisations. The partnership works well in practice and the mobility needs of disabled people are now well known and acted upon within the city.

### 6.2.2 Analysis (Base Line Study)

A Base Line Study is needed to target the project to locally important objectives, to address relevant user groups and stakeholders, to identify potential barriers and prevent negative side effects. In this respect, a baseline study is also important, even if an evaluation of the own efforts is not planned! However, if an evaluation is planned, one part of the base line study should already help to collect "before" data in order to be able to identify changes when "after" data is available.<sup>28</sup>

A baseline study should address the following main issues as summarised in Table 6.2.2-1.

Issue	Examples
Mobility behaviour and the needs of target groups	Size of the target group & personal characteristics Transport mode choice & reasons for current mode choice Travel patterns: distances, time, routes, and so on.
Accessibility of the site, city or region by different transport modes	Public transport services and available connections Existing walking and cycling connections, facilities such as bicycle stands, showers and dressing rooms (for sites) Availability of parking spaces Connections of the city or site with regional road and rail networks.
Existing mobility management services	Services currently offered and likely to be integrated into an overall Mobility Management approach Quality of existing information on public transport connections, cycle lanes, etc Use of and satisfaction with existing services

**Table 6.2.2-1: Issues to address in a base line study**

An analysis of current mobility behaviour and future mobility needs is crucial. The reason for this is clear – by understanding current mobility behaviour and future mobility needs, you can design services and measures to ensure that you meet your

<sup>28</sup> In order to analyse changes on any given assessment level, it is necessary to compare data, which has been gathered before Mobility Management was put into practice to data after Mobility Management was put into practice. In case it is not possible to get "before" data, retrospective questions can be used, e.g. in a questionnaire, that is sent out afterwards but asks the interviewee to report about his travel behaviour before that (see also chapter 4.1, how this was done in MOST or chapter 7.4 with even more detailed suggestions how this should be done).



project aims as well as achieve the greatest possible impact in terms of sustainable mobility, all within the limits of your budget. Without this basic information, there is a danger that the measures you design will be irrelevant, duplicative or inadequate for your target group.

Many cities and regions lack not only mobility management services but also adequate support from public transport and inter-modal transport organising bodies. Confronted with these situations, some MOST sites had to forego a comprehensive and detailed analysis of user needs and existing mobility behaviour, and start immediately on providing essential services that were clearly needed by the target groups. At the same time, a review of the accessibility of the site/city/region by different transport modes is also very important. If public transport services are inadequate, then providing better information and advice about them is not going to be helpful. Your initial efforts will be better focused on lobbying the public transport operator to improve services. Mobility management services such as information and advice can then be introduced at a later stage.

Similarly, you need to be fully aware of existing mobility management services, so that your measures compliment them, integrate them, or extend, enhance or improve them in some way.

#### *MOST Examples*

**Sintra** focused on immediately designing and implementing mobility management services. Surveys were then used during the implementation stage to obtain knowledge on mobility behaviour and user needs. There were few existing services for tourists in **Sintra** prior to the implementation of the measures by the site. It was clear that the target group needed basic mobility management services in any format. Following the implementation of these services, **Sintra** prepared and intends to conduct a retrospective survey to assess tourist mobility behaviour. While this approach is possible, there is a danger that the measures that are implemented will not be optimised to the needs of the target group.

**Málaga** is an example of this latter strategy, having invested in a comprehensive analysis of the current situation during MOST. As part of a broad study of transport infrastructure and mobility service needs in the region, a survey of 3500 tourists was organised to gain knowledge on the mobility behaviour and the needs of tourists. This analysis served as a basis not only for Mobility Management measures but also for new infrastructure investments in the public transport system (one of the main barriers). Due to the scope of their initiatives – both infrastructure and soft mobility management measures – another extensive survey of this nature will take place during the next five to ten years.

Before starting with Mobility Management for their final target group, the tourists, **Islantilla** first had to increase the awareness and acceptance of Mobility Management by the local government authorities. Then additional and improved bus services were introduced in order to create the basic conditions for a more sustainable mode choice.

Although detailed analyses of user needs for broadly focused mobility management projects at city or regional levels demand a significant proportion of a project's time and budget, it is an investment that will ensure that the most appropriate and effective services are ultimately implemented. When the most experienced sites are examined



(such as the *Lund's* plan for a sustainable transport system – *LundaMaT*, or *Camden's* Green Transport Strategy), one can see that their initiatives are based on stakeholder consultation, detailed baseline studies, and surveys of user needs.

Base line studies assist in the statement of objectives and in defining the ways in which to accomplish these objectives (agreeing on the services to be developed and implemented).

The analysis phase serves as a basis to delineate the scale of the target group or the target area for reasons of (financial) feasibility and effectiveness. While collecting information about the user needs, you may be confronted with difficulties in reaching the target group (their location for example). This experience is worthwhile to assist in the determination of your exact target groups.

The analysis of the user needs by surveys can serve as a pilot for the communication strategies to be followed (or not) during practical implementation. Difficulties in motivating the target group in the information gathering process can lead the practitioner to more appropriate methods of monitoring and evaluation.

The analysis phase, and more precisely personal surveys to determine the user needs, can be used as a marketing instrument to gain support for mobility management of the target group you want to address. In some cases this broad public support might persuade politicians and senior managers within an organisation to support the initiatives, if there were some initial doubts.

#### *MOST Example*

PTA Málaga initially faced a very low response rate to questionnaires that were just emailed to the employees of the business park for the base line study. The mobility coordinator then approached the large employers personally to gather the required data, which proved to be a very important step for the promotion of the planned activities. 47 % of the employees knew about the planned implementation of Mobility Management at PTA through this survey.

If some important stakeholders were missing in the initial phases of the project, the information gathering process gives additional opportunities to build up a good working team in mobility management (for example, with contacts in other departments of the city or of the site during the process of gathering information for the analysis).

There are two main approaches to surveying the mobility behaviour and needs of the target groups, each with its own advantages and disadvantages. (Please refer to chapter 6.3 for more details concerning methodologies).

Simple “counts” (of people, parking spaces, or ticket sales for example) might be a cheaper alternative (in terms of both time and cost). However experience shows that this information is very limited (and the interpretation of cause and effect can be subjective), and can be influenced by many external factors (e.g. weather conditions). Hence the counts need to be repeated over a long period to ensure accurate results. Moreover, simple counts do not provide knowledge about the motivation of the users or their current mobility behaviour, whereas this information can be requested directly using a survey.



A thorough study based on personal surveys can (when well designed) provide a full picture of the target group at which you want to address your services. However the effort needed to collect information via personal surveys is very time and budget consuming and requires specific expertise.

The MOST-Monitoring and Evaluation Toolkit (see chapter 3.1) summarises ways in which personal surveys could be organised to gather knowledge of the current and future needs of the target group. These range from focus groups, written/mail surveys, and telephone surveys, to personal interviews and panel surveys. The following table provides examples of the ways in which these methods were used within MOST in a successful way.

<i>MOST Examples</i>	
<b>Focus groups</b>	<p>In the Work Wise project in <i>Nottingham</i>, focus groups with the career advisors were organised to examine the feasibility of the measures developed and on the specific needs of the unemployed searching for a job.</p> <p>In <i>Leipzig</i>, the LVB (local public transport provider) organises information workshops for neighbouring business, retailers and craftsmen and people affected by the public transport construction works to consider individual requests.</p>
<b>Written/mail surveys</b>	<p>In the case of <i>Surrey</i> a written survey was used amongst the parents with children in the three schools involved. Parents were offered the opportunity to make their own suggestions for solutions to reduce their car dependency. These suggestions formed the basis for discussion in <i>focus groups</i>. In this way, parents were actively involved into the planning and design process.</p> <p>At the hospitals of <i>Sandwell</i> and <i>Namur</i>, a written survey was distributed to the staff by attaching it to employees' monthly payment notices. Based on the results, the project team was able to identify a number of individuals who indicated that they would like to try an alternative mode of transport. This resulted in a follow up questionnaire, sent to 4 subgroups (public transport users, scooter, cycle and walking) asking them for more detailed information about their current experiences and wishes for the future.</p>
<b>Personal (face-to-face) interviews</b>	<p>Personal face-to-face interviews have been used often as a complement to written questionnaires. In <i>Athens</i>, for example, questionnaires to the residents were complemented with face-to-face interviews with residents and public transport service providers to find out their opinions about reducing car use in the city centre. In <i>Málaga</i> a written questionnaire distributed to 3500 visitors in the region had been complemented with Delphi type interviews experts in the transportation and tourist sectors. At the technological / business park in <i>Málaga</i>, face to face interviews generated much larger response rates than an intranet survey, as interest in the planned activities had yet to be raised. (This is a good example of creating synergies between realising a baseline study and utilising it for marketing/promotion at the same time).</p>
<b>Panel survey</b>	<p>In the bus rider project in <i>Lund</i>, the panel, consisting of 70 persons, had to fill in questionnaires both before, during, shortly afterwards and one year after the test period. In order to motivate the group, there were several personal contacts by the project team with the test persons. Also, the personal interest shown by the public transport provider towards the test persons was crucial in motivating them. The usefulness of this panel survey was very high: although there were few people sitting on the test panel, a lot of information could be gained about the results, and leading directly to project improvements. The test persons were considered a kind of ambassador for the bus rider project.</p>

**Table 6.2.2-2: Methods used for base line studies in MOST**



### 6.2.3 Defining Objectives

As discussed in subchapter 6.1, mission and vision statements should be defined to provide focus for the project group, but also to provide the basis for the definition of measurable objectives. Having undertaken a base line study, you should be in a position to define project objectives, based on your project mission and vision statements.

Objectives will fit into one of the following categories, or assessment levels, recommended by MOST for monitoring and evaluation. These levels and examples of corresponding objectives are shown Table 6.2.3-1 below:

	Assessment Level	Example Objective
<b>A</b>	Knowledge of Mobility Management Services	"To achieve an 20% increase in awareness among tourists of the Mobility Centre within a 1 year timeframe."
<b>B</b>	Usage of Mobility Management Services	"To double the number of students using the university bus service from the city centre, within a 2 year timeframe."
<b>C</b>	Satisfaction with Mobility Management Services	"To establish a 20% increase in the level of satisfaction with the information and advice citizens received in the Mobility Center."
<b>D</b>	Acceptance of Travel Option	"To achieve a 15% increase of commuters that accept car pooling as an alternative travel option after being satisfied with the consulting about alternative travel options (Level C)."
<b>E</b>	Experimental Individual Travel Behaviour	"To achieve a 10% increase of commuters that – at least on a trial basis – switch to car pooling."
<b>F</b>	Satisfaction with Travel Option	"To achieve a 30% increase in satisfaction (as measured by the number of people giving a quality rating of over 80%) with the city bus service among commuters, within a 2 year timeframe."
<b>G</b>	Permanent Individual Travel Behaviour	"To achieve a 5% increase of commuters taht switch to car pooling on a long-term basis – at least for 2 or 3 days per week."
<b>H</b>	System Impact Level	"To achieve a 25% reduction in car use by employees travelling to work within 18 months."

**Table 6.2.3-1: Assessment levels and corresponding objectives**

Objectives also need to be measurable (or ‘quantifiable’), for monitoring and evaluation. The table shows that objectives can be quantified without necessarily being overly ambitious. Even in areas where Mobility Management is a new concept and where significant effort needs to be spent on lobbying and working with government transport and funding bodies, objectives can be quantified at the first two levels of assessment. Each of the examples objective in the table can be directly measured by surveys, ticket sales data, car parking space counts or time measurements. Sometimes objectives can only be measured indirectly – reductions in CO<sub>2</sub> measurements are often estimated from directly measured reductions in the number of trips taken by car. Although it might seem difficult to specify objectives quantitatively in advance, some of them are quantifiable later.



#### *MOST Examples*

MOST examples include the increase in the use of new public transport services developed in **Málaga** (new tourist bus line) or **Rome** (J-Lines during the Jubilee year), rising number of customers in mobility centre in **Porto**, modal share during the marathon versus a regular week day in **Rotterdam**. Others include the change in proportion of children brought to school by car versus walking or biking in **Limburg** and **Surrey**, increase in page imprints on web site of **Bremen** Rhododendron park, independent ratio of complaints (stagnant) and contacts with the LVB (info requests 8 times as high during construction than without), occupancy of parking lot at the hospital in **Sandwell**, number of car sharers among the residents of the car-free housing in **Weißenburg** before and after they moved in, and there are many more.

### 6.2.4 Designing Mobility Management Services

After having identified the target groups (through the base line survey) and defined the objectives (quantified or qualitative), the next step in the Mobility Management project development process is to decide on the services to be implemented in order to achieve the aims. Services genuine to Mobility Management have already been described in chapter 2.3. They comprise: information and advice, consultation, organisation and coordination, Transport Related Products & Services, Sales and Reservations, Awareness, Motivation and Education.

In this phase it is important to take the availability of financial resources and competencies of the implementation team into account. Looking for ways to integrate the new mobility management services into existing services or to integrate it into a wider transportation investment plan might improve expectations towards effectiveness, their feasibility (technical and financial) and their legitimacy.

Explore the opportunities to integrate new mobility management services into existing mobility management activities. Integrating the information of all different public transport services available in one city or at one area is an obviously needed measure (e.g. *Porto*, *Sintra*, plans in *Prague*). (*Weißenburg*, Lund-bus rider into smart card, and into LundaMats).

Explore the opportunities to integrate and complement mobility management services with more hard measures. “Hard measures” include infrastructure investments in PT- or road transportation network, provision of bike parking facilities, restrictive car use measures such as parking management or pricing measures, or access restrictions for cars in certain areas. In this way, the soft mobility management services can achieve greater effectiveness. Another good reason to combine mobility management services with hard measures are the financing possibilities offered by (for example) restrictive parking management. Mobility Management provides the alternative mobility options needed to support pricing and infrastructure measures that limit the use of the automobile.

Consider a mix of services covering different transport modes used in order to appeal to a broad audience (for example, include car sharing with car pooling as a safety net or back-up).



### *MOST Examples*

At **Sandwell** General Hospital, different Mobility Management services existed. They were initiated on an ad hoc basis and none of them were co-ordinated. Within MOST, these services were assessed within the travel mobility plan and integrated in order to promote these services to a wider audience and make improvements when needed. Within **Lund**, different projects aiming to promote sustainable transport modes targeted towards staff and employees were first tested separately. Separate testing included small, sometimes successive, pilot projects with small target groups (such as the bus rider project (mentioned earlier) and the health bikers (a project where a small group of people are stimulated to commute by bike during one year). After having proven their benefit, they will be taken up in a wider range of products targeted at companies and their staff. This step-by-step approach is considered very worthwhile as in this way, initial project costs are kept relatively small, project improvements can be made rather easily and clear results can be obtained in the relatively short term. In **Limburg**, four types of activities have been developed for schools, their pupils and parents. These activities or projects range from 'easy' projects with a low levels of commitment from some of the stakeholders (car free school days) to projects involving true binding partnerships between the local government and all its schools (in a school agreement).

An example of a successful mix of mobility management services can be found at GKK-Graz, the Styrian Health Insurance Company, situated in the centre of Graz. The measures within the mobility plan focused both on the implementation of hard measures and on softer mobility policies. A system of paid parking for the employees was introduced together with the construction of a new secure cycle parking facility with free access for the employees. An extensive awareness raising campaign and a transparent decision making process (so that everyone knew how the parking spaces were allocated and where the revenue would be spent) were crucial to gain the acceptance for the parking management scheme with the target group and with the company manager. The awareness raising actions included (among others) personal mobility advice, events (a bikers breakfast), PT-information packages and free public test tickets.

To provide a good mix of alternative choices was of special importance in **Münster-Weißenburg** where the objective was to develop mobility services for car free housing and to convince residents to participate in this project. Here, various new services were set up such as car sharing, bike parking facilities, and a time table information for PT.

Services will only be accepted and used, if they are specifically targeted at and designed for the user groups. The following points highlight some examples of MOST, where sites succeeded to get to a good match.

### **Services for Staff and Employees**

One of the target groups within the MOST project were staff and employees, and the most successful services to be implemented for this target group were those addressing public transport and utilising workplace travel plans.



The following examples will be of particular interest to public transport operators. They show that an investment in the form of improved services, discounts or short term free tickets result in a longer term increase in public transport usage.

#### *MOST Examples*

**PTA Malaga** (a business park) used the results of staff questionnaires and other information from MOST as a way of convincing public transport operators to improve their services. Two new bus lines serving the park were introduced and the timetable was modified to better meet the needs of employees at the business park. The number of public transport users increased from 5% before the measures were introduced to 12% after the public transport services were improved.

The Bus Rider project in **Lund** aimed to increase the use of public transport by the employees of two companies and one hospital in the region. Free bus tickets were given to a test-group of 70 employees over a period of one to two months. As a result, bus usage increased from 0-10 % (of commuting time for all participants) before the trial to 70-80 % during the trial, and remained at 30 % one year later.

An innovative financing scheme was used by **Sandwell** General Hospital to encourage its employees to travel by public transport. Twice a year the largest public transport provider in the region visits the hospital to promote/sell tickets. Through the scheme staff are able to obtain annual tickets at a discounted rate, which are purchased by the hospital on their behalf. The staff repay the loan, interest free, over a twelve month period. The scheme attracted (out of 3500 employees) 75 participants of which 13.5% were not previously public transport users in its first year. Workplace Travel Plans require a considerable amount of time and effort to develop and implement. Nonetheless, an encouraging reduction in the number of cars parked on site could be observed and an increase in the use of alternative modes when their Workplace Travel Plans were only partly implemented.

The Green Travel Network of **Camden** Council is an initiative to support local businesses plan and implement Workplace Travel Plans. The initiative has been highly successful, with over 24 members covering 35 separate addresses. The support includes a web site through which members of the network can exchange experiences and advice. (<http://www.camden.gov.uk/green/index.html>)

These examples illustrate that investment in the form of improved services, discounts or short term free tickets result in a moderate impact on mobility behaviour. The medium term modal shifts at *Málaga*, *Lund* and *Sandwell* were 7%, 20% and less than 1% respectively. This suggests that behavioural changes happen slowly, and investments of this sort need to be supported by strong promotion of the services and awareness campaigns about the need to use them. Hence, another favourable factor for the implementation of a Workplace Travel Plan is ongoing support. A driving force needs to be present from a working group, dedicated employees to implement the plan and resources (time and money). The other key conclusion derived from the analysis of this target group is that consultation is essential, both to shape the development of Mobility Management measures and to gain acceptance and ownership for new initiatives. Employees need to be included in the discussions about the problems and the pressures that have led to the need to introduce Mobility Management.



### **Services for Students and Pupils**

Another key target group in MOST were pupils, since mobility habits are (like most other habits) established while young. Successful mobility management measures for pupils can support the use of more sustainable modes during adulthood. This target group has a number of added complexities (compared with employees) as their choice of travel mode is not always their own (it is often their parents), the motives of students to travel by car are often not simply for its greater convenience than PT. For young children, their parents perceive the car as a safer mode of transport (because their children can be supervised), while for older students with driving permits, driving a car is seen as symbolic of status and independence. As a result, the services aimed at this target group must carefully consider the age and motives of the pupil.

Hence, for young children, services that involved the students travelling in groups, improved the safety of the environment with the establishment of accompanied walking or cycling pools, or maintained the ability of parents to supervise their children were successful. For older students, conventional mobility management services such as car sharing, public transport and teleworking were utilised by the MOST sites.

#### *MOST Examples*

For young students, the results of MOST show that there is considerable scope for a significant and long lasting modal shift from car use to walking. In **Limburg**, 61% of children live within 2 km of the school, and 21% walk under the guidance of their parents. In **Surrey**, 20-25% of children live within walking distance of their school, 30% of children in infants school walk under the guidance of their parents, and 16% of children walk to primary school. Measures such as the Car Free School Day in **Limburg**, or the Pre-school Club in **Surrey** that encourage all pupils that live within walking or riding distance of school actually do so, then significant impacts on local peak hour congestion and pupil health will be made.

### **Services for Tourists and Visitors**

Tourists and visitors are a target group that has complexities that differ from the traditional commuter travelling to the same place of work or study every day. Tourists are a diverse social and demographic group, that travel at different times of the year (although there are strong seasonal peaks), and for a given destination, their origins and modes of travel can vary widely. They are often completely unfamiliar with the area that they are in, and may not speak the local language.

The main aim of mobility services targeted at this group is to support a large number of visitors through the provision of better information and accessibility advice. It is largely not concerned with persuading people to participate in free PT trials, season tickets or car sharing services.

As such, the most successful services were those that addressed public transport, either through the provision of information and advice, or through the organisation and provision of tourist-specific transport services.



### *MOST Examples*

The importance to tourists of providing public transport information and advice services, and improving the quality of services of public transport is reflected in the results of a survey undertaken by the MOST site in **Islantilla**. Their user survey found that the majority of tourists didn't use public transport because the nature of their vacation was such that they stayed in the same place (e.g., at their hotel). However, 12% of people said that a lack of timetables was their reason for not using public transport, 10% stated a lack of information and a further 8% did not use public transport due to the poor quality or the services. Combining these figures suggests that if basic information and advice services are provided, and tourist specific public transport services are introduced, then a potential modal shift of around 30% of the target group may be possible.

In **Málaga**, the dedicated tourist bus services that was established in July 2001 has been highly successful, with an average of 6165 tickets being sold every month. This service is part of a package of measures which also included the distribution of 30 000 tourist mobility leaflets and 15 000 tourist mobility maps at all main transport interchanges and tourist information points.

**Rotterdam** provides evidence for the need of good access information for visitors, which they realised for the yearly Rotterdam marathon. If accessibility restrictions for car users go hand in hand with providing good alternatives (PT access or shuttle services), it does not only reduce the luxury of car use (the door-to-door aspect) but also encourages people to choose PT for the entire journey.

The mobility awareness project targeted at families, undertaking weekend tourism activities in the Canton of **Zug**, was highly innovative. Round trips, which could be undertaken using sustainable modes of transport (train and bus to bicycle, foot and by boat), were identified. They were publicised at several Action Days, during which mobility data was collected from the families via a competition for children. The publicity campaign for the round trips and Action Days was extensive, involving the distribution of 10 000 information brochures, 20 000 flyers, 500 posters and a press conference. 452 people have participated in the Action Days, 700 people attended the final event, and 80% of the families undertook the round trips without using their cars.

### **Services for Resident Groups**

Residents are a large and important target group, particularly when considering the integration of Mobility Management and urban planning.

Obtaining the involvement of this target group in the development of Mobility Management services is comparatively easy, since the services can directly and visibly affect them in a positive way.

The sites who have addressed the issues of resident groups (*Weißenburg*, *Athens* and *Rome*) tended to concentrate on three types of Mobility Management services – car sharing or car use restrictions, and public transport information and improved PT services.



### *MOST Examples*

Studies at the car-free residential area of **Weißenburg** have shown that only 9 % of the potential residents that had a driving license had used car-sharing services before they moved into the car free residential area. However, once they moved, 94% were aware of the car-sharing scheme and 34% of the sample had already used the service. The remainder of the sample who had not used the car-sharing scheme reported that they felt they had no need for such a service

In **Athens**, 64% of the local residents supported the introduction of the car-free city centre during the Olympic games, provided that public transport services were improved.

These results also show that people are prepared to accept restrictive measures on car use, particularly within city areas, on the condition that they receive better public transport and information services.

### **Services for Other Target Groups**

**Disabled people** were identified as a target group by MOST for two reasons. Firstly, due to the recent increase in legislation across Europe to prevent discrimination on the basis of disability (including transport and accessibility), and secondly, for the *Sarajevo* site to assist the high number of disabled people living in the city as a result of the war. The main services that were implemented focused on modifying and redesigning public transport services to improve their physical accessibility. While certainly possible, other transport modes such as cycling and walking are obviously less appropriate as a regular form of transport for the physically disabled. There is still a great demand for more demonstration projects, particularly addressing ways to diminish the "mental" barriers, i.e. to plan and guarantee for autonomous mobility of disabled people and to integrate them into the transport modes and transport planning of the fully mobile users.

Only *Nottingham* City Council identified **unemployed people** as a target group, and had the aim of using Mobility Management to remove transport barriers to employment and training within disadvantaged areas. Obtaining the input of this target group is facilitated by the fact that many of them travel to an employment office to search for jobs, and their contact details are recorded. This enabled the Council to send questionnaires to individuals who were successful in securing a job interview for the purpose of obtaining mobility information. Mobility services included consulting, public transport service information and free PT tickets to travel to job interviews and/or training courses, and if successful the newly employed person could receive a 1 month PT pass or a 3 month loan of a bicycle to their place of employment. *Nottingham* City Council's approach is an excellent example of Mobility Management as an integrated approach, and it demonstrates the potential benefits from the integration of Mobility Management with these types of initiatives.



## 6.2.5 Designing Mobility Management Instruments

As already defined in chapter 2.3, the following instruments can be utilised for Mobility Management: Mobility Managers, Mobility Consultants, Mobility Co-ordinators, Mobility Plans, Mobility Centres and Mobility Offices.

The experience of MOST has again shown that these management instruments are rarely used in these distinct definitions. The MOST sites often used a mixture of these instruments, or developed these functions over time in response to the different stages of the process and needs of their specific project. Mirroring the practical experiences of the MOST sites are three broad categories of instruments that are needed to implement Mobility Management services: different types of actors, mobility plans and the right site for Mobility Management. The first two (actors and plans) have been addressed to a considerable extent in subchapter 6.1. However, in the following sections they will be briefly considered from the perspective of implementation.

### *The Actors*

To initiate, drive and direct the overall Mobility Management project and its constituent services, key actors need to take into consideration the different activities. For the implementation process, it is essential to have one qualified person responsible for the project located at the site or at the city (or regional) administration. This should be the case even if there is an external consulting expert involved. On one hand, having someone who acts as the co-ordinator for the services is a big advantage, as the targeted users know who to contact, or where to go for further information or target their complaints (an external consultant rarely takes over this direct contact with the end-users in the long run). On the other hand, also for the implementation of the project itself, it is important to create a feeling of ownership among all those involved in the project. “Ownership” in this context means a feeling of responsibility for the project and a high level of motivation in contributing to its development.

### *MOST Examples*

The Canton of **Zug** can be used as an example to support these conclusions. The mobility awareness raising project was strongly driven by a single external mobility consultant, whose efforts over a couple of years involved obtaining the support of many partners for participation in the Action Days that formed the core of the project.

In the Mozaiekschool in the Province of **Limburg**, the driving force was the working group on traffic issues which is made up of volunteering parents of students at the school. Within this working group, there is a strong but small core group of parents that come together on a regular basis and that make sure that what they do is supported by as many parents as possible. This high level of support is realised as the working group tries to integrate all different viewpoints with respect to mobility within their actions: the one from the bikers, the pedestrians as well as the one of the car drivers and PT-users. With the school administration, the teachers and civil services of the city of Hasselt (within the Province of Limburg) maintain good informal contact. The working group found that one of their main challenges was maintaining continuity in their co-ordinating team. Sometimes people become “burnt-out” due to the continuous nature of the project or would leave the group if the children changed schools. In addition, the co-ordinating team did not write down their ideas or initiatives, which has exacerbated this problem of discontinuity. To overcome these weaknesses, attracting new team members on a regular basis is



essential (this could be incorporated into the strategy to raise awareness of the Mobility Management project) by preparing a 'blue-print' plan - setting out the roles and responsibilities of the individuals involved - at the initiation phase of the project.

GKK **Graz**, the outpatient medical centre still runs most of the implemented Mobility Management measures (e.g. access information for public transportation, parking scheme for employees). However, it failed to create a feeling of ownership at the GKK staff themselves, so there are no further activities that for instance address new employees.

### ***The Mobility Plans***

A plan forms the basis of the activities that are carried out to implement the Mobility Management services and achieve the project objectives.

A Mobility Plan incorporates a variety of issues, from the blueprint plan often prepared during initiation, to the base line study and specification of concrete goals during planning and design. These issues and their benefits have already been covered in subchapter 6.1. However, it is during the implementation phase that the realisation of planned activities occurs, and results are quickly (or slowly, depending on the scale of the project) fed back to enable confirmation or revision of the plan.

### ***MOST Examples***

The experiences of the MOST sites varied considerably with regard to the implementation of plans and activities. Some sites, such as **Sandwell** (health care sector) or **Surrey** (education cluster) found that there was no essential need for a formalised plan for the implementation of their activities. However, both these sites had working groups, which provided the opportunity to discuss implementation activities, and both sites had clearly defined objectives against which progress of the project could be measured. Other sites had highly detailed action plans including information such as scheduling, and were able to use these to overcome implementation barriers. **Lund**, for example, found that their action plan was a good instrument for ensuring that changes in personnel at the mobility centre occurred in a seamless fashion. **Málaga** developed a city-wide Mobility Plan that will have impacts not only for the city but also for the surrounding region. This plan was based on an extensive survey of the target group and transport experts, and addresses both infrastructure needs as well as mobility management services. Due to its scope, it is not intended as a plan for the day-to-day management of its constituent projects, but it will provide the basis for feedback and evaluation in a period of five to ten years.

Given the experiences of the MOST sites, it appears that while a formal mobility plan is not essential, there needs to be some mechanism for measuring project progress and incorporating feedback. Given the additional advantages of detailed plans (such as ensuring project continuity and obtaining support during the initiation phase), a mobility plan provides an excellent means by which all these needs can be met.

As with any other project-based endeavour, the level of detail will depend upon the project, and the plan needs to be flexible, while specifically defining tasks and responsibilities. It should be used regularly to measure progress and revised or adapted when warranted by unforeseen developments.



**The Site - Mobility Centres**

The site for Mobility Management services should be a location from which people can co-ordinate the activities to implement the Mobility Management project.

From the experience of MOST, this can range from a basic administrative office to a full scale publicly accessible Mobility Centre offering information, consulting, or sales and reservation services for the full spectrum of transport modes. The latter end of this spectrum that was examined by MOST.

The use of Mobility Centres as a tool to achieve sustainable transport objectives is of considerable interest to policy makers. As a government policy maker, you might ask if your city or region’s objective of reducing CO2 emissions or reducing congestion through the increased use of public and sustainable transport modes can be supported through the establishment of Mobility Centres. As a public transport operator, you might ask whether such a service will increase sales of your public transport tickets.

**MOST Examples**

The impact of Mobility Centres on travel behaviour, modal shift and impacts on the general traffic situation are hard to measure, although there is a considerable amount of data that suggests that there is an impact and that it is positive. For example:

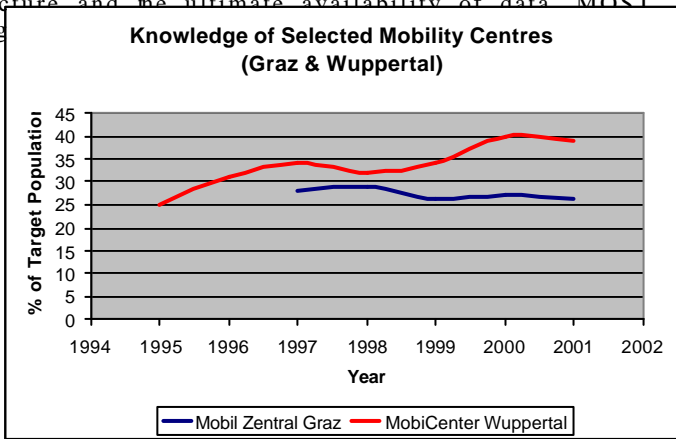
The Mobility Centre of ATC (the public transport company of **Bologna**) has experienced a 9% increase in ticket sales from 1998 to 2001.

Camden Direct, the Mobility Centre formed through the co-operation of **Camden** Council with Transport for London, sold over 6000 tickets during its first 12 months of operation.

The LundaMaT project in the City of **Lund**, of which a Mobility Centre forms a key part, has resulted in 2% of the population of the city switching their travel behaviour to a large extent (in favour of sustainable transport modes), and influenced nearly 10% of the population.

Although in the examples for **Bologna** and **Camden** the possibility exists that the ticket sales could have occurred as a result of a shift in sales from other vending locations, the satisfaction of both operators of the facilities (Transport for London in **Camden**, and Atcitta in **Bologna**) suggests that the Mobility Centres are truly effective.

However, due to its structure and the ultimate availability of data, MOST focused on knowledge, using their impact on individual behaviour and their impact on transport systems. MOST found that **knowledge** of Mobility Centres is achieved by incremental steps, and is usually at a good level (around 30 % of the target population) after a few years of existence. The example of **Graz** illustrates that the knowledge without additional promotional





of the target population) after a few years of existence. The example of **Graz** illustrates that the knowledge without additional promotional campaigns remains at this same level (additional customers would require more personnel to cope with the higher demand), whereas Wuppertal shows very well the incremental steps. However, it was also found that awareness of the services provided by the centres for modes other than public transport was low. **The one-stop-shop nature of Mobility Centres is still unfamiliar and needs greater marketing efforts during implementation.**

**The level of awareness strongly depends on the marketing undertaken.** For example, high proportions of public transport passengers are either young (before the age of driving) or elderly (when many give up driving), and both target groups respond to markedly different marketing campaigns. This result is reflected by **Münster** and **Wuppertal**, for example, where young people know more about their mobility centres than the older generation, whereas in **Graz**, older people are more aware of the services provided by the mobility centre than the younger generation.

With respect to **usage of mobility centres**, those in MOST experienced a steady growth of users, particularly in the first three years. In addition, MOST has found that **the highest usage of Mobility Centres is by the medium user of public transport** (refer to the results for **Wuppertal**). While regular users of public transport do not have a need for information and regular car users are hard to reach, the group in between is a valuable customer, and the task of the Mobility Centre is to increase the usage of public transport so that they become regular users.

However, the majority (up to 90%) of the demand at Mobility Centres is for traditional services such as public transport information and ticket sales. This raises the question as to whether Mobility Centres are needed at all, given that public transport operators have long provided these services. However, Mobility Centres provide a central location for (at the very least) information for all user groups on all modes of transport. For example, Mobility Centres can enable a resident of a city wanting to travel from their home to a nearby national park to determine the best way to do this by public transport, without that resident having to contact the various public transport operators who may service that destination. Findings from **Münster** show that these other functions are highly rated but are seldom asked for. The challenge for Mobility Centres is thus to **stimulate demand for integrated services and to provide them in the most efficient way.**

As a practitioner wanting to establish a Mobility Centre, how do you meet this challenge? Stimulating demand requires marketing. The means by which increased awareness of a Mobility Centre (leading to usage) can be achieved are enormous and dependent upon the target group. While the data available within MOST that refers to knowledge and awareness of Mobility Centres is not extensive, the most effective marketing approach was at the MobiCentre in **Wuppertal**, who achieved an awareness of around 40% within five years of operation (refer to the graph on the previous page). Their multi-faceted approach included a conventional marketing scheme, but also more novel services such as highly trained Mobility Consultants who advise on all mobility issues at public sites, schools, homes, companies and institutions.

Regarding the efficient provision of integrated services, every one of the Mobility Centres studied provided information **in person, by phone, and by e-mail**. To obtain the optimum balance of service and cost, there needs to be a combination of (more expensive) consulting type services (providing personalised trip planning for example) as well as the (cheaper) passive provision of information that can be easily accessed by the public. The telephone was the main medium used by the MOST participants. The internet is playing an increasing role particularly due to its ability to reach a wide audience in an interactive manner, but the value of personal contact (especially



for particular target groups such as the elderly) remains highly appreciated.

The level of **acceptance** by users of the Mobility Centres in the MOST project were generally high, however some results strongly support the one aspect of Mobility Centres that differentiates them from traditional public transport or tourist information centres – the consolidation of information about all forms of sustainable transport modes. In **Münster**, the best customer acceptance ratings were given for the integration of services. Information on cycling and a cost comparison between the car and public transport were placed high on a list of important elements in the Mobility Centre. Users indicated that communication channels need to be widened (greater use of the internet for example) and Mobility Centres need to incorporate business service standards, treating people as valued customers rather than users.

In summary, the implementation of a mobility centre needs to be **strongly supported by targeted marketing** to raise knowledge and awareness of the centre. Implementation needs to **stimulate demand for a “one-stop-shop” service for all aspects of mobility**, as well as providing basic public transport information and ticketing services. Finally, in order to ensure strong acceptance of its services and provide maximum accessibility, a **broad range of information channels**, from the Internet to traditional face-to-face contact, need to be implemented.

### 6.3 Monitoring and Evaluation

As described in chapter 3, assessment can refer to the impacts and results of Mobility Management (3.1) as well as to the implementation process itself (3.2). The base line study (see chapter 6.2.2) is in itself an important planning tool and does not necessarily have to include the collection of "before" data. However, it is advisable to use the base line study to already gather "before" data, which is necessary for profound monitoring and evaluation.

Evaluation should be integrated into the overall Mobility Management process. Many practitioners in the Mobility Management field are anxious when it comes to assessing their own projects as they fear that their results may not match expectations among policy-makers, funding organisations and the public. However, assessment should be viewed as an important project management tool to allow practitioners to gather valuable information on the performance and outcome of the measures implemented. Just as most private ventures set targets, monitor performance, and track results, Mobility Managers should also seek to evaluate their data in order to improve their projects, document activities, and report results to policy makers. Therefore, evaluation should be seen in a more positive light and embraced by Mobility Management practitioners, not to satisfy researchers or funders, but to satisfy themselves that their efforts are producing results and identify areas for improvement. Thus, assessment should always be an integral part of Mobility Management.

The audience for the monitoring and evaluation results of your project can be summarised as:

- Users (target groups)
- Local policy-makers who supported (or opposed) your project



- Funding organisations that invested in your project (or future potential funding organisations)
- Regulators who require Mobility Management plans or activities
- Peer project managers who want to compare themselves to other projects and to learn about your project and its effectiveness
- Researchers who want to document project effects based on cross-cutting studies

### 6.3.1 Monitoring and Evaluation of Results - General Recommendations

Whereas Monitoring means the collection and gathering of the data, Evaluation refers to the processing and interpretation of this collected data. As it is sometimes difficult to convince financing bodies and decision makers that monitoring and evaluation are important parts of a project, some reasons shall be given in the following. It is intended to show a positive view of monitoring and evaluation to the extent that mobility managers will embrace it as not just a necessity or a requirement, but as a fundamental part of managing Mobility Management.

One critical finding from MOST is the need to integrate monitoring and evaluation in the early planning stages of a Mobility Management project or programme. In the case of MOST, monitoring and evaluation plans were made after a lot of the sites conceived their role in the MOST project. Those plans were included in the Strategy Plans prepared by some sites well into the first year of the MOST project. This made the ability to collect before data difficult, created budget concerns, and may have been beyond the expertise or experience of some local implementers. Monitoring and evaluation should be incorporated into the Mobility Management planning efforts as early as possible and should be tied to the measurable objectives set by the sites. Monitoring and evaluation should be a distinct element of the work plan prepared for the Mobility Management effort and should go beyond a simple acknowledgement that monitoring and evaluation will take place when convenient. Specific monitoring and evaluation activities, data collection efforts, budgets, schedules and reporting should be integrated into the overall Mobility Management plan.

Highlighting the reasons to monitor and evaluate your Mobility Management project is important for sound planning practices, accountability, and feedback loops. Perhaps the most important reason, however, is to satisfy yourself that the project is achieving what you want and if it doesn't to find ways to improve project performance and reach your objectives. If you cannot convince yourself of the project's effectiveness, it will be difficult to convince others, including those funding the effort.

In gauging progress of the project in comparison to specific objectives and the general goals of the project, evaluation can be used to modify and improve your project. If, for example, the Mobility Management measures do not seem to meet public transport objectives, project services can be adjusted to better target this mode or to switch project priorities to modes that show more potential. If evaluation is only used to produce reports that sit on shelves, and not used to actively improve the project under consideration, then the monitoring and evaluation process cannot be effectively integrated into the overall Mobility Management process.



Many of the projects that had already established Mobility Management at their sites before MOST started, in other words many of the information providers, had ongoing evaluation processes, such as *Surrey* and *Camden*. These processes were used to report results and improve their projects over time.

A primary function of evaluation is to provide input to the fulfilment of established objectives. To the extent objectives have been set by Mobility Management planners and implementing agents, the achievement, or at least progress toward these, should be measured. For example, if one objective is to increase public transport use among tourists, then the evaluation process should measure any changes in that usage.

If the objectives are quantifiable, evaluation tools can measure the specific progress of the Mobility Management effort against these tangible objectives. By measuring progress against set objectives, the evaluation informs the process of reporting results and adjusting targets as needed. Many MOST sites set objectives for their Mobility Management efforts, but few set *measurable* targets. While overall goals can be more general, such as “enhance mobility” or “improve sustainable modes” objectives should be focused, measurable and realistic, such as “reduce car use by 10% among students/parents at targeted school sites.”

In the MOST report on implementation and evaluation (see Annex II to this report), it was concluded that many MOST sites did fully or partially achieve their stated objectives. However, as long as objectives are fairly broad and not quantifiable, the definition of an outcome as success is rather easy (although more open to interpretation) compared to the case where a quantifiable objective to be achieved is set in advance.

As already mentioned several times, measurable - or at least quantifiable - objectives allow for more focused performance monitoring, project adjustment, and reporting.

The evaluation of Mobility Management results in a given area should consist of a combination of soft and hard findings. Soft results might include implementation experience, fulfilment of overall goals, levels of awareness, and user satisfaction with services provided. Hard results might include fulfilment of measurable objectives, travel behaviour changes, and increases in the use of sustainable modes. This information can be used to derive key *changes*, such as an increase in awareness, reduction of car use, kilometre reductions, etc. If project costs are well defined the evaluation can estimate the cost per trip or kilometre reduced. This can ultimately be used to compare the cost effectiveness of Mobility Management to other mobility solutions. In the case of MOST, consistent, comparable evaluation results were not possible in terms of trip or kilometre reductions. However, before and after data was available from over a third of the sites, allowing for results to be reported in terms of modal shift and the reduction of car use.

Only a handful of MOST sites, particularly demonstrator sites, budgeted in advance for monitoring and evaluation. All committed to reporting results and some implied that they would be carrying out an evaluation function, but few sites built monitoring and evaluation into the overall scheme and budget. It is not uncommon for 10% of a demonstration budget to be earmarked for monitoring and evaluation. In MOST, the lack of dedicated funds for monitoring and evaluation meant that the local sponsors were often required to provide monitoring data and undertake evaluation surveys themselves and this took time away from implementing and promoting their Mobility Management activities. Therefore, Mobility Management projects should allocate



sufficient funds for monitoring and evaluation, recognising their integral role in the successful implementation of such projects.

In order to determine the travel behaviour of the target group and to assess any changes toward sustainable modes among this group, travel surveys will be required. In order to identify any actual change in travel behaviour, (e.g., reduced car use or increase PT use), before and after (implementation of Mobility Management measures) surveys are necessary to determine the usual mode of travel and then the modified travel habits of the target population. A well conceived random survey of the target population at a point before the Mobility Management measures are announced or implemented and at the end of the pilot period should provide suitable results for the purposes of comparison.

In some cases, forecasts are made in advance of project implementation to estimate the potential results of the mobility management measures. This is similar to the forecasting process that is used to estimate the demand for new public transport services or roadways in the case of supply-side projects. With Mobility Management, evaluation can then be used to validate these estimates by comparing forecasted results to actual results. This helps in determining the accuracy of the forecasts and in assessing the demand for mobility management services.

When evaluations are conducted on a regular basis for projects that have been running for some years, evaluation can be used to track results over time and develop trends in project performance and impacts. This trend analysis can assist project managers in understanding strengths and weaknesses of the mobility management measures (downward or upward trends), in assessing the influence of outside factors (e.g., petrol prices), and in determining whether the project is suffering from diminishing returns (e.g., fewer new car-poolers for the resources expended).

Project monitoring involves both documentation of staff activities (hours of operation, staff hours, contacts made, etc.) and the monitoring of user responses. For example, how many people requested information, how many tickets were sold, how many pieces of literature distributed, etc. Also important, how many more people are using Public Transport, how many more people are walking and cycling, how many carpools are registered, etc. To collect this data requires not only good record keeping of staff activity, but may require periodic counts of Public Transport riders, bicycles parked at a site, etc. Thus, monitoring should not only document *input* and *output*, it should periodically estimate *outcome*.

Evaluations that are comprehensive in scope to include costs and quantifiable impacts can be used to gauge the comparative cost effectiveness of the project. For example, if the evaluation can measure changes in travel behaviour that result from the mobility management measures, the number of trips (cars) and kilometres of travel can be calculated. With cost information, the cost per trip or kilometre reduced can be derived. This helps answer policy-makers questions about the benefits derived for the money spent on Mobility Management. These cost effectiveness findings for demand management can then be compared to the cost per user of new infrastructure (new rail line or road) so as to assess the comparative cost effectiveness of mobility management to other mobility solutions.

One way to ensure that monitoring and evaluation does not become too burdensome on Mobility Management staff is to contract out the evaluation process to a local university, research organisation, or consultancy. When organised at the start of the process it ensures that the allocated budget will be used for monitoring and evaluation



purposes and that the person in charge will take responsibility for this task. This also increases the perceived objectivity of the evaluation by an unbiased source. Finally, it may ensure that the expertise and skills necessary to undertake travel behaviour surveys is available and careful before and after research is conducted. Few MOST sites used outside evaluation expertise to conduct evaluation activities. Once again this could be due to budgetary or other financial constraints.

Finally, evaluation results should be documented in annual or periodic reports that not only assist staff, but record findings for future use and provide funders and local policy makers with a tangible account of evaluation findings and recommendations for improvements. Such reports should become a source of pride for the project among peers and transport professionals. Several MOST sites prepare periodic reports as a matter of course, such as *Camden* and several of the Mobility Centres.

#### *MOST Examples*

The most targeted objective reported in the MOST Evaluation Results Report was provided by one of the Italian sites who called for a reduction in motorised vehicle trips during the peak hour of 5-7% (**Rome**). Within MOST, only **Lund**, **Surrey** and **Rome** set specific objectives with respect to travel reduction or air quality. In **Rome**, projections have been made as to the level of modal shift among employees at 10 large employers. An evaluation will take place to document actual mode shift and compare these results to the initial forecasts.

Many MOST sites did not implement before surveys, but relied on other travel surveys of the same group (as was the case in **Bremen**) or performed a single “after” survey that asked about current travel behaviour and retrospective questions about previous (before) behaviour (as in the case of **Sandwell**). Given the nature of the target populations, especially tourists, standard written or telephone surveys were impractical. Some sites used personal interviews or surveys. Some rather innovative techniques were used as well. In **Zug**, travellers making car free tours were rewarded for returning a form that included a retrospective travel question. At **PTA Málaga**, an e-mail database of all employees was used to conduct a before and after survey and achieved a very high response rate. **Sandwell** attached their survey to all employees monthly pay notices.

The Mobility Centres in **Graz**, **Wuppertal** and **Münster** have tracked knowledge of the centres and their services and usage of those services for many years. In **Wuppertal**, annual citizen surveys have shown a steadily increasing knowledge base among residents, from 25% knowing about the Mobility Centre in 1995 to 39% in 2001.

### 6.3.2 Document Activities

The simple act of cataloguing the activities within the Mobility Management project may seem to be more of an administrative task than a monitoring and evaluation procedure. However, when trying to assess the cause and effect of the Mobility Management measures, it is important to show when and how each measure was implemented. In this way, the timing and magnitude of travel and other impacts can be compared to project activities and may suggest which factors might have caused these impacts. Changes in travel behaviour that occur concurrently with the implementation or enhancement of Mobility Management measures suggests that the project had an



impact. Changes in behaviour that occur independently of Mobility Management activities might suggest the influence of other factors, such as changes in petrol prices, changes in local economic conditions, or changes in the transportation infrastructure or congestion levels.

All of the MOST sites reported project activities as part of the documentation of the overall demonstration effort. Some of this information was provided periodically by the sites and some provided as part of a structured monitoring template.

#### *MOST Examples*

For example, **Rotterdam** listed all the media channels that were used to provide mobility information for a temporary event (a marathon). Visitors that were surveyed were asked which information sources that had used. On the basis of the survey results **Rotterdam** will be able to improve the efficiency of future similar campaigns. Similarly, **Leipzig** documented which transport information was requested during a reconstruction of the tramway and has learnt to better plan the printing of similar material for future construction sites.

### 6.3.3 Awareness of Mobility Management Instruments and Services

Since one fairly consistent objective of many MOST sites was to raise awareness about sustainable modes of transport, some sites sought to gauge awareness via surveys. This most often involved telephone, written or mail back surveys among residents of cities with Mobility Centres. In other cases, tourists were polled, via personal interviews at tourist sites, as to their awareness and use of the Mobility Management services. In both cases, the purpose was to gauge awareness (and use) among the intended target population to establish market penetration.

#### *MOST Example*

In **Wuppertal**, as part of a city-wide survey of all municipal services, awareness and usage of the MobiCentre has increased. In 1995, 25% of residents were aware of the MobiCentre 48% of which used the services. In 2001, 40% of residents knew about the centre and 57% of which used the services.

### 6.3.4 Usage of Services

A primary monitoring activity involves the collection of data on the use of Mobility Management services. Since the most popular service within the MOST project was information and advice, many sites tracked the number of inquiries received and the type of advice provided.

Clearly, this tracking function is an important part of monitoring and evaluation, for it clearly shows the output of the Mobility Management service, here providing information on sustainable transport modes. However, it does not reveal anything about the use of the sustainable modes for which information and advice was provided.



In order to focus on the use of sustainable modes, many MOST sites also documented the sales of public transport tickets or the ridership of new services. Again, many of the *Mobility Centres* recorded their sales of train and bus tickets.

#### *MOST Examples*

The Mobility Centre in **Graz** tracked the number of telephone, e-mail and personal (walk-in) contacts for each month. This was often accomplished via manual and electronic reporting forms that were completed by mobility advisors. In **Münster**, the Mobility Centre has tracked the proportion of information requests separately to that of providing advice, the latter being a more interactive and less passive function. They have shown that the proportion of the more active advice function has grown from 55% of all requests in 1998 to 67% in 2001.

In **Málaga**, the Mobility Management services aimed at tourists monthly sold over 6,000 tickets over a year for a tourist bus services. At the hospital in **Sandwell**, the Mobility Co-ordinator sold annual public transport tickets to some 100 employees in 2001. In a few cases, the use of other modes was monitored as well. The Mobility Consulting service in **Rome** sold 1,700 discounted annual public transport passes (2000-2001) and registered over 700 car-poolers within 3 years. This type of tracking function is usually performed by recording sales figures on a monthly basis and, in some cases, counting riders on new public transport services.

### 6.3.5 Measuring Customer Satisfaction

Given the customer-orientation of many Mobility Management services, it is important to know whether the customers you served are satisfied with the service they received.

Many MOST sites performed customer satisfaction surveys as a follow-up to the information, advice or other services provided. Again, this was more common among Mobility Centres and Consultants (*Münster, Wuppertal, Graz, Bologna*), but also performed for other sites as well. Most often, customers were given a written survey along with the information they requested, telephoned at home or received surveys through the post asking people questions relating to their 'satisfaction' of the services they used.

#### *MOST Examples*

In **Lund**, participants in a bus pilot project were asked about the quality of services and the condition of the buses and bus stops to help assess the level of usage. In **Leipzig** and **Bologna**, the mobility services were operated by the public transport company and one of their aims was to minimise complaints about the services and advice they provided. Tracking of complaints by both sites seems to result in a positive outcome: e.g. during the reconstruction of the tram network, the PT provider in Leipzig was contacted 8 times as often without any increase in the amount of complaints.



### 6.3.6 Surveying Users and their mobility behaviour

The collection of data on mobility behaviour is valuable to gauge the impact of the Mobility Management services on the use of sustainable modes: Did car drivers actually change their mode choice and switch to another more sustainable mode?

The surveys can be conducted in many ways, including: telephone, mail-back, personal interviews, and e-mail.

**Telephone interviews** can be very effective if the telephone numbers are known. This method was most often used to survey residents of a city that had Mobility Management services available. Very often, a needs assessment survey was conducted of residents before implementation and then another survey conducted during the MOST period. Seldom were panels used (surveying the same person at two time periods). More common were random samples (random digit dialling) within the service area to assure representative responses.

**Mail back surveys** were used to gather information from travellers who used Mobility Management services, or among a well-defined target population, such as employees at hospitals or parents of school-aged children. Mail back surveys are among the least expensive survey method, but can suffer from lower response rates (often 10-20%) and from self-selection bias (whereby only respondents who made a mode change or are predisposed to “green” behaviour will respond).

**Personal interviews** were used by a significant number of MOST sites. While these are perhaps the most expensive type of survey, the nature of the target population deemed this method necessary. In the case of tourists and visitors, telephone numbers and addresses are not known, so that a survey of this target population needs to be performed at the destination site (museum, beach, or other attraction).

In general, caution should be used when using e-mail surveys given the biases that exist e.g. who has or has not got internet access and other self-selection biases.

#### *MOST Examples*

One interesting example of a mail-back survey was used in the Canton of **Zug**, where participants in car-free tours could receive a small incentive if they returned their car free itinerary with answers to several travel behaviour questions.

In **Bremen**, visitors to the botanical gardens were surveyed at the nearest tram stop and at the café within the park. This type of surveying seemed to work well within MOST and many sites used students, contractors or junior staff members to conduct the interviews. However, the number of interviews that could be conducted was sometimes impacted by budget constraints as some MOST sites had not built data collection into their overall project budgets.

Employees at the Technology Park in **Málaga** were surveyed via e-mail. This was possible because the property management office of the technology park (PTA), that also served as the Mobility Office, held possessed the e-mail addresses of virtually all tenant employees. Whereas the response rate to the email survey was not high enough in the beginning of MOST, it worked well later, once the employees were already well-informed about the ongoing Mobility Management activities.



### 6.3.7 Measuring Physical Impacts on a systems' level

When many people change their mode choice, an impact will show on a broader systems' level, e.g. regarding a whole city: congestion, fuel consumption, noise and pollution might be reduced. The ultimate impacts on environmental issues are most important to convince the broader public and politicians. Very often it is only possible to calculate these higher level impacts.

#### *MOST Examples*

For example, a proportional reduction in car use was estimated for **Karlstad**, **PTA Málaga**, **Camden** and **Limburg** that ranged from 12%-16%. A few sites even reported system impacts, such as emissions reductions in **Camden** and kilometre reductions in **Lund** and **Karlstad**. On the basis of the data collected by **PTA Malaga**, a reduction of vehicle km of 10.800 km per day could be estimated for the whole business park (4000 employees). **Lund** saved 4.300 car km per health biker per year and an additional 2.800 km for each of the bus riders (each group consisted of 10 persons). In **Camden**, air quality, noise reduction and traffic flows (congestion) is monitored during the car free days. The results gave a direct insight in the influence of such activities: even on a daily basis effects for air quality can be measured (PM 10 (Particulate Matter 10 parts per million) was reduced by 11 %). Of great interest would be if the results of local areas in a city (just a few streets were closed during one day) could be obtained for the whole city and over a longer term.

#### "Traps" concerning monitoring and evaluation of results

Considerable insights were learned from MOST as to awareness, acceptance, the use of Mobility Management services (especially information and advice), and even the impact of the overall efforts on mode shift and the reduction of car use. Still, knowing about the weak points concerning monitoring and evaluation MOST was exposed to, can help future projects to avoid similar problems:

- Many MOST sites did not integrate monitoring and evaluation into their original budgets and work plans, other than acknowledging that some level of monitoring and evaluation was desired.
- The EFQM analysis revealed that some sites critically underestimated the time and budget necessary to monitor their projects within the MOST framework (i.e., Monitoring and Evaluation Toolkit). Of those 5 sites analysed using the EFQM tool, only one (Lund) in five sites fully integrated monitoring and evaluation into the overall effort.
- While MOST provided a detailed set of guidelines on how to perform evaluation via the Monitoring and Evaluation Toolkit, these were too late for some of the MOST sites, who had already started their projects including the monitoring.
- Some sites were unable to implement all the intended Mobility Management measures with the MOST time period due to political, administrative or resource issues. This impacted the timing of any after surveys because the sites wanted to



capture the impact of all intended services to get “full credit” for their efforts. Hence, some after surveys occurred very late in the process, too late to include in the overall findings and too late to adjust the projects themselves.

- Monitoring and evaluation approaches varied considerably, which is not surprising given the diversity of locations, measures, and status within MOST (information providers and followers, etc.).
- Not all MOST sites took advantage of this guidance and used the requisite planning and reporting templates.
- Data collection methods varied from site to site. Some sites performed before and after surveys to get at current and prior travel behaviour and some asked retrospective questions about modes in a single after survey. Some only performed before surveys.
- The expertise to perform monitoring and evaluation varied considerably. Some sites, such as Bremen, Malaga, Rotterdam and Sandwell, used outside evaluation contractors to conduct surveys and perform evaluations. Others had the expertise themselves, such as in Limburg and the co-ordinators of LundaMaTs in Sweden. Others relied on their MOST cluster leader or the monitoring and evaluation sites to assist with monitoring, surveys, etc. Others chose not to collect comparable monitoring data or perform evaluations.

### 6.3.8 Self-Evaluation – Optimising the Implementation Process

In the above sections, we have been mainly dealing with the questions: ‘WHAT happened’ and ‘what RESULTS were achieved’? Here, the implementation process itself is subject to assessment: HOW can practitioners improve the mobility management process in order to gain better results? ‘WHY has a certain outcome occurred?’ What are the main reasons for SUCCESS and FAILURE? Furthermore, what can other practitioners learn from each other about the way to deal with certain problems?

Applied early in a project, this helps any project to secure a smooth course of the implementation and to prevent later struggles against adverse circumstances and counteracting parties. As already outlined in chapter 3.2, a total quality management tool was adapted for the MOST purposes. The questionnaire used is available in Annex VI. Five areas should be covered:

- **Leadership, project coordination, steering:** It is important to create a vision or mission about the objectives to be achieved. Somebody needs to take the lead, who is representative for the project, who can serve as a role model, can motivate employees and cooperate well with decision makers.
- **Policy, design and strategy, importance:** The concrete targets followed by the Mobility Management project need to fit to overall objectives of the organisation of city. Acceptance by users and stakeholders can only be gained when their



individual needs are considered. The design of the project needs to allow for checking achievements against original objectives set.

- **Human Resources, financial resources:** Human Resources are especially important in Mobility Management, as it is focusing on high quality and interpersonal services like communication, coordination, motivation. This requires sufficient and qualified personnel, who feel responsible and are themselves motivated to contribute own ideas. They play an important role to feedback to the leader users' reactions, as they are working face-to-face with the users. It is self-evident, that secure financial resources are beneficial for a smooth implementation process.
- **Partnerships (stakeholders/users), synergies:** As mobility is an interdisciplinary and interdepartmental topic, and due to the integrational approach of intermodal mobility, partnerships are essential to be set up and working.
- **Transparency of Processes:** Processes need to be made transparent to create acceptance among stakeholders as well as users. Implementation should follow a systematic approach, and there should be the possibility to revise initial plans, in case the monitoring of results (see chapter 6.3) shows wrong developments. Particularly in the case of disappointing results, an in depth investigation of the factors of failure and success becomes relevant, even if the reasons are beyond own control.

#### *MOST Examples*

For example, bad weather conditions might affect awareness raising campaign, as happened on one of the round trip events in **Zug**, also the success of car free school days in **Limburg** are highly dependent on weather conditions. An important re-organisation of the company or a change in the political context might give temporarily less priority to mobility management issues (as in the case of **Sandwell** General Hospital and in the case of the mobility management activities in **Sintra**). A change in personnel might also cause delays or even discontinuity in the mobility management process (in **Sintra** for example) and so on.

In these cases, an assessment of the mobility management process is useful to regain trust between the project partners for the continuation of current applications or for future applications.

A process assessment that both focuses on positive and negative points can support the project team in their further work. Perhaps one can develop strategies to mitigate the problems just in case similar local framework problems occur in the future.

All important stakeholders within the project have to be involved in the assessment. This includes the person responsible for the overall co-ordination or the Mobility Management activities in the city or at the site, someone working in the Mobility Management project on a day to day basis, a representative of the target group (users) and representatives of other key players in the Mobility Management applications such as local transport provider, local transportation authority, the site owner, etc. This is essential to gain support from and convince financiers, decision makers, politicians,



etc. but also to set up tailor made mobility services for the target group and to monitor the activities and improve the mix of services for the future.

A two stage approach guarantees that every opinion is heard and focuses on the 5 mentioned areas: An independent assessment of all mentioned levels helps to identify different perceptions of different participants. It forms the discussion basis of a round table meeting with all participants, where esp. discrepant assessments are pointed out and reasons identified. An external moderator chairing the meeting can ensure that everyone has the opportunity to voice their opinion during the discussions. Participants also discuss crucial factors of success and failure, main barriers they encounter and possible solutions.

#### *MOST Examples*

The qualitative assessment scheme of the mobility management process has been tested within 5 MOST-sites: one school in **Limburg** adopting mobility management actions developed within MOST, **Sandwell** General Hospital, the Rhododendron park in **Bremen**, the 'Loja da Mobilidade' or mobility centre in **Porto** and the Bus Rider project in **Lund**.

The EFQM process questioned the different stakeholders about various aspects of the project, in particular questions relating to the quality of the management process. The following main findings for each of the five cases are now presented:

The discussions within the EFQM-analysis for **Limburg** showed that the key for their success was the effort of a Working Group on traffic, made up of parents from the parental committee who represent the majority of the parents and children within the school. They have a very strong connection with the target group and the ideas for action originate from the bottom-up. The Working Group receives support from the local government and the school board when developing Mobility Management activities for the school. However, one barrier the group often faces is the threat of discontinuity (due to lack of financial resources) and volunteer 'burn-out'. Moreover, budgets for Mobility Management activities are very limited. This highlights the importance of establishing partnerships between the school, parents, local education authority, mobility consultants and public transport operators when trying to develop mobility management strategies (for delivering ideas, material, manuals,... ).

In the case of **Sandwell** General Hospital, the members of the Green Travel Plan Steering Group were critical about the way mobility management activities had been planned at their site. They pointed out the difficult external situations they had to deal with (a re-organisation, contractor difficulties, no dedicated staff, and the objectives of different working groups). Ideally, in this situation panel members felt that the hospital needed one person based at the site who could co-ordinate the Mobility Management process on a day-to-day level. The panel members also agreed that the user group should have been involved at the beginning of the decision making process. They also agreed that more attention should be given to communication and marketing media in the future to raise the target group's awareness and to disseminate the activities to a broader audience.

In **Bremen**, the overall factor of failure and success has proven to be the acceptance and backing from all social and political parties at the very first stages of the site development planning process. The residents and local advisory board were opposed to the original site development plans for the Rhododendron Park (from 1997) because they felt they were not consulted on the plans or involved in the planning process. This caused a delay in the planned MOST-activities. In the revised plans for a smaller Botanical Garden, all



stakeholders were involved from the beginning and the planned Mobility Management activities received support from all the stakeholders. The good (informal) communication with the overall mobility manager is considered by all project partners as an efficient way of handling mobility management activities.

As the partnership set up within the Loja project in **Porto** is still very young, the EFQM-analysis with the round table meeting was considered as an interesting initiative to make all partners more familiar with Mobility Management and all its different aspects as well as increasing stakeholder involvement. No less than 13 project stakeholders participated at the round table. Important action points for the future were defined, such as the need for creative solutions to secure long term finance of the Loja after the initial investment of the city council, the need to establish a working group next to the formalised partnership, and the need to widen the project scope from the residents and visitors of the inner city of **Porto** to residents of the metropolitan area. This broader scope implies that an extension of the current partnership within the local framework will be quite a challenge (given the non-existence of a metropolitan transportation government).

The EFQM-analysis of the bus rider project in **Lund** gave a clear picture of all elements that contributed to the overall success of the site: (1) its integration within the comprehensive LundaMaTs-plan for the city of Lund; (2) its detailed project plan, defining for the project team exactly what to do and when, and delivering the essential information for the PT-provider to know where its money has been investment; (3) the step-by-step-approach with a succession of pilot projects (with small target groups during a test period in a test zone), each pilot project followed by a comprehensive evaluation to be able to inform and improve the succeeding projects; (4) the genuine interest from all partners involved; (5) working with a small selected target group to gain as much information as possible.

The self assessment of the Mobility Management process has proven its usefulness **in different stages of the mobility management process in different ways**: at the initial phase of a project like in **Porto**, the assessment framework serves as a background for gathering different ideas from the project partners about future activities. In the case of the bus rider project in **Lund**, it has been used to analyse the success of the bus rider project and show other sites how they can learn from it.



## 7 New Insights: The Contribution of MOST

This final chapter recalls all results of MOST and relates them to previous work in the field of Mobility Management. The last subchapter indicates future areas of research or implementation.

### 7.1 Mobility Management - a widely applicable concept

MOST has built upon a sound basis: the definition of Mobility Management from the European Platform for Mobility Management (EPOMM). According to this definition, a conceptual framework for MOST has been set up and all demonstrations in MOST were briefed to follow the same common understanding of Mobility Management. This facilitated a common approach among all sites and the drawing of comparisons between them.

**Mobility Management can be applied in various thematic fields on a city or site level** The good experiences with companies, schools and universities was continued. But MOST also showed that Mobility Management works for new fields of application and for different target groups. This included visitors and staff of hospitals, visitors to temporary events, people on short term leisure trips as well as tourists. Site level mobility management was investigated more thoroughly and proved to work well for various traffic generators, like a business park, new housing and a new part of a university. New specific target groups were addressed, e.g. handicapped people, unemployed people and residents of car free housing.

The mix of demonstrators showed that **Mobility Management can range from local and very concentrated actions up to wider scale approaches covering whole regions.**

MOST, being the largest European project in this field, has demonstrated that **Mobility Management principally works in countries that differ in their geographic location and in their national frameworks for mobility management.** Location often implicated different stages of awareness about Mobility Management, and sometimes can explain differences in results.

### 7.2 Mobility Management - a flexible and adaptable concept

A too strict and narrow interpretation of the common concept would limit flexibility. MOST showed that **Mobility Management actually is a very flexible concept and that its tools are adaptable.** E.g. the mobility plan, originally limited to site level, proved to work well for long-term and large-scale applications for whole regions. Another example is the establishment of a mobility centre or a mobility office, often



difficult to set up, as much resources are needed. MOST could demonstrate that you can start with a small but important first step - an operational headquarter. A further example is the wide spectre of activities of what is called a mobility consultant. There is the level of direct service to the end-users, a second level of implementation of mobility management on a site generating traffic, and the third level of professionally consulting companies and institutions on how to solve traffic problems with mobility management.

**The combined realisation of hard and soft measures in an integrated approach proved to be most efficient.**

MOST showed that incentives and the addressing of emotions, of personal values and of benefits work well as a motivation to change mobility behaviour. Therefore, **the term "Motivation" should explicitly be mentioned in the definition and the common concept** of Mobility Management. It should be included in the service category "Awareness, Education *and Motivation*".

Strict differentiation of elements according to the theoretical concept proved to be impractical. As a result, MOST does not emphasise the structures, but more **the process of mobility management** (see 7.4). In fact, this is one of the recommendations of MOMENTUM<sup>29</sup>. Mobility Management requires convincing leadership, qualified personnel, a vision to follow as well as participation of users and stakeholders. **The main tasks that need to be included within a Mobility Management scheme are:**

- initiating the start of Mobility Management
- "selling" the concept (e.g. to potential funding bodies, decision takers, own staff)
- linking up with and gaining the support of the end-users (considering user-participation)
- coordination between all important stakeholder
- securing finances
- involving qualified personnel and possibly external experts
- creating ownership (i.e. identification with and support for the MM measures)
- setting up a plan (including baseline analysis, specification of concrete goals, strategies, responsibilities and milestones)
- realising planned activities
- controlling the process and results
- feeding back results
- revising the plan if necessary.

**MOST made Mobility Management more accessible** by giving more insight into the process of Mobility Management. Only when the static elements of Mobility Management are linked into a coherent concept adopted to local needs the approach can unfold its potential.

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<sup>29</sup> cf. MOMENTUM Final Report (2000), p. 44



### 7.3 Mobility Management - an effective strategy: promising evidence and results

When looking at the large variety of results of MOST, results that provide evidence about positive impacts of Mobility Management are probably among the most important ones for convincing potential followers, decision takers and funding institutions. **Evidence of positive impacts of mobility management could be found on different levels.** Sites managed to:

- increase awareness
- promote Mobility Management and its different options among decision makers, financing bodies
- develop new mobility services
- enhance the accessibility of certain destinations and, hence to increase opportunities for modal choice
- increase the use of sustainable modes (or slow down / stop a negative trend)
- reduce car use (or work against the continuous growth)
- address traffic and air quality problems

The following table gives an overview on some of the measurable impacts Mobility Management had on a change in actual mobility behaviour as measured through

- 1) usage of offered services or alternatives
- 2) mode shift<sup>30</sup>
- 3) car use reduction<sup>31</sup> and
- 4) km or emission reduction.

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<sup>30</sup> and

<sup>31</sup> It should be noted that the *percentage* changes in mode shares or car use are based on the *relative* change in mode shares, as a percentage, *not* as the *difference* in percentage points. Thus a reduction in car use from 20% to 15% is a 25% reduction, not a 5 percentage point reduction.



(PM 10: Particulate Matter 10 parts per million; MM: Mobility Management, PT: Public Transport)

MOST Site	Participation/ Usage	Mode Shift	Car Use Reduction	km or Emission Reduction
Limburg, MM for schools	75% of parents participated in car free school week	Bike/walk ↑ 3.5% among students	Car use ↓7%	
Camden, MM for administration, car free day			Car use ↓12% among staff	PM10 ↓11% on car free day
Zug, MM for weekend tourists, esp. families	452 people on 8 Action –Days (an average of 56 persons per day)	Most participants used alternative modes or carpooled (only 14%-23% drove to events)		
Málaga, MM for tourists	6,100 tourist bus tickets/month			
Sandwell, MM for hospital staff	100+ PT season passes sold; 40 scooter users			
GKK Graz, MM for outpatient medical centre		Observed reduction of cars parked on-site		
Bremen, MM for leisure site		25% of PT users came by car last visit; 51% of visitors came by car, compared to 50%-72% in before case		
Karlstad, MM for university	50% of students use free PT pass	More students cycling to University		2,872 km saved per participating student or staff per year
Münster, MM for residential area	Car ownership ↓; carsharing ↑			
Málaga (PTA), MM for business park		Carpool use ↑ 46% PT use ↑ 34%	Car use ↓ 12%	
Athens, car free days		PT use ↑ 20% comparing the mode share of 2 subsequent car free days	Car use ↓22% between car-free days	
Rotterdam, MM for sports event		PT use ↑ 60% during Marathon	Car use ↓ 38% during Marathon	
Rome, MM for pilgrims during Jubilee year	366,000 riders on new J-lines			
Lund, MM for whole city		9% of residents changed travel habits		Each bike rider saved 4,300 km per year; each bus rider saved 2,800 km per year
Rome, MM for companies	1,700 discounted annual PT passes sold; 730 carpoolers registered			



## 7.4 Mobility Management - optimising the process of implementation, overcoming barriers

**The national, regional and local frameworks are known to be an important factor for facilitating Mobility Management.** MOST for the first time has undertaken a structured analysis of those frameworks. This has resulted in a report, detailing the frameworks on a local, national and European level. Countries can learn from each other to see that certain policy tools work even under distinct preconditions.

MOST elaborated **the P.A.I.R. scheme to guide policy makers** to detect the most important barriers and support structures for Mobility Management in their city, region or country. It identifies four important domains – to watch for improvement or to develop strategies: **P**olicy (high level guidance), **A**ctors and Structures (including personnel, organisations and governance), **I**ntegration on all levels (modes, transport and non-transport policies.), and **R**esources (financial and knowledge resources, quality management).

**MOST prepared a close linkage of quality management to mobility management:** emphasis was laid on the implementation process itself. By applying the total quality management tool, the EFQM analysis, the role of convincing leadership, qualified personnel, a vision to follow as well as participation of users and stakeholders became clear.

By adapting the EFQM- model for MOST, new **insights were gained into the barriers to smooth implementation and how to overcome them** This includes organisational, political and legislative barriers. Examples are the competition between (adverse) objectives of involved stakeholders and the problem of overcoming borders between administrative departments. Experiences in MOST also clearly show the importance to watch side effects of measures in order to prevent counteractions.

The adapted EFQM analysis proved to be a valuable tool for self-assessment. **Regular self-assessment should be a standard procedure in order to control the course of the project and the quality of the outcomes.** This feedback helps to detect weak points and undesired developments. Original plans can be adapted and the process can be optimised.

MOST proved, that Mobility Management can successfully be triggered and implemented by various clients (most common are city or regional administrations or PT providers), as long as they seek cooperation and good coordination. Whenever sites in MOST failed to get the important stakeholders aboard in the very beginning of the project, delays or a counteractive atmosphere hampered a smooth course later and were hard to alter. **So the involvement of different stakeholders is essential.** The private sector is starting to take responsibility. Enhanced Public-Private-Partnership will play a considerable role for the future of Mobility Management.

Overall, MOST has underlined earlier findings that it is people and commitment that count on the way to success. Implementing the right organisational structures is an important step to sustain the activity. Basically, Mobility Management can be applied in any situation where mobility and accessibility should be improved.



## 7.5 Comprehensive Monitoring and Evaluation - a key to success

Mobility Management will only become widely spread and accepted if the results and positive impacts of Mobility Management are reported to initiators, funding institutions, potential followers and decision makers. MOST focussed on detailed and robust evaluation to obtain such results. **MOST defined evaluation standards already in the beginning** of the project (as already suggested by MOMENTUM). Hence, comparisons between the demonstration sites were facilitated. Still, this was not easy and sometimes not possible or relevant. This is also due to the broadly varying scale and scope of Mobility Management – from a mobility plan for a small business to a regional tourism scheme.

The MOST-MET – **the Monitoring and Evaluation Toolkit** – is built on assessment levels (originally from MOSAIC, but refined according to the lessons learned in MOST). These levels reflect the whole range of impacts Mobility Management can have, reaching from changes in awareness and mobility behaviour to impacts on the transport system in general. Important input was taken from the TAPESTRY model for behaviour change and from the considerable USA evaluation experience. Both were integrated into the final version. **The MOST-Monitoring and Evaluation Toolkit is available to the public in an optimised version. It will help future projects to obtain demonstrable, visible results.** This will help to keep all participants motivated and to convince decision makers to include mobility management in the agenda and integrate it into daily transport policy.

In the investigation of the process of implementation **MOST adapted the general EFQM model for Mobility Management. Result is a new questionnaire for the self-assessment** of the quality of the local projects through the relevant stakeholders. It was tested for selected demonstrations and proved to support the planning and implementation process well. It helps to identify barriers and ways to overcome them.

## 7.6 Mobility Management - spreading good practice

Mobility Management needs further promotion, many aspects are still new for some regions, while they are already well-established in others. By involving more than 30 demonstrations in 13 countries, **MOST in itself has been a contribution to enlarge the network of Mobility Management.**

Serving as best practices, **all demonstrations will be included in the ELTIS and the EPOMM data bases. The updated MOST web site (<http://mo.st>) will stay online for at least another year.**

**MOST has summarised all important results in a brochure.** It is planned to be translated into Dutch, Swedish, French and German.

**All dissemination products** (former newsletters, general leaflet, pens and writing pads as well as the last brochure) **will be gathered in special MOST folders and spread** via the MOST sites, international networks as well as the newly established contacts and channels in the candidate countries. This will be supported by the utilisation of networks in other sectors like environment, energy or health or networks



in candidate countries and the USA - mobility issues should become an integral part of their action plans and abilities.

**Presentations at international conferences will be held**, the most prevalent event being ECOMM 2003 in Karlstad. Here, a panel presentation as well as a MOST work shop will be organised.

There will be a final Powerpoint Presentation including all important findings.

## 7.7 Mobility Management - an outlook

The main issues MOST has contributed to, can be grouped along the following lines: 1) new applications for Mobility Management, 2) effects of Mobility Management, 3) policy integration. There still remains work to do, both in research and in practice. This final chapter gives an outlook, without claiming to be complete.

### *New Applications*

It has been **established** that Mobility management for schools, companies and hospitals is effective. **Other areas** (such as tourism) **need further development**. For **temporary, large events** Mobility Management should become a standard procedure: cultural festivals, sports events or exhibitions are generally large traffic generators and MOST has shown ways to cope with the crowds. Another area with a high potential is the **early integration of development planning and Mobility Management**. Here, activities for business sites are increasing (especially in the UK and the Netherlands), and ever more car-free housing residential areas are being developed.

The discussion on the **right target group** has often focused on the dichotomy of either convincing the sole car driver or bringing better service to existing customers. The work with the mobility centres shows that the occasional user of public transport should be the primary target. Mobility Management is not so much about a full switch from car to other modes, but more on incremental changes to more sustainable modes or on keeping their often fragile share stable.

The disabled were among the target groups in some MOST demonstrations. There is still a great demand for more demonstration projects, particularly addressing ways to diminish the "mental" barriers, i.e. to plan and guarantee for **autonomous mobility of disabled people** and to integrate them into the transport modes and transport planning for the fully mobile users.

In MOST, **Information Technologies** have been considered as additional channels for information, promotion or reservation. Their potential, however, is larger and needs further attention, (e.g. possibilities how far a "virtual mobility centre" might take over certain functions of a "traditional" mobility centre, could be investigated). Personal service will always remain important, but the fast developing fields of internet, increasingly versatile mobile information and also **telematics** will have an impact on mobility and, hence, Mobility Management should prepare to take up evolving challenges and new possibilities.

The development of small, clearly discernible, distinct service packages could make Mobility Management more marketable and more accessible for the decision makers.



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### ***Effects of Mobility Management***

In general, **impacts of Mobility Management** deserve further investigation. Despite the fact that evaluation results help to control progress and provide good arguments for the decision makers and funding bodies, not many Mobility Management projects integrate profound evaluation in their planning. With the MOST- Monitoring and Evaluation Toolkit a valuable tool is available to eliminate this deficiency.

Mobility behaviour usually builds on strong habits, which cannot be changed all at once. Many changes only occur gradually, which is why larger impacts of Mobility Management often only occur in the long run, especially on a system level (e.g. congestion, air pollution).

Some insight has been gained on the long-term run of mobility centres - but as the mobility centres had rather small roles in MOST, no in depth surveys could be conducted. Results and conclusions about the mobility centres base on routinely collected data. Difficult questions requiring elaborate surveys – like the impact of the mobility centres on the users' mobility behaviour – could therefore not be addressed.

All this emphasises **the need for more investigations of long-term impacts of Mobility Management**.

**Further investigation is also needed on the costs and benefits of Mobility Management.** Many measures were integrated with other – hardware – measures, for example in Rome or Malaga (introduction of new or extra busses). Often it turned out to be difficult to attribute costs – or even to get the costs – as for example equipment, personnel and so on was shared. To find the answer to the question of how many extra trips on public transport are made just because of the existence of a mobility centre is very difficult – it requires in depth multiple surveys.

To be able to do this sort of research, it would be necessary to set up a research project, in which the rules of evaluation are clearly set beforehand. The demonstration projects to be researched would be selected after that – and on the condition that they strictly adhere to these rules and prove to be able to do this – e.g. with the reservation of adequate resources for evaluation.

### ***Policy Integration***

On the basis of the European-wide framework analysis conducted in MOST, a range of recommendations are given as to how to improve existing frameworks to make them more supportive for the implementation of mobility management schemes. For most countries the main task will be to achieve the shift **from a mainly supply-oriented transport policy to a more balanced approach that firmly establishes the demand-side as well**. Here, the key is a multi-modal understanding and multi-modal organisation, e.g. of administration departments. In the medium run the mode of governance needs to be developed towards a co-operative and communicative style, especially as Mobility Management needs public and private partnership. The main barrier at this time is not so much the technical knowledge about how to introduce Mobility Management, but rather the mental disposition to change the nature of transport policy.

A key issue will be to forge **links towards non-transport policies** such as energy, health, environment, housing, planning, business development etc.



Mobility Management definitely plays an important role when **integrated into comprehensive transportation programmes**. It would be promising to gain more knowledge about which are its specific contributions, e.g. how it could help to maximise the ridership of a new light rail system or how it might be introduced in conjunction with a traffic restraint policy.

**Quality Management proved to be a good support** to Mobility Management. The work with the adapted EFQM model illustrated this. But it has not been tested on a wider basis, and its potential to systematically structure the process and support the co-ordination between the relevant stakeholders has not been explored. **The benefits of quality management needs further research**, to develop strategies to integrate it into the whole planning and implementation process.

As this outlook shows, there is still considerable work ahead. MOST has advanced the knowledge on many questions, but new questions have come up. This should not lead to hesitation – the work on Mobility Management has generated a body of good experience for any practitioner to start. The development within the project and beyond leads the MOST consortium to the expectation that Mobility Management will further establish itself as **a standard procedure** for all involved in transport matters – both in the public and the private sector.



## 8 MOST Partners

### Abbreviations:

CL: Cluster Leader

WPL: Work Package Leader

QC: Quality Control

SB: Scientific Board

### Coordinator:

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## 9 MOST Glossary of Terms

**!** In this report, we tried to avoid project language. However, to understand other Deliverables or contents on the web site, this general glossary of terms will help.

**After data:** data which is collected after a certain Mobility Management service is implemented, indicating knowledge, usage and/or acceptance of Mobility Management services, individual behaviour with respect to mode choice, system impact (overall modal split)

**Before data:** data which is collected before a certain Mobility Management service is implemented, indicating knowledge, usage and/or acceptance of Mobility Management services, individual behaviour with respect to mode choice, system impact (overall modal split)

**Cluster:** thematic field according to the focus of the demonstration activity of a site. 6 fields were covered in MOST: Educational Institutions, Tourism, Health Institutions, Site Development, Temporary Sites and Events, Mobility Centres and Mobility Consulting.

**Cluster Leader:** person serving as communication link between Management Committee and MOST Demonstration Sites

**Cluster Partners :** = Sites, MOST Partners who implemented Mobility Management as demonstration projects. There were more than 30 sites located in 13 European countries.

**D 3, D 5, D 7:** official Deliverables of MOST, available via the official MOST web site once approved: <http://mo.st>

**D 3:** Combined Report on monitoring, evaluation and state of the art

**D 5:** Implementation and Evaluation Report on all MOST Partners.

**D 7:** Combined report on the design, implementation, monitoring & evaluation of future Mobility Management-projects: key recommendations from MOST

**ECOMM:** European Conference on Mobility Management. Yearly conerence of EPOMM.

**EFQM:** European Foundation for Quality Management. The EFQM has provided a total quality management tool, which is publicly accessible and serves to assess the success of any project or organisation (see e.g. [http://www.efqm.org/new\\_website](http://www.efqm.org/new_website)). On the basis of this, the MOST project developed a questionnaire and process to assess the implementation process of Mobility Management.

**EPOMM:** European Platform on Mobility Management. European network of member states and Mobility Management experts to promote and strengthen the concept of Mobility Management. Member states are Austria, Flanders, France, Italy, Netherlands, Sweden, United Kingdom (more on <http://www.epomm.org> ).

**Evaluation:** data analysis, the processing of the data found and the analysis that will lead to conclusions and interpretations



**Followers** / Information providers: the size of the MOST sites differed with respect to financial contribution by the EC and their scope of the local projects. The Followers and Information Providers only had marginal budgets to report their experiences while implementing Mobility Management (be it current experiences as for the followers or past experiences as for the information providers).

**Information providers** (see: Followers)

**INPHORMM**: "INformation and Publicity Helping the Objective of Reducing Motorised Mobility" (1996-1999, Transport RTD programme within 4<sup>th</sup> framework programme of the European commission). This research project investigated how transport information and publicity/marketing campaigns can influence people's awareness, attitudes and travel behaviour and encourage cycling, walking, the use of public transport and other environmental friendly modes.

**Management Committee**: MOST was steered by a Management Committee of 7 organisations. The Management Committee was responsible for the conceptual and common definition of Mobility management, the scientific approach as well as for quality control.

**MET**: the Monitoring and Evaluation Toolkit was designed by the Management Committee (WP 3) as guidance for the MOST sites to assess their projects' impacts. The overall goal was to provide them with a tool, which at the same time enables comparisons between the different MOST sites regarding the impacts of their activities. This should lead to general conclusions. The MET is part of the approved report D 3, which is available via the MOST web site at <http://mo.st>. An optimised version is planned to be put online in April 2003.

**Mobility Management**: Mobility Management supports and encourages change of attitude and behaviour towards sustainable modes of transport. It is primarily a demand-orientated approach to passenger and freight transport. Its tools are usually based on information, communication, organisation, co-ordination, and require promotion.

**MOMENTUM** "Mobility Management for the Urban Environment", the forerunner project to MOST (1996-1998, Transport RTD programme within 4<sup>th</sup> framework programme of the European Commission). Within the framework of this EU-project a survey of the present state of mobility management strategies in Europe was conducted. One main focus of the project was the implementation of demonstration projects (mobility centres, company mobility plans) at 12 different sites. As a third step, preparation measures for brochures and conferences were initiated. Together with MOSAIC, a manual on Mobility Management was published.

**Monitoring**: data collecting, the actual gathering of useful information for further evaluation.

**MOSAIC** "Mobility Strategy Applications In the Community" (1996-1998, Transport RTD programme within 4<sup>th</sup> framework programme of the European Commission). Similar to MOMENTUM, MOSAIC was a forerunner project to MOST. It created a common conceptual understanding of Mobility Management strategies and tested it at demonstration sites. Together with MOMENTUM, a manual on Mobility Management was published.



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**MOST sites** (also: Cluster Partners): cities, administrations, public transport providers, who implemented Mobility Management as demonstration projects and evaluated them. There were more than 30 MOST sites located in 13 European countries.

**PT:** Public Transport

**TAPESTRY:** "Travel awareness, publicity and education supporting a sustainable transport strategy in Europe" (2000-2003, Transport RTD programme within 5th framework programme of the European Commission).

**Work Package:** MOST consisted of 4 Work Packages to manage the project (Conceptual Framework, Policy and Implementation, Monitoring and Evaluation, Dissemination)

**More information: <http://mo.st>**



## **10 Appendix: Overview Tables on all MOST Sites**