

Final Report for Publication

MOSAIC
UR-95-SC.165

Project

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Project Duration:

01.01.1996 to 31.12.1998

Date: 17. May 1999

**PROJECT FUNDED BY THE EUROPEAN
COMMISSION UNDER THE TRANSPORT
RTD PROGRAMME OF THE
4th FRAMEWORK PROGRAMME**

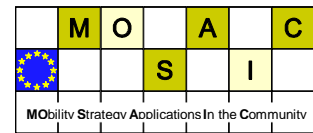


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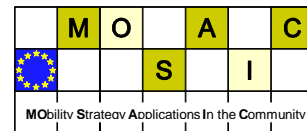


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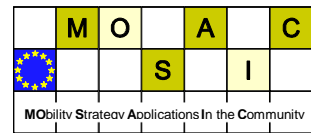
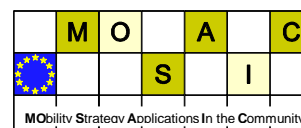


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1 INTRODUCTION

1.1 PARTNERSHIP

Full Partners

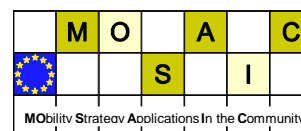
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1.2 EXECUTIVE SUMMARY

INTRODUCTION

This report describes the final results of the MOSAIC project. MOSAIC (**MO**bility **S**trategy **A**pplications **I**n the **C**ommunity) was a three year research project which began in January 1996. It was funded by the European Commission Transport Directorate, DGVII, and had three primary objectives:

- to improve the understanding of Mobility Management
- to demonstrate Mobility Management concepts in a variety of settings in different countries
- to disseminate the findings to assist in the development of effective Mobility Management strategies.

There were project partners and demonstration projects in the UK, Germany and the Netherlands. The MOSAIC partners worked closely with the partners in a related project led by the Commission entitled MOMENTUM.

DEFINITION AND OBJECTIVES OF MOBILITY MANAGEMENT

The MOSAIC and MOMENTUM partners have jointly developed the following definition of Mobility Management:

Mobility management is primarily a demand orientated approach to passenger and freight transport that involves new partnerships and a set of tools to support and encourage change of attitude and behaviour towards sustainable modes of transport. These tools are usually based on information, communication, organisation and co-ordination and require promotion.

The objectives of Mobility Management can include:

- Encouraging greater use of sustainable transport modes
- Improving sustainable accessibility for all people and organisations
- Increasing the efficiency of use of transport and land use infrastructure
- Reducing traffic (growth) by limiting the number, length and need for motorised vehicle trips

Section 3 describes some of the principal features of Mobility Management and its relationship to other parts of the transport planning framework.

REASONS FOR MOBILITY MANAGEMENT

In recent years there has been much concern about society's ever increasing reliance on the private car and the associated costs in terms of congestion, pollution and safety and the effect this has on those without access to a car. This concern has led to a number of initiatives which have in turn contributed to the development of several new approaches to transport planning which are aimed at encouraging the use of alternative modes and developing a more sustainable transport policy. Section 4 provides an overview of the

reasons for Mobility Management and the kind of problems that can be solved by Mobility Management both at a regional/city level and at a site level.

CONCEPT OF MOBILITY MANAGEMENT

Figure 1.2-1 shows the different elements that make up the concept of Mobility Management and the different organisational levels at which Mobility Management operates – the Policy Level, the Management Level and the User Level. It also distinguishes between activities on an urban/regional level and at a site level as Mobility Management could be introduced at either or both of these levels.

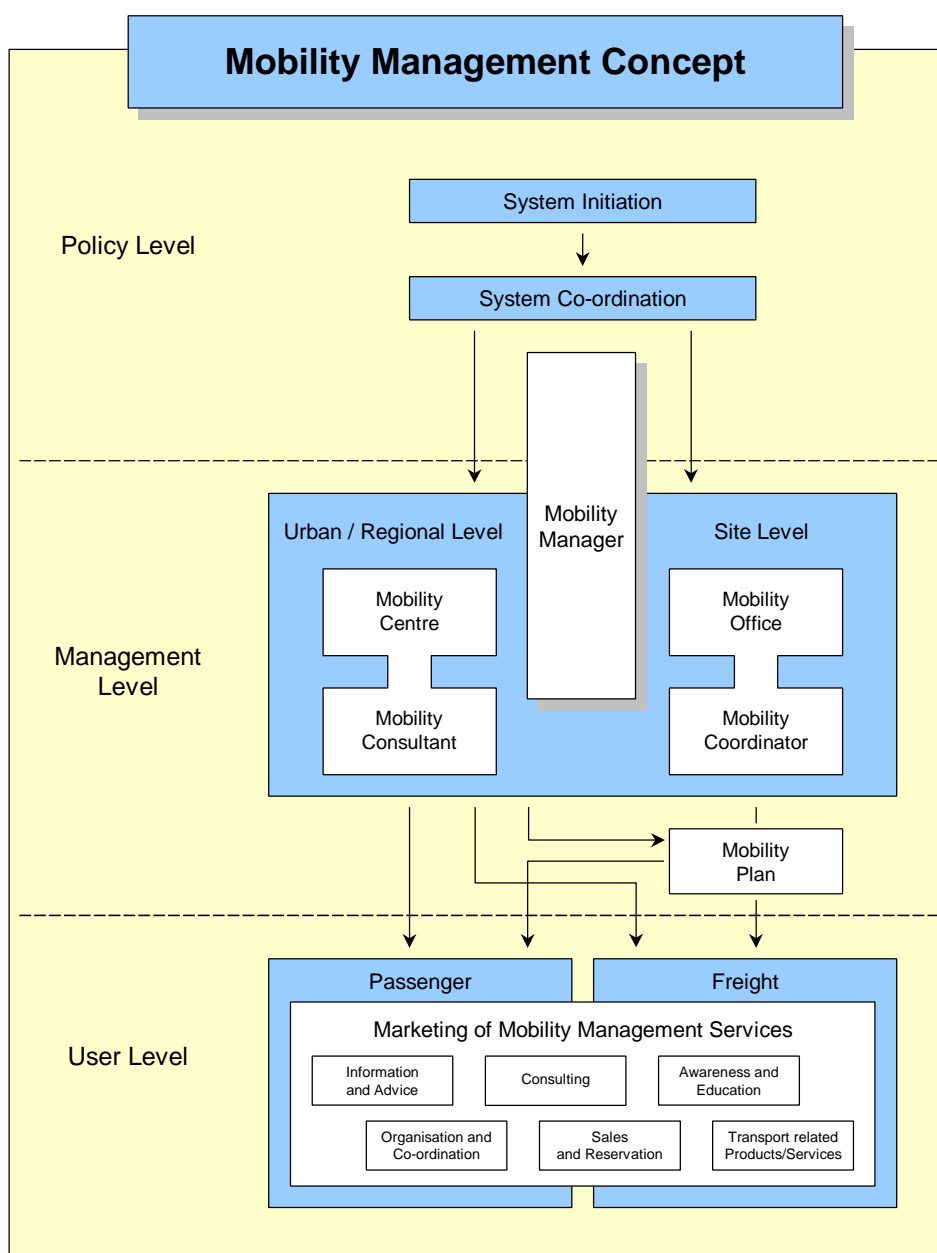
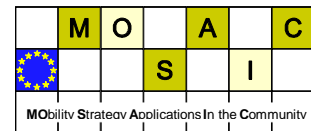


Figure 1.2-1: Mobility Management Concept



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The Policy Level mainly involves local authorities and transport providers and is where Mobility Management is initiated and supported with promotional and lobbying activities. The Management Level is responsible for organising Mobility Management. This could be at an urban/regional level, where a local authority might be responsible for providing services for a whole city or region, or it could be at a site level where services are provided by an organisation exclusively for users of that site.

A Mobility Manager is defined as providing the link between the Policy Level and the Management Level and is responsible for the introduction and development of Mobility Management within a particular area. A Mobility Consultant would be responsible for providing Mobility Management services at an Urban/Regional Level and also for encouraging their adoption at Site Level. Users of such services could be the general public, schools, employment sites or leisure centres. Services could also be offered through a Mobility Centre which is an operational unit offering a wide range of Mobility Management services with public access. A similar unit at a site level would be called a Mobility Office and access would be restricted to users of that site. Day-to-day responsibility for the running of a Mobility Office would be undertaken by a Mobility Coordinator whose role is also to set up and run a Mobility Plan for one particular site or a group of linked sites. The Mobility Plan is a comprehensive document that includes all specific Mobility Management measures and describes how they will be implemented for a particular site or group of sites.

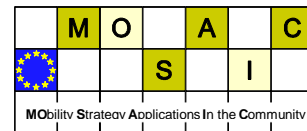
Section 5 describes all of these elements in more detail and also describes the services which Mobility Management offers.

APPLICATIONS OF MOBILITY MANAGEMENT

Section 6 summarises the design and implementation of each of the three MOSAIC demonstrators. Each of the demonstrators was assessed using a common approach in order to ensure, as far as possible, comparable results for the individual pilots in the three different countries. Assessment in the MOSAIC project focuses on user reactions to each demonstrator and is grouped into five levels:

- **Knowledge level** – to assess whether or not potential users know about Mobility Management at all and, if so, which services are best known.
- **Usage level** – to assess whether or not potential users actually use Mobility Management services and, if so, which services are used and how often.
- **Acceptance level** – to assess whether or not potential users followed Mobility Management advice and, if so, which services they were satisfied with.
- **Individual behaviour level** – to assess whether or not potential users changed their travel behaviour and, if so, how did they change (mode choice, time of travel, destination, trip frequency etc.).
- **System impact level** – to assess the changes in traffic flow, mode choice, emissions and energy consumption etc.

The first three levels (knowledge/usage/acceptance level) refer to user reactions (for example, private individuals or companies with a mobility plan) which can be assessed through surveys, counts and various types of interviews (these are called 'category 1 effects'). Levels 4 and 5 (individual behaviour and system impact levels) focus on changes in travel behaviour and the resulting impacts on the transportation system (these are



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called 'category II effects'). MOSAIC concentrated on the assessment of category I effects or the short term effects of Mobility Management.

Brief summaries of each of the demonstrators and the assessment findings are given below. Further details can be found in the following reports:

- Deliverable 3 - Wuppertal Demonstrator
- Deliverable 4 - Nottingham Demonstrator
- Deliverable 5 - Netherlands Demonstrator

Wuppertal Demonstrator (Germany)

The German demonstrator focused on a Mobility Centre in the City of Wuppertal which is located 30 km east of Düsseldorf and about 50 km north-east of Cologne. About 400,000 people live within the city itself with a further 300,000 people living in the neighbouring cities of Solingen and Remscheid which form part of one conurbation with Wuppertal.

WSW, the local public transport operator, first opened a Mobility Centre in March 1995 providing public transport related services for the city and region. In January 1996, the Mobility Centre became part of the MOSAIC project allowing it to expand the range of services on offer. It now offers about 60 different services, for both passenger and freight transport, and covers all modes.

The Mobility Centre is located in the central pedestrian zone and has seven staff, 6 from WSW and 1 from German railways. It handles approximately 8000 enquiries per month, about a third are personal visits and the rest are by phone.

WSW also employs 6 Mobility Consultants who advise private individuals in companies and institutions, schools and kindergartens, private households, retirement homes and pedestrian zones.

About a third of the population of Wuppertal are aware of the Mobility Centre, largely due to its central location in the heart of the pedestrian zone. The best known Mobility Centre services were those related to public transport. The services provided for the MOSAIC pilot project, such as car sharing or information on available parking spaces, were less well known. It is estimated that about 1% of the residents of Wuppertal are users of the Mobility Centre. The typical customer being female (71%), having a driving licence (73%) but no car (64%), has a monthly season ticket for public transport (67%), is employed (46%) or retired (27%) and aged 30-40 (24%) or over 60 (31%). 84% of the information provided is followed by the customers and there has been a small but recognisable shift from private to public transport.

Nottingham Demonstrator (UK)

For the purposes of the MOSAIC demonstrator Greater Nottingham was defined as the built-up area created by the City of Nottingham and its surrounding suburbs. The area is located about 190km north of London and has a population of around 560,000, around half of whom live within the City boundaries.

Funding was provided through the MOSAIC project for a Mobility Consultant to take the idea of Mobility Plans (known locally as Green Commuter Plans) to local employers in Nottingham and to encourage them to adopt plans. The Nottingham Mobility Consultant makes initial contact by letter, then, where organisations are willing a meeting is arranged during which the Consultant can determine the possibilities for establishing a Mobility Plan

and offer advice as to how to get started. After the initial meeting the Mobility Consultant must maintain contact with organisations to ensure that the initial interest is sustained and to offer help and support where it is needed. However, it is not the work of the Mobility Consultant to actually design a Plan for an organisation and this is left to the organisations themselves to do. This ensures the Plan is best suited to a particular organisation's needs and increases the likelihood that proposed measures will be adopted.

The assessment at the end of the demonstrator focused on examining the effectiveness of a Mobility Consultant working within the City Council in encouraging the implementation of Mobility Plans rather than the impact of individual Plans. It included both Active organisations (those which were involved in Commuter Plans before MOSAIC started or which had become involved as a result of MOSAIC) and Inactive organisations (those which had been contacted by the Mobility Consultant but had not got involved and those which had not been contacted).

Only 6 of the 36 'not contacted' organisations had heard the term 'Green Commuter Plan' before and over half of the other organisations first heard the term through contact with the City Council. Reactions to the initial meeting with the Mobility Consultant were positive with 9 out of the 19 organisations interviewed who had a meeting describing it as very useful and 6 as quite useful. The majority of the 23 Active organisations thought that the level of assistance they received from the City Council on Green Commuter Plan issues was what they needed.

Success in persuading an organisation to get involved in Mobility Management may partly be simply a matter of contacting them at the right time. This is indicated by the fact that almost half the organisations surveyed who had been contacted by the Mobility Consultant and had not taken the idea any further at the time said that they would like someone to contact them to discuss developing a Green Commuter Plan.

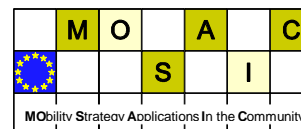
A total of 32 (out of a possible 108) organisations with more than 200 employees in the City are now actively working on Green Commuter Plans. Ten of these were involved before the MOSAIC project started but in the 18 months since the start of the demonstrator, 22 organisations (or more than a fifth of the remaining 98 organisations) have been encouraged to get involved in initiatives to reduce car use for the journey to work.

The Netherlands Demonstrator

The role of MOSAIC in the Netherlands was slightly different than in Germany and the UK and the main task of the Dutch demonstrators was the monitoring of three different initiatives. These initiatives were a commuters' newspaper in North Netherlands, a Mobility Office in Utrecht and a Mobility Consultant for the Leiden Region.

The commuters' newspaper is published to encourage commuters to start a car-pool and use more sustainable transport. Initially, the target group was a small group of employees of selected companies in the Groningen transport region (population 170,000). From January 1996, the paper was issued in the whole of the North Netherlands region (Groningen, Friesland and Drenthe). Surveys were undertaken in November 1995, October 1996 and July 1997.

The number of respondents who had ever heard about the commuters' newspaper increased significantly over the years, as had the number who had ever seen the newspaper. Between the second and third reviews the number of respondents who had read the paper increased significantly but unfortunately there was no significant increase



in the acceptance of car pooling over the years. Only small proportions of the respondents had ever placed, or responded to, an ad for a car pool partner indicating that the influence of the newspaper on the behaviour of commuters is very small.

The Mobility Office in Utrecht (population 236,000) is situated outside the city centre, near the University and the Academic Hospital. It aims to reduce car use by commuters and to increase the accessibility of public companies in the area. The main task is to provide information to the participating companies. In addition, the Mobility Office has developed a Mobility Plan for the whole area and organises regular consultations with the public transport companies operating in the area.

Surveys were undertaken with two of the participating organisations in 1991, 1992 and 1994 to analyse the changes in individual behaviour. Between 1992 and 1994, the distance travelled increased for all modes at the university but decreased slightly at the hospital. The use of the car for business trips had declined at the university whilst the use of public transport had increased. However, car use for business trips among hospital staff was still growing whilst public transport use remained stable. Therefore, the changes at individual level are small.

In the Leiden Region a Mobility Consultant was appointed to visit, inform and stimulate companies to develop Mobility Management initiatives. The Mobility Consultant was employed by the Foundation 'Rijnland Mobiel' which is financed by central government and acted as a link between the government, companies and Mobility Management service providers.

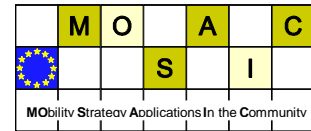
The companies contacted represent around one third of the total number of companies in the area. Therefore, it is assumed that around 30% know about this demonstrator and the related activities and services. Sixty to seventy percent of the companies that know about the demonstrator are interested in the services of the Mobility Consultant. This is seen as an indicator of the usage of the demonstrator. When Mobility Management measures have been introduced or when a company continues with Mobility Management independently, it can be concluded that Mobility Management is included in the company policy. Between June 1996 and June 1997, the percentage of companies that had introduced some Mobility Management measures increased from 2 to 8 %.

KEY FINDINGS AND THEIR TRANSFERABILITY

To a certain extent the success or failure of the concepts included in each of the MOSAIC demonstrators depends on local circumstances and opportunities. The aim of Section 7 is to discuss the transferability of the findings and experience from each of the demonstrators within the participating countries. It starts by summarising some of the key findings and experience for each of the Mobility Management elements with a discussion of the significance of scale and the appropriateness of the measures in different size urban areas or for different size sites. A number of factors are considered when discussing the transferability of the different Mobility Management elements. These include the ownership and regulation of public transport, the legislation and taxation systems, political support for sustainable mobility, the perceived severity of traffic and parking problems and the land-use planning system.

Mobility Manager

The role of a Mobility Manager is to take overall responsibility for developing and promoting Mobility Management in a particular city/region. The Mobility Manager can be



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based at or closely linked to the local authority or the central or regional government, but it can also be based at (for example) a local public transport provider or a non-governmental environmental organisation.

The extent to which Mobility Management is supported by local, regional or national policy influences the role and appearance of the Mobility Manager. In a situation where Mobility Management is a key element of transport policy, the Mobility Manager is likely to be closely linked to local, regional or national government. Where Mobility Management is at a very early stage of development, promotion, lobbying and obtaining funding will be the main task of the Mobility Manager. The further Mobility Management develops towards a well established part of transport policy, the more the focus of the Mobility Manager will shift from initiating projects to supporting a continuous process of evaluation, modification and expansion.

Mobility Centre

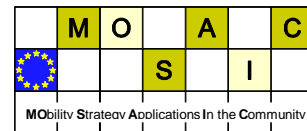
Mobility Centres should have a central, inner city location, if possible in the pedestrian zone and should have ground floor access for the disabled or elderly. They should be accessible 24 hours a day and 7 days a week, at least by phone, and should be open to personal callers during normal shop opening hours. Personal access to the Mobility Centre should always be offered. The financing and operation of a Mobility Centre can not be achieved without the formation of alliances. In addition, agreements concerning the operation of a Mobility Centre must be reached with providers of certain services (e.g. car rental companies), in order to ensure that a comprehensive and complete range of services can be offered to the user.

The efficiency of a Mobility Centre depends largely on the number and type of incoming enquiries and the local knowledge of the personnel. On the basis of past experience it has been found that these two factors are optimised for mobility centres in areas with more than 100,000 inhabitants. For urban areas with less than 100,000 inhabitants, regional mobility centres could be set up covering a number of towns. In thinly populated areas or very large urban areas it may be worthwhile setting up several decentralised mobility centres.

Mobility Consultant

A local authority based Mobility Consultant is a successful way of encouraging organisations to adopt Mobility Plans. A site meeting is a good opportunity for the Mobility Consultant to introduce Mobility Plans in more detail and to learn about the organisation, its site and its staff. As the work of introducing and implementing a Mobility Plan involves a lot of time and energy it is very important for the Mobility Consultant to take time to encourage and support the site-based Mobility Coordinators. Regular meetings for all participating organisations are a very effective way of encouraging them to share ideas and experience. They also provide an excellent opportunity for the Mobility Consultant to renew and develop contacts with employers.

The alternative approach of Mobility Consultants appointed by a public transport company was considered successful with regard to non-profit organisations but there were difficulties in persuading private organisations to accept the advice provided (the Consultants were considered to be biased towards public transport). There are additional areas of activity for such Mobility Consultants as providers of advice to educational establishments, residential homes for senior citizens and private households.



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The role of Mobility Consultant is transferable to urban areas of any size but is only likely to be appropriate where the problems of congestion, air pollution and/or accessibility are such that organisations can be convinced of the need for Mobility Management. Even in urban areas with a population of less than 100,000 a Mobility Consultant could be very successful if the area suffers from severe traffic problems, especially if these problems are associated with one or two large employment sites and these sites are targeted. In an urban area of 500,000 population or greater the Mobility Consultant role may be too big for one person in and it may be necessary to employ two or more people to undertake this work. The Mobility Consultant appears to be most successful with the very largest organisations (500+ employees) and such organisations should be encouraged to introduce Mobility Management first.

Mobility Office

It is important that the Mobility Office should be well-equipped, in particular, it should have good IT facilities so that the Mobility Coordinator can provide information by computer where appropriate, design posters, install a car-pooling database etc. The Mobility Office does not necessarily need to provide physical access as long as the Mobility Coordinator can be contacted by phone and/or email.

The applicability and role of a Mobility Office in organisations of different sizes will vary, not only due to the number of staff they employ but also due to the nature of their business. In organisations where most staff work at desks and have access to a computer, a virtual Mobility Office distributing information via email should be set up. For other types of employment, for example manufacturing, a different approach will need to be adopted and it may be appropriate to have some form of public access office.

Mobility Coordinator

Organisations with a Mobility Coordinator are more likely to benefit from mobility advice since it is easier for them to have more frequent contact with a Mobility Consultant. Mobility Coordinators also act as a point of contact within the organisation and need to be well known throughout the organisation so that employees can approach them with complaints, queries and their own ideas for the Mobility Plan. The Mobility Coordinator needs to be sensitive to the internal politics of the organisation they are working in and must have good support from senior management since difficult decisions will need to be made in terms of changing existing policies and in allocating adequate resources to the work of the Mobility Coordinator. Experience suggests that the most successful Mobility Coordinators tend to be based within the Estates or Facilities Management functions of an organisation. There are examples of Mobility Coordinators employed elsewhere in organisations but this does not seem to work as well.

On sites employing very large numbers of staff (over 1000) and where there are severe parking or access problems which need to be solved then it is unlikely that much progress would be made unless a full-time Mobility Coordinator is employed. For organisations with fewer than 1000 staff, unless they have a lot of issues which need to be dealt with, then it is unlikely that a full-time Mobility Coordinator would be employed and it is more likely that the role would form part of another job.

Mobility Plan

The voluntary approach to encouraging Mobility Plans works best where companies are convinced of the benefits that a Mobility Plan will offer them and are aware of the way in

which it can solve their transport-related problems. Where companies are being pushed into writing Mobility Plans by central government or local authorities, they are less likely to see the benefits of Mobility Management and therefore to ensure implementation of the Mobility Plan. A Mobility Plan should be seen as part of a continuous process which has to be built into the way the organisation operates, in the same way as, for example, a safety policy. It should however be flexible enough that it can be revised to take account of changes in government policy or factors affecting the site. A Mobility Plan should combine push and pull measures which are feasible in that particular company or group of companies. As maintaining staff support for a Mobility Plan is very important, pull measures should be used in the first years, then later the push measures. Large employers developing Mobility Plans can have a very positive effect on the transport service providers in the city by demanding new and/or improved services and facilities.

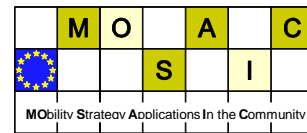
The concept of a Mobility Plan is transferable to urban areas of any size but most likely to be introduced in areas with significant traffic problems. The number of potential measures depends on the size of the company and the geographical area. For example, companies with over 500 employees could be in a position to negotiate with a public transport operator about the adjustment of the timetable and routes of buses near the company. The problem with small employers is that they are less likely to suffer from the parking and congestion problems that are the key motivators for a Mobility Plan.

Transferability in Germany

Since a large proportion of public transport companies in Germany are owned by cities and districts there is greater opportunity for them to participate in the organisation and financing of Mobility Centres. The most practical catchment areas for Mobility Centres are at the regional level (districts and cities). Since Mobility Centres are relatively familiar in Germany they could act as a catalyst for encouraging political commitment to Mobility Management in the surrounding areas.

There is currently little knowledge of other aspects of Mobility Management in Germany. There is little commitment to Mobility Management at the national level and little prospect of public funds being made available at a local or regional level to finance Mobility Managers or Consultants. However, the concept of Mobility Management does not require all elements to be implemented simultaneously so the difficulty of financing the role of Mobility Manager does not exclude the local introduction of other elements of Mobility Management. It seems likely that in Germany other elements of Mobility Management will be introduced first. There are currently only a few Mobility Consultants. Total financing of Mobility Consultants by the public sector seems unlikely due to the pressure to achieve savings. However, job creation schemes could support the establishment of Mobility Consultants if long-term financing is guaranteed by integrating the measures with local Mobility Management structures.

Although only a very few have yet been established in Germany, Mobility Offices would appear to be desirable particularly for large companies in the service sector with flexible working hours. The development of technology centres and business parks in Germany in recent years has often resulted in concentrations of numerous small companies and organisations in one location. Here too there are possible applications for Mobility Offices. Although companies and organisations could probably appoint Mobility Coordinators quickly at little cost, an outside stimulus will probably be necessary (e.g. government) due to the low level of commitment to Mobility Management at a site level. There is a generally held view in Germany that the mode of transport used for journeys to work or leisure



activities is a matter for individual choice and therefore measures with a more or less “binding” character such as Mobility Plans are often rejected in the field of transport. It can be assumed that the initiative of the industry to set up Mobility Plans voluntarily is fairly low. The future role of Mobility Coordinators and Mobility Plans in Germany will depend largely on the extent to which national government takes steps to make Mobility Management at site level better known or provides incentives to make it more attractive to companies and organisations. This process may be accelerated by increasing concerns about environmental issues and associated policies, such as Local Agenda 21 and sustainable development.

Transferability in the United Kingdom

The UK national government interest in Mobility Management has increased rapidly in the past year. However, the task of Mobility Manager is usually undertaken at a local authority level where Mobility Management initiatives have often been prompted by one or two individuals. Such people are usually involved in a much wider range of issues than just Mobility Management and are therefore able to set it in the wider policy framework of their local authority. It seems likely that national government support will grow still further in the near future and it is possible to envisage centrally funded Mobility Managers each responsible for encouraging Mobility Management in a particular region. In a UK context it seems most likely that a Mobility Manager would work in the public sector.

Virtually all public transport operators are now private companies and are, therefore, less likely to co-operate with their competitors in the setting up and running of a Mobility Centre. It might also be difficult to oblige them to provide information on other public transport services or on alternatives such as walking and cycling. There is a requirement for public transport operators to provide information on changes to their services to local authorities so they would have access to all the necessary information but, here, the main barrier at present is one of funding. In the short term Mobility Centres are unlikely to be the easiest way of introducing Mobility Management in the UK due to the problems of organising and financing them. Another possibility for the development of Mobility Centres in the UK is through Urban Traffic Control Centres, a number of which are developing Internet based information services which they hope to make more widely available in future.

Funding is also the main factor likely to limit the wider introduction of Mobility Consultants in the UK in the short term but in the longer term there is the potential for new sources of funding. There are proposals to give local authorities greater powers to raise their own revenues for transport initiatives by charging for road use or workplace parking and when these powers are available they will offer greater opportunities for funding Mobility Centres and Mobility Consultants. However, even where funding is available, for the role to be successfully transferred elsewhere in the UK, there will need to be sufficient political support at a local level to ensure that other policies (for example, land-use planning) do not conflict with the work of the Mobility Consultant. Some local authorities in the UK are now using planning agreements to legally oblige developers to introduce Mobility Plans and where a Mobility Consultant is based in a local authority this may be a good way of encouraging the adoption of Mobility Plans.

The idea of a Mobility Office and a Mobility Coordinator is likely to transfer well to any organisation of sufficient size in most urban areas in the UK. There is an increasing expectation by both national and local government that business will play its part in solving transport problems and many large organisations are also now working towards

environmental quality standards. For these reasons a number of large employers are now employing Mobility Coordinators and there are a number of quite well known examples of Mobility Plans in the UK. Some employers are being required to develop Mobility Plans and employ Mobility Coordinators as part of planning agreements with the local authority. However, it is widely believed that the voluntary approach will lead to more successful Mobility Plans as the organisations introducing them will see the benefits for themselves of making the plan succeed. The current taxation system which acts as a significant barrier to the wider adoption of Mobility Plans is under review and it seems likely that significant changes will be made in the near future, therefore encouraging more organisations to implement a Mobility Plan.

It seems likely that Mobility Offices and Coordinators will be most applicable in areas where the local authority is actively involved in Mobility Management. In such situations there is more likely to be sufficient information and support available to help the Mobility Office function successfully.

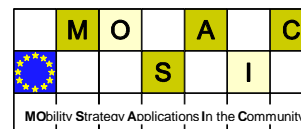
Transferability in The Netherlands

In The Netherlands, the Mobility Manager role is quite well established and is usually supported by national or regional government. Activities are mostly aimed at encouraging site-based initiatives. The Mobility Consultant plays an important role in developing and maintaining contacts with the companies in a region and in encouraging them to adopt Mobility Management activities. This role transfers best to the Netherlands when the Mobility Consultant is employed by an organisation that is independent of government bodies.

There are, as yet, no examples of Mobility Centres in The Netherlands but there are several existing services which could form part of future Mobility Centres or be developed into such Centres. Many public transport companies operate information centres near the station or in the city centre. There is also a national public information service offering personal door-to-door travel advice by any means of transport. This service is available by telephone or on the internet. The Netherlands is currently developing a more multimodal approach to transport planning so it seems likely that there will be a greater need for the provision of information on all modes. There is already an organisation providing information, reservation and payment services for door-to-door trips for business travellers. The Dutch government supports these developments by funding research and development projects but considers that their implementation is the responsibility of transport providers.

Mobility Offices can be found at many places in The Netherlands. They normally serve several organisations located on a business park or industrial estate with the advantage that the Mobility Office can support measures which affect the whole area, for example improving accessibility by public transport or bicycle. Mobility Offices in the Netherlands generally have two sources of income – contributions from participating companies and payment for services.

The role of Mobility Coordinator transfers well to many organisations in The Netherlands. The role is already well known and there is increasing interest in Mobility Coordinators among companies. Due to the declining involvement (and hence funding) of national government it is expected that, in the future, only companies who can see benefits for themselves will employ a Mobility Coordinator.



The Dutch government is pushing organisations to write Mobility Plans and in the near future it will become obligatory. At present, most organisations writing Mobility Plans do so because they see the benefits of it for themselves.

CONCLUSIONS: ESSENTIALS FOR IMPLEMENTATION

General

Section 8 starts by considering the essential factors (deciding where to start, lobbying and promotion, creating alliances, marketing activities, monitoring and evaluation) that are common to all levels of Mobility Management activities and then focuses on those which are specific to the City/Regional level or the Site level.

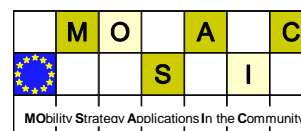
In countries where transport operators are publicly owned it may be easiest to start by developing public transport related Mobility Management services and expanding on these to set up a Mobility Centre as the starting point for Mobility Management. In other countries, where public transport is run commercially, it may be easier for local authorities to start by trying to encourage site-based Mobility Management. However, it is introduced, **Mobility Management should be developed over time** and opportunities identified for introducing new elements.

Promotion and lobbying are essential to convince possible key-actors to get involved in Mobility Management, particularly at the Policy and Management levels. These key-actors might include other local authorities and transport providers not already involved, trade organisations, the local Chamber of Commerce, community groups, etc. Promotional activities should also be aimed at large employers and the operators of specific sites to encourage them to adopt site-based Mobility Management activities.

It should be clear to all parties involved that Mobility Management is a long term and continuous process. Right from its initiation an important factor for the success of Mobility Management is the **creation of stable alliances** of key partners. Creating alliances should be seen as both a top-down and bottom-up approach.

Marketing of all services is crucial for Mobility Management. The range of integrated Mobility Management services should be presented to users by means of various marketing activities e.g. advertisements, posters, brochures etc. Each service should be marketed individually and according to its target group.

Most Mobility Management services do not earn any profit and must be financed indirectly. Hence, reliable **monitoring of all services** is important to ensure that the Mobility Management activities are provided as efficiently as possible and that the services are meeting their intended aims. It may be useful to set targets against which the success of the Mobility Management strategy can be evaluated. A full **evaluation** of the costs and benefits of Mobility Management should also take into account the external costs associated with high traffic levels (e.g. the cost of treating diseases caused by air pollution) and the potential of Mobility Management to reduce these costs. When monitoring Mobility Management activities it may be hard to distinguish the effects of the strategy from wider changes in the surrounding area. Mobility management is a lengthy process which should first create awareness towards sustainable modes, then initiate a change in attitudes and behaviour.



Urban/Regional Level Applications

It is likely that applications of Mobility Management at the **urban/regional level** need a comprehensive concept and considerable financial input to address all kinds of trips and all modes of transport. The role of a **Mobility Manager** in taking overall responsibility for developing and promoting Mobility Management in a particular city/region or at individual sites is crucial to establish a Mobility Management scheme.

Mobility Centres are an important building block in the establishment of a Mobility Management scheme. Their services should be developed in stages, depending on the necessary technical and financial resources and the personnel and time required. Starting a Mobility Centre with basic services is a cost-effective short-term approach with little risk. Co-operation and agreements with service providers are necessary if users are to be provided with a comprehensive and complete range of services (e.g. car hire firms, national rail companies, transport companies). On economic grounds as a rule the catchment areas should have a population of at least 100,000 people, but should not be so large that the provision of reliable information is no longer guaranteed. Access to the services should be as simple and transparent as possible.

Considerable demand is made on the personnel, both by users and service providers. The technical equipment should include high quality computer systems (e.g. to run modern timetable information software, electronic street plans, internet searches) so that standardised user inquiries can be handled quickly and efficiently.

Customers must be made aware and persuaded of the merits of the services of the Mobility Centre by means of comprehensive marketing, because Mobility Centres, in contrast to other elements of Mobility Management (e.g. Mobility Consultants) do not themselves approach their customers directly.

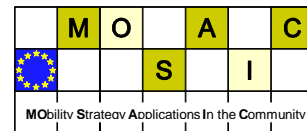
Public-private partnerships play a key role in the question of financing, because public and private sector interests coincide in Mobility Centres. The organisation and co-ordination of the Mobility Centre should be brought under one roof, however, in the interest of making management structures as efficient as possible. The operation of a Mobility Centre naturally has costs associated with it, e.g. for labour (salaries, training of personnel etc.), infrastructure (rent, furniture, computers, phone/fax, copy machine etc.), consumables (phone/fax, booklets, campaigns etc.).

There are potential areas of activity for **Mobility Consultants** as providers or advice to organisations to encourage the introduction of Mobility Management measures (e.g. developing a Mobility Plan). Other potential areas of activity include educational establishments, residential homes for senior citizens, shopping centres and private households. The appointment of Mobility Consultants by a municipality or comparable administrative body is a tried and proven approach. The activities undertaken by a Mobility Consultant make high demands in terms of their personal qualifications. To ensure continuity and maximum success from consulting, established contacts should always be handled by the same person.

As with other Mobility Management elements, benefits due to the use of Mobility Consultants are difficult to quantify and can only be recognised in the long term.

Site Level Applications

When first attempting to encourage the adoption of **site level** applications of Mobility Management, it is probably best to target the largest organisations within an area first,



1 Introduction - Executive Summary

particularly those with parking or congestion problems. If an organisation has chosen itself to adopt a **Mobility Plan** and has been very involved in the development of that Plan, they are more likely to have a sense of ownership for it and to ensure that it gets adequate support. It is therefore recommended that a voluntary approach to the encouragement of Mobility Plans should be adopted. Ideally, the Mobility Plan should be incorporated into the organisation's operations in a similar way to policies on health and safety at work and should be seen as a continuous process.

The **Mobility Consultant** should contact appropriate organisations and, if they are willing hold a meeting with them at their site when the Consultant can get to know the site. The Consultant can also show the organisation how a Mobility Plan might solve some of their existing parking or access problems and the benefits there are for them as an organisation. Ideally, more than one person should be employed for the role of Mobility Consultant, especially in larger cities where the number of organisations needing support will be greater. The employment of more than one Mobility Consultant is also desirable to ensure the continuation of contacts with organisations if one of the Mobility Consultants changes jobs.

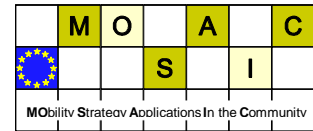
The work of introducing and implementing a Mobility Plan for a site involves a lot of time and energy. Therefore, the Mobility Consultant should take time to encourage and support site-based **Mobility Coordinators**. It is very important to maintain support for a Mobility Plan and, in order to ensure acceptance of measures, the Mobility Coordinator should develop and maintain an effective communication strategy. The most successful Mobility Coordinators tend to be based within the Estates or Facilities management functions of an organisation. This is probably since the impetus to introduce a Plan often comes from the need to solve problems of access to, or space on, the site so these functions have the most to benefit from the success of a Plan.

There does not necessarily need to be a physically accessible **Mobility Office** since information can be displayed in communal areas or distributed via an intranet. However, the Mobility Co-ordinator should be well-known to staff and, even if there is not a walk-in Mobility Office, the Mobility Coordinator should be contactable by phone, fax and email. The activities undertaken by a Mobility Coordinator will vary from site to site and are likely to develop in stages, closely linked to the services offered by the Mobility Office. Site level Mobility Management is most likely to be financed by the private sector, particularly site owners and operators. Individual organisations could finance their own individual Mobility Coordinators or one Co-ordinator could be employed by several organisations grouped together in a particular geographic region.

Recommendations for Action

Mobility Management is still an evolving idea. There are not yet any examples of cities or regions where all the elements, roles and services have been combined to form a comprehensive Mobility Management strategy. Unless there are fundamental changes in transport policies, Mobility Management will probably make a measurable but not really significant impact on the choice of transport modes. Nevertheless Mobility Management measures should be recognised as socially important because they make a significant contribution to raising awareness about the availability of transport alternatives.

Mobility Management is a long-term approach which requires political and public support. The method of achieving Mobility Management objectives should be both top-down (European and National level) and bottom-up (local initiators). The following actions are a sample of the recommendations suggested for each of these levels:



1 Introduction - Executive Summary

At the European level

- Setting up of an umbrella organisation offering information on best practice in Mobility Management
- Continuous dissemination to support Mobility Management on a long term basis (European Platform)
- Encouraging Mobility Management initiatives in freight transport (research demonstration programmes)

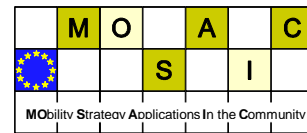
At the national level

- Enactment of supporting legislation and fiscal policies
- Research programmes which concentrate on the national obstacles to the implementation of Mobility Management
- Kick-off Mobility Management initiatives in freight transport
- Encourage Mobility Management activities at leisure and retail sites (most site-level experience to date is at work-sites)

At the regional and local level

- Actively promote the participation of private companies in public-private partnerships
- Initiating research and demonstrator programmes concerning site level applications

Mobility management is only likely to be successful if it has support from all sections of a community and if supported by other measures to improve mobility by sustainable modes of travel. If this is forthcoming then Mobility Management can make a significant difference to the quality of life for people in urban areas.



1.3 OBJECTIVES OF THE MOSAIC PROJECT

General objective

The vision or the overriding aim of the MOSAIC-project (**MO**bility **St**ategy **A**pplications **I**n the **C**ommunity) is to provide a clear understanding of Mobility Management strategies and their implementation which in turn will lead to their successful introduction and an impact upon travel behaviour and modal split throughout the European Union.

The MOSAIC-project was also based on the proposition that there is a wide range of environmental problems and impacts on the quality of life in European cities and regions caused by individual car traffic, freight movement by road and congestion. At the same time existing mobility requirements have to be secured and there is increasing pressure on private sector employers to make best use of land and resources and to reduce the inefficiency that results from site congestion.

Existing measures aimed at reducing car travel, particularly in urban areas are often not well integrated and the term Mobility Management, its objectives and potential are often not known at the European level. Existing approaches usually concentrate on passenger transport. There is little knowledge of Mobility Management as applied to freight transport.

At the heart of this project is the Partners' common view that there is a lack of conceptual understanding of Mobility Management strategies (what policies comprise such a strategy; how they are configured; their future potential). There is also a crucial gap between this (inexact) understanding, and the reality of implementing such strategies and a lack of experience with certain elements of Mobility Management and an understanding of their combined effects.

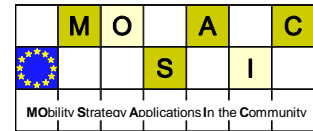
This lack of understanding has formed a major barrier to the effective introduction and dissemination of such strategies and could lead to the demise of a potentially useful urban transport policy tool. The MOSAIC project offers a solution to this problem by providing a clear understanding of Mobility Management strategies and their implementation, which will in turn lead to their effective use throughout the European Union.

Therefore the first task is to describe the basic principles and objectives and to define what is meant by the term Mobility Management. This includes the positioning of Mobility Management in relation to other transport planning or land use-planning/management activities.

Because the use of Mobility Management services should be voluntary for end-users, the needs of different user groups and trip purposes have to be considered.

The second task is to design a European-wide concept and to describe roles and functions to implement and run Mobility Management. This refers to both, passenger and freight transport.

To assess the implementation and the practical use of Mobility Management activities and services, practical demonstrations are needed. In this phase it is the task to configure, refine and evaluate Mobility Management models, to innovate with new concepts and to test, monitor and review the configurations.



1 Introduction - Objectives of the Project

An essential part of the work is the recommendation of the most effective organisational structures with reference to the communication and participation strategies and legislation needed to facilitate the optimal introduction of these structures. The recommendations are based on demonstration experience, gained by pilot applications in Germany, the UK and the Netherlands, representing a range of operational environments in the EU.

Information and assistance with implementation by disseminating findings and suggestions is the important aim of the project and of this report. The target groups are decision makers (particularly in national, regional and local government), companies, travellers, commuters (users in general), public transport and freight operators.

The primary objectives of the MOSAIC-project can be summarised as follows:

Improve understanding of Mobility Management

- review progress to date in passenger and freight Mobility Management;
- clarify the concepts, and their roles within Mobility Management;
- understand and define user needs: defining generalised needs (e.g. broad market requirements), while retaining specific requirements (e.g. needs of disabled travellers)

Demonstrate concepts and services

- configure outline models;
- innovate with new configurations;
- test, monitor and review these configurations;
- refine the Mobility Management models to build upon the lessons learned from the project;
- evaluate the models, both internally and externally to develop valid and transferable lessons;
- assess the potential for the wider implementation of such approaches.

Disseminate findings and recommendations

- inform decision makers, travellers and freight/public transport operators of the potential of Mobility Management, widening the opportunities for further participation;
- recommend Mobility Management models, suggesting a variety of configurations.

1.4 MEANS USED TO ACHIEVE THE OBJECTIVES

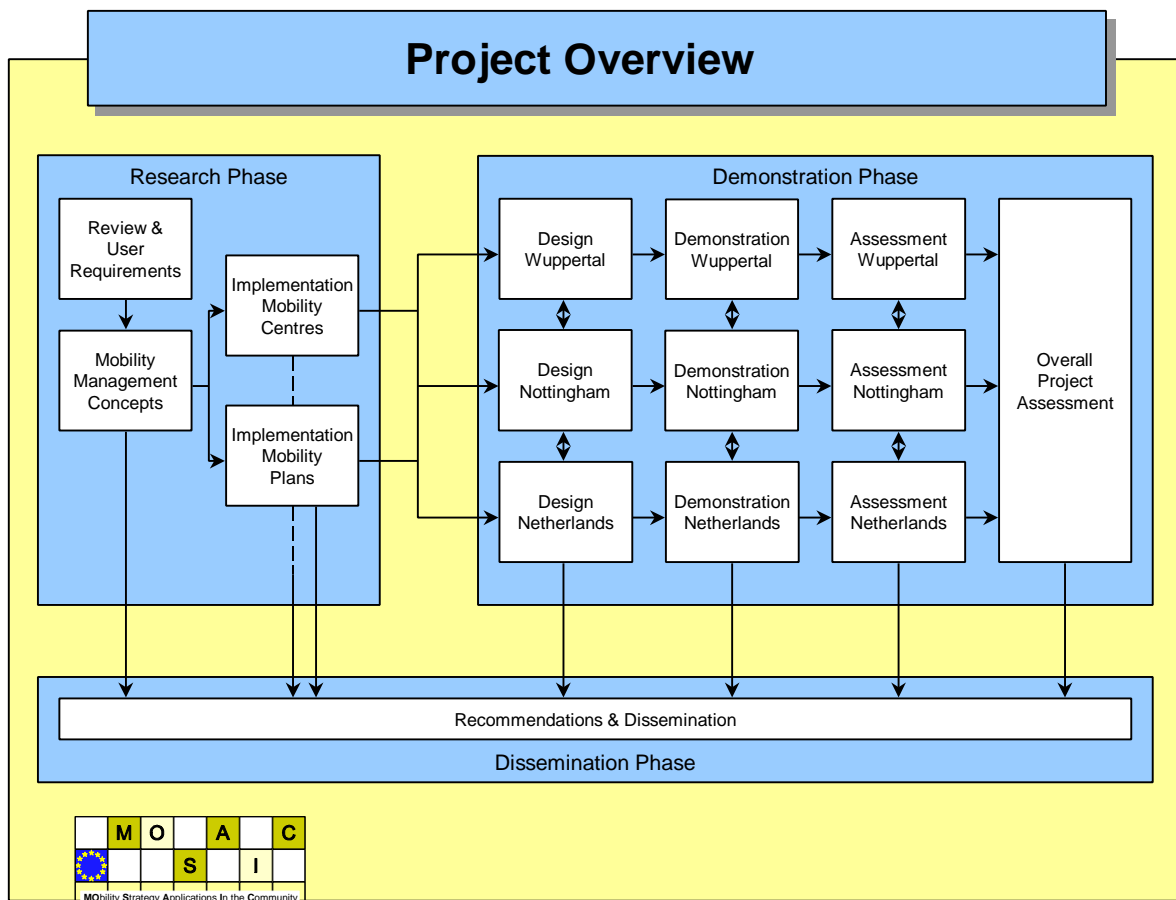
Research-cooperation


Throughout the project, the MOSAIC partners worked closely with the partners of another European project, MOMENTUM, which was also studying Mobility Management. The co-operation with MOMENTUM based on a “consultative board” and joint project-meetings made it possible to:

- harmonise terminology
- design and describe concepts of Mobility Management
- transfer experience in different countries and environments
- co-ordinate common activities

Structure of MOSAIC

The MOSAIC-project was designed with three major project phases: a research phase, a demonstration phase and a dissemination phase. The resulting structure of research activities within the MOSAIC project is shown in the following figure:



	M	O		A		C
			S		I	
MOBILITY STRATEGY APPLICATIONS IN THE COMMUNITY						

1 Introduction - Means used to achieve the Objectives

The **Research Phase** provided the background for the demonstration projects and dissemination. The aim was to establish a common understanding and definition of Mobility Management based on a comprehensive state-of-the-art analysis. The results of this review of Mobility Management in Europe, Asia and the USA were reported on in a deliverable produced jointly with the MOMENTUM project in 1996.

The following work-packages to define user needs and recommendations regarding implementation related issues, covering both passenger and freight transport, were used to clarify concepts, elements, roles and services within Mobility Management. The results are summarised in Deliverable 2 "Mobility Management Concepts" which was submitted to the Commission in March 1997.

The Design and **Demonstration Phase** covered three pilot applications in three different countries (Germany, United Kingdom, The Netherlands). Each one focuses on different elements of Mobility Management, so together they represent a mix of approaches and activities.

The **Wuppertal pilot** demonstrates a working Mobility Centre and the work of Mobility Consultants. This comprises the potential of investigating the wide range of Mobility Management techniques in a single environment, the possible integration of passenger and freight related activities and the synergetic effects.

The aim of the **Nottingham pilot** was to assess the potential impacts of a central Mobility Consultant based in the City Council who assists and supports organisations in developing Mobility Plans. The work involved targeting large employers and assisting those who are interested in the development and implementation of Mobility Plans.

The role of the **Dutch pilots** was slightly different than in Germany and the UK and the main task of the Dutch demonstrators was the monitoring of three different initiatives. These initiatives were a commuters' newspaper in North Netherlands, a Mobility Office in Utrecht and a Mobility Consultant for the Leiden Region.

The assessment of the demonstrators was undertaken using an approach to analyse effects on different levels (**knowledge level, usage level, acceptance level and individual behaviour level**). The lessons learned from the demonstrators were also used to clarify the concepts and different roles within Mobility Management and to refine the Mobility Management models. At this stage a common definition and a common concept of Mobility Management was developed in co-operation with the MOMENTUM project. The corresponding deliverables (Deliverables 3, 4 and 5) were submitted to the Commission as interim reports in June 1997 and as final reports in July 1998. These reports explain the design of the demonstrators, the features of the demonstrators, the services that were implemented, the assessment structure and the main findings.

The **dissemination phase** gives comprehensive recommendations as a result of the pilot demonstrator findings. As well as the official deliverables, there were a range of dissemination activities throughout the project. These included presentations at various conferences, papers and articles, radio and television by all partners (overview concerning dissemination activities is given in the Annex). In addition contributions were made to the annual European Conference on Mobility Management - ECOMM 1997 and 1998, (1999 will follow).

1 Introduction - Means used to achieve the Objectives

The project has been presented in the Internet since 1997. Two project descriptions in English and German are available:

English version: <http://www.rwth-aachen.de/mosaic>

German version: <http://www.ivv-aachen.de/mosaic/mosaic.htm>

The work-packages and the related deliverables are summarised in the following table:

Work-package	Title	Related Deliverable
WP 10	Project management (permanent activity)	
WP 20	Review of Existing Experience & user requirements	D 1 "State of the art"
WP 30	Mobility Management Concepts	D 2
WP 40	Issues of implementing Mobility Centres	"Mobility Management Concepts"
WP 50	Issues of Implementing Mobility Plans	
WP 61	Design of Pilot Demonstrator Wuppertal	D 3
WP 71	Pilot Demonstration Wuppertal	"Demonstration Wuppertal"
WP 81	Assessment Pilot Demonstrator Wuppertal	
WP 62	Design of Pilot Demonstrator Nottingham	D 4
WP 72	Pilot Demonstration Nottingham	"Demonstration Nottingham"
WP 82	Assessment Pilot Demonstrator Nottingham	
WP 63	Design of Pilot Demonstrator Netherlands	D 5
WP 73	Pilot Demonstration Netherlands	"Demonstration the Netherlands"
WP 83	Assessment Pilot Demonstrator Netherlands	
WP 90	Overall Project Assessment	D 6
WP 100	Recommendations and Dissemination (permanent activity)	"Final report"

Co-operation with the MOMENTUM project and the Car Free Cities Network

During the life of the MOSAIC project the idea of Mobility Management gained increasing attention due to the large number of presentations and articles and the MOSAIC internet homepage. It was therefore useful to raise knowledge and awareness in close co-operation with other European projects or networks. In addition to the co-operation with the MOMENTUM project already mentioned, MOSAIC also worked in co-operation with the Car Free Cities network towards the end of the project.

To facilitate co-operation between MOSAIC and MOMENTUM a Consultative Board was established at an early stage. The Consultative Board comprised the full partners of both projects (and was enlarged by the other partners as necessary) and met several times.

1 Introduction - Means used to achieve the Objectives

The meetings have been used to reach consensus on the structure of the common deliverable for the state-of-the-art, on definitions, on draft concepts and on technical issues concerning Mobility Management. The MOSAIC project was regularly presented in the MOMENTUM newsletter with emphasis on different topics (demonstrators, national focus, freight transport etc.).

To ensure a common understanding of Mobility Management and a clear presentation, it was decided that the two projects would produce a joint dissemination strategy. This dissemination strategy was designed to reach more target groups than one project alone could manage to reach (e.g. general public, decision makers, experts, users etc.). The combined resources and skills of both projects meant that the results could be presented in a range of different media. The main aim was to increase awareness of Mobility Management, to spread knowledge about concepts and services and present practical applications.

The draft dissemination strategy was presented to the Commission in December 1997. The dissemination products were designed with the following aims in mind. The products should:

- provide tools of a coherent (modular) nature to the target groups identified
- create tools for people that need to convince others
- consist of a well-balanced mix of rational/emotional approaches
- consist of various fast and interactive media.

The resulting common "Toolkit" approach consists of 3 modules (or levels) and 4 main dissemination products. The common products are the Maxi-brochure, the user-manual and the CD-ROM. The following table shows which products address the different target groups and shows the relation to this final report.

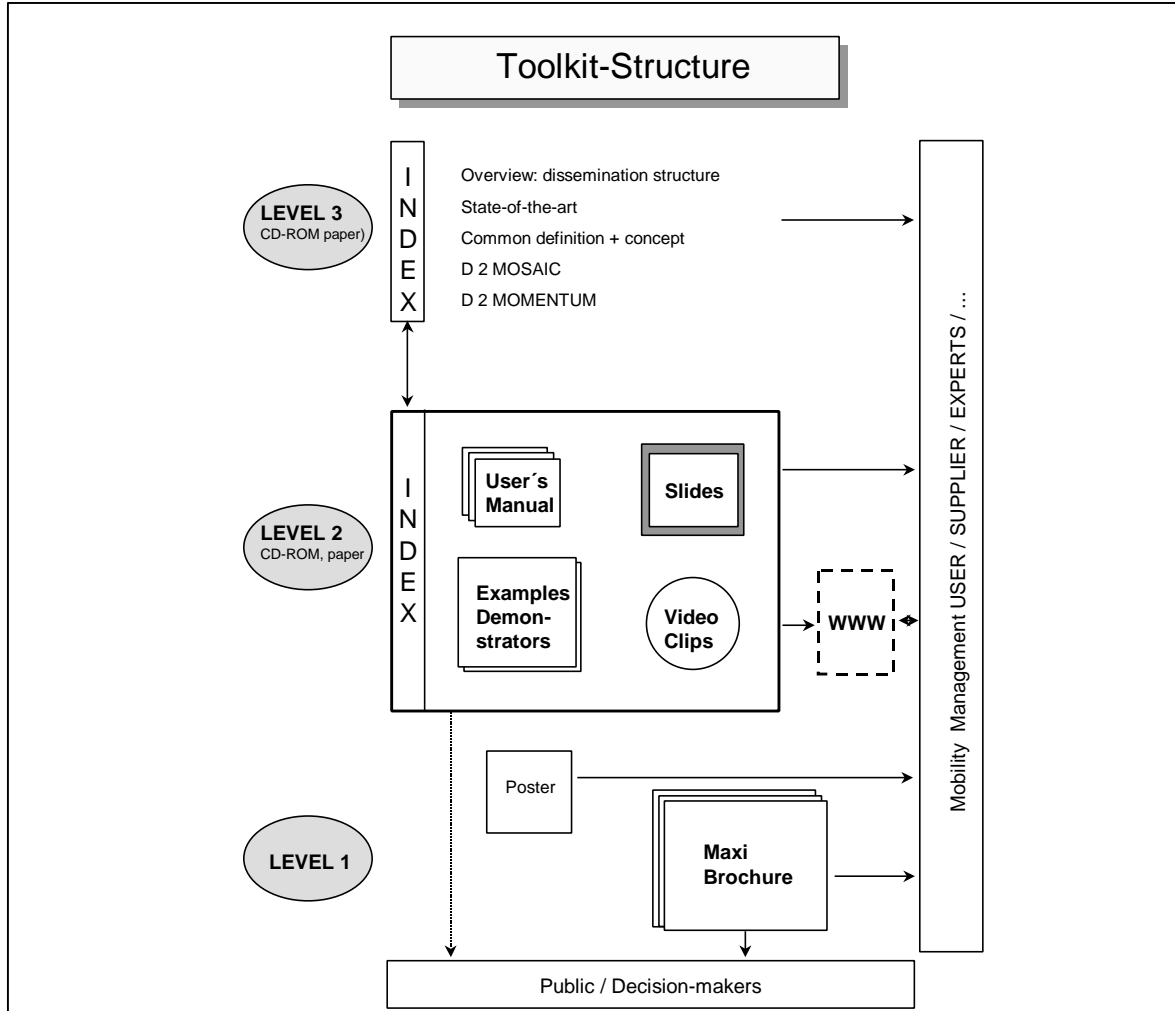
Target groups \ products	Maxi-brochure	User-Manual	CD-ROM	Final report MOSAIC
MM decision-maker	■	○	○	■
MM personnel (Manager)		■	■	■
MM suppliers		○	■	■
MM user	○		○	
MM scientific experts			■	■

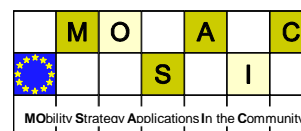
■ : high importance ○ : considerable importance

The Car Free Cities network was also involved in certain parts of the dissemination, especially into spreading the idea of Mobility Management (Maxi-brochure). A presentation of the MOSAIC-project was given at joint meeting in Nottingham (June 1997) and the co-operation concerning the dissemination activities was agreed at a consultative board meeting in Aachen (January 1998).

1 Introduction - Means used to achieve the Objectives

The following figure gives an overview of the contents of the 3 "Toolkit"-products:





2 SCIENTIFIC AND TECHNICAL DESCRIPTION OF THE PROJECT

2.1 INTRODUCTION

In recent years there has been much concern about society's ever increasing reliance on the private car and the costs this has in terms of congestion, pollution and safety. These concerns were discussed among other global environmental issues at the Rio Summit on the Environment in 1992 which resulted in a commitment in the form of Local Agenda 21 for local authorities around the world to work towards improving their local environment and to reduce pollution, including that from road traffic. There was also an EC Green Paper published in 1992 'The Impact of Transport on the Environment - A Community Strategy for Sustainable Mobility' which addressed these concerns. These initiatives in turn have contributed to the development of a number of new approaches to transport planning (or closely related topics like "clean-air") which are aimed at encouraging the use of alternative modes and developing a more sustainable transport policy, one of which is Mobility Management.

The term Mobility Management is new and therefore, at the start of the project there was no commonly understood definition. It can broadly be described as strategies aimed at reducing the use of cars and goods vehicles in urban areas by providing information and assistance to promote the use of alternative modes. The meaning of the term and the objectives are explained in detail in Section 3.

Mobility Management can contribute towards achieving some of the principal objectives of urban transport planning which include:

- reducing the adverse effects of urban transport on the environment
- making more efficient use of energy resources
- making more efficient use of the transport system
- improving accessibility to workplaces and other destinations, particularly for those without access to a car

However, Mobility Management is just part of the wider land-use/transport planning system developed in many areas to fulfil the above objectives. Figure 2.1-1 illustrates how Mobility Management fits into the Transport System Management part of this system. Many measures introduced in other parts of the system such as infrastructure improvements to improve conditions for cyclists or priority measures for public transport will also support the objectives of Mobility Management.

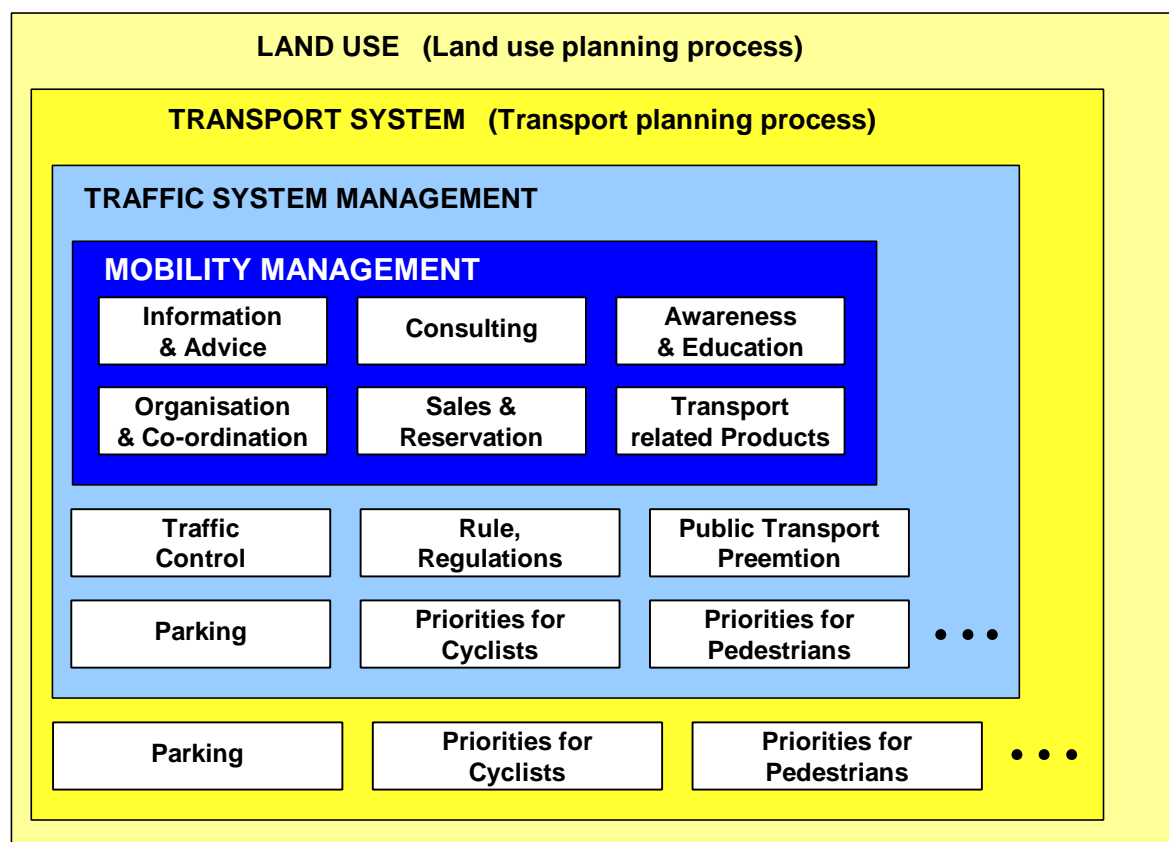



Figure 2.1-1: The Land-use/Transport Planning System

The sustainable development of cities and regions requires a comprehensive approach which consists of land-use planning, organisation and coordination of actors and activities, pricing for transport and land-use, intelligent use of existing infrastructure and changing the attitude towards mobility. Mobility Management could be of considerable significance for this comprehensive development. Therefore Mobility Management could contribute to this development with different combinations of activities, models, roles and services.

The structure of this report refers to the framework that would be necessary to get basic knowledge about the possibilities of Mobility Management and to decide about promising ways to introduce Mobility Management. To realise the full potential of Mobility Management requires a good understanding of the term itself (see definition and objectives in Chapter 3). It is also necessary to identify those problems for which Mobility Management could provide suitable solutions (Chapter 4). The possible levels of action, concepts, elements and services of Mobility Management are described in Chapter 5 to provide an overview of the different organisational structures. Findings and examples from the MOSAIC demonstrator sites show the feasibility and practical implementation of selected models and services of Mobility Management (Chapter 6). Recommendations and transferability of findings are considered as a very important aim of this report. Therefore transferability is considered for each element (Mobility Manager, Mobility Centre etc.) defined in Chapter 5 by considering key experience, scale and the local and national framework (Chapter 7). A summary of essentials for implementation and general recommendations are given in Chapter 8.

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3 DEFINITION AND PRINCIPAL FEATURES OF MOBILITY MANAGEMENT

3.1 DEFINITION

The definition for Mobility Management used within MOSAIC is the following:

Mobility Management is primarily a demand orientated approach to passenger and freight transport that involves new partnerships and a set of tools to support and encourage change of attitude and behaviour towards sustainable modes of transport. These tools are usually based on information, communication, organisation and co-ordination and require promotion.

The **objectives** of Mobility Management can include:

- encouraging greater use of sustainable transport modes
- improving sustainable accessibility for all people and organisations
- increasing the efficiency of use of transport and land use infrastructure
- reducing traffic (growth) by limiting the number, length and need of motorised vehicle trips

3.2 PRINCIPAL FEATURES

The following statements are important aspects to briefly characterise Mobility Management:

- Mobility Management refers to both passenger and freight transport.
- Mobility Management is demand-oriented and deals with the specific user needs of different target groups in contrast to other approaches which manage existing traffic mainly through the supply of infrastructure and regulations. For Mobility Management influencing the pre-trip mode choice is of special importance.
- Mobility Management mainly relies on 'software-orientated'-measures (information, communication, co-ordination and organisation; cf. figure 3.2-1) which are optional for the user and thus present a high degree of freedom in contrast to regulations, fiscal measures or infrastructure (which are 'hardware-orientated'-measures). Mobility Management is just one part of the wider land-use/transport planning system and many measures introduced in other parts of the system such as infrastructure improvements to improve conditions for cyclists or priority measures for public transport will also support the objectives of Mobility Management.
- Travel behaviour is not exclusively a rational category. For the individual it is highly subjective and includes a strong emotional and affective component as well. Thus, Mobility Management which tries to encourage a change of attitude and behaviour, should include elements which generate positive feelings

3 Definition and Principal Features of Mobility Management

about the presented alternatives. Travel behaviour is part of the individual lifestyle and must be treated comprehensively.

- The intelligent use of different options of transport modes according to the specific need of the particular trip could be described by the term multi-modality. This includes 'inter-modality' i.e. people change transport modes during trips, e.g. park-and-ride, bike-and-ride.
- As a mix of measures is involved, co-operation is a crucial element. Creating alliances between different partners (e.g. local/regional authorities, transport providers, employers, interest groups, etc.) is a prerequisite for successful Mobility Management and for ensuring its long-term financing.

Figure 3.2-1 shows differences between the demand orientated approach of Mobility Management and the supply orientated approach of Traffic System Management. While Traffic System Management mostly relies on so-called 'hardware-orientated' measures (e.g. infrastructure, regulations and pricing mechanisms) that are obligatory for the users, Mobility Management mostly relies on 'software-orientated' measures (e.g. information, organisation) that offer options for the users. While TSM includes major infrastructure investments (e.g. toll-bridges or telematic systems) Mobility Management mainly relies on existing infrastructure. However, investments in minor supplements could be included in some Mobility Management measures.

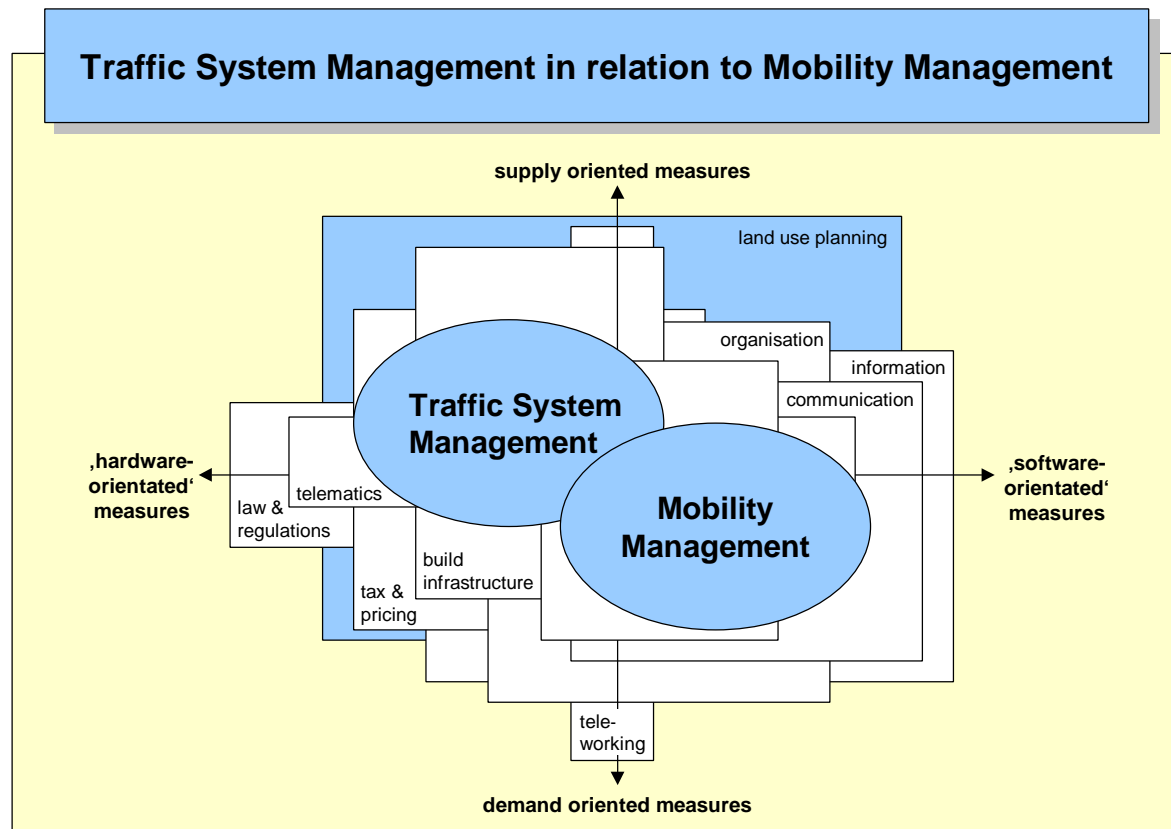
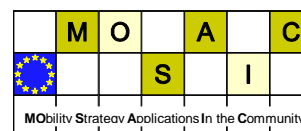


Figure 3.2-1: Traffic System Management in relation to Mobility Management



4 REASONS FOR MOBILITY MANAGEMENT

This chapter gives an overview of the reasons for Mobility Management and the kind of problems that can be solved by Mobility Management on a regional/city level. It also serves as a link to the following chapters showing the relevant levels and concepts where solutions could be found in this report.

The kind of problems that Mobility Management can help to solve, can be seen on the following three levels or dimensions:

- general or city-wide problems concerning traffic, environment and urban development
- problems within the transport system
- problems for the individual user of different transport modes

4.1 GENERAL OR CITY-WIDE PROBLEMS

General or city-wide problems arise in relation to congestion, noise, air-pollution, road accidents, the construction of major new roads resulting in the destruction of buildings or reduced space to walk, play or talk in the street.

National, regional and local government is responsible for the inhabitants' quality of life. Public bodies, particularly local and central government, are the most likely parties to initiate Mobility Management since they have an obligation to encourage sustainable transport policies under the terms of Local Agenda 21. Liveable cities are highly dependent on sustainable mobility. In achieving sustainable mobility, social, economic and environmental aspects must all be addressed.

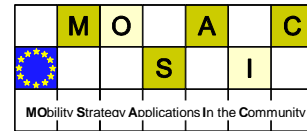
Although these problems are mainly caused by private cars or by road based freight transport it is a public responsibility to secure the mobility needs of all people.

Private car users need to be offered alternatives, rather than being punished or burdened. Such a positive approach would certainly be more effective. Without a real change in the pattern of transport choices for citizens, cities will become more congested and inaccessible. Actions to improve the situation must take into account the fact that there is little money and little space for new infrastructure now or in the foreseeable future. Therefore the existing transport system must be used as efficiently as possible.

These problems need to be recognised by politicians at each decision level. Changes require consensus amongst politicians, citizens and private companies. New forms of co-operation and organisation are needed. Existing networks at the European level like the Car Free Cities Network, the network of cities who signed the Aalborg Charta for Local Agenda 21 and the ELTIS-System (European Local Transport Information System) and EPOMM (European Platform on Mobility Management) are platforms which can be used to share general experience.

In this context one task of the MOSAIC-project is to provide an indication of where the concepts and services of **Mobility Management** can help to improve the situation. The MOSAIC Concept of Mobility Management refers to all the problem levels mentioned above.

General or city-wide problems need to be recognised and solved by (local) politicians setting guidelines and strategies. This level is referred to as the strategic-level or policy-



4 Reasons for Mobility Management

level in the MOSAIC concept. Reference to this policy level can be found in Chapter 4. The situation at the policy level can be characterised as follows:

- congestion and environmental problems adversely affect the quality of life
- insufficient resources for infrastructure improvements leads to the opinion that nothing can be done
- there is no corporate willingness to co-ordinate actions to change the situation
- the complexity of the problems allows no one-dimensional solutions
- measures to improve the situation are not co-ordinated at city or regional level
- the possibilities of Mobility Management are not well known
- managing mobility is not an official public task defined by law
- partnerships between decision makers and private companies are not well established

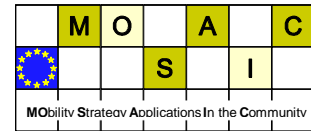
The problems mentioned above can not be solved by Mobility Management alone, but Mobility Management could definitely make a contribution. Promotion of the ideas and potential of Mobility Management and the marketing of Mobility Management services are important activities of Mobility Management at this level. A number of different groups or organisations are likely to have a role in the introduction of Mobility Management within a city or region. Co-operation and liaison between all these different parties is very important for the success of Mobility Management initiatives.

In order to be successful on a long-term basis (i.e. to meet the needs of changing circumstances and to maintain established alliances) Mobility Management strategies will need to continuously evolve. These activities on the policy or strategic level could be performed by a **Mobility Manager**. His/Her task could be the introduction of Mobility Management by developing an overall scheme and promoting it as a key link between the Policy Level and a particular city/region or individual site (for details see Mobility Management concept in Chapter 5).

When implementing Mobility Management other policy measures not directly related to the transport sector (e.g. land-use planning, environmental planning) should also be considered. Such measures are important in supporting the aims of Mobility Management. The impact of Mobility Management will depend on the extent to which it is supported by other policies.

4.2 TRANSPORT SYSTEM PROBLEMS

In order to find practical ways of solving city-wide problems there is a need to divide them into categories which are directly related to the transport system. The problems can be detected while monitoring the existing transport system or different transport modes. The whole system should be as efficient as possible and changes from one mode to another should be as easy as possible. Individual solutions for mobility problems do not rely solely on private vehicles or on public transport alone. The existing systems must be co-ordinated and integrated with each other and should have common and comprehensive objectives. Co-ordination and joint initiatives are needed.



4 Reasons for Mobility Management

The problems related to these co-ordination tasks are solved at the management level, as defined in MOSAIC.

Some of the problems can be described as follows:

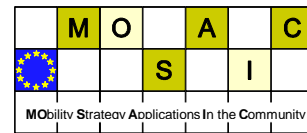
- there is no easily accessible information for the combined use of transport modes
- initiatives to improve the transport facilities of the private sector (companies, institutions), public administration and public transport operators are not co-ordinated
- private companies and public transport operators are not able to co-ordinate the working hours of employees with public transport time-tables
- new locations for companies are not served by the public transport system
- private companies often do not know the transport problems of neighbouring companies
- private transport operators in freight transport are not co-ordinated and do not have a centralised information source
- a lot of the existing transport services provided by smaller organisations, such as car-sharing or car-pooling initiatives or are not well known and hence not used by the public. The terms of car-sharing and car-pooling are not used homogenous in the EU (e.g. car-sharing in Germany means different people using a car which is offered by a private organisation, club etc., car-pooling could mean that a group of people (always the same group) uses a car which is offered by an organisation or the use their own cars as a car-pool.

At the management level the development of a suitable Mobility Management scheme and the introduction of different functions or roles in Mobility Management is one part of the solution. To develop area and target-group specific services it is useful to distinguish between the urban/regional level and the site level. The objectives are the same for both levels although the organisation and procedures may differ.

At an **urban/regional level** Mobility Management will focus on providing services for the general public in the city or region. At the **site level** the target groups are the private companies, leisure centres etc. and all site users (employees, visitors, customers, freight delivery etc.). Services can be provided by a **Mobility Centre** or a **Mobility Consultant** at the city/urban level and by a **Mobility Office** or a **Mobility Coordinator** at site level (details concerning the roles and functions can be found in Chapter 5).

4.3 PROBLEMS FOR THE INDIVIDUAL USER

For the individual user of the whole transport system different problems occur according to the trip purpose and destination as well as the individual characteristics (e.g. age, disability). Users want to optimise travel time, the time needed to obtain information about their trip and their costs. Trip organisation is often very complicated, particularly if several information sources are needed (travel-duration, alternatives in case of delay etc.) or several tickets are needed for one trip or individual circumstances have to be considered (luggage, disabled people). The following list shows some examples of the wide range of individual problems:

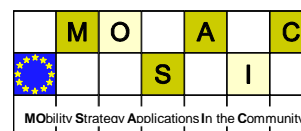


4 Reasons for Mobility Management

- no co-ordinated information for short and long distance travel is available
- the advantages of transport alternatives are not well known because prices, travel-time, convenience and the effects on the environment are hard to compare for different modes of transport
- there is no centralised information source to integrate different modes of transport
- no door-to-door information is available
- the time consuming organisation of public transport travel (studying of time tables and travel fares) reduces its attractiveness
- several telephone numbers or visits are needed for detailed trip-information on different transport modes
- sometimes car-sharing can not be combined with public transport
- it is difficult to find partners for car-pooling
- transport of luggage is a hindrance for shopping-trips by public transport
- it is difficult to find a safe place to park a bike
- visitors or tourists feel uncomfortable using an unfamiliar and confusing public transport system. A “package” that includes, for example, theatre-tickets, public transport information and tickets and a hotel booking could help tourists to feel more comfortable when using public transport in an unfamiliar city
- drivers of freight vehicles from outside the region do not have current information about bottlenecks
- freight transport operators from outside the region do not know which roads are suitable for their vehicles

Mobility Management can offer different **Mobility Management services** directly to the user. The services are offered to the user by different elements of Mobility Management and at different locations (e.g. Mobility Centre in the pedestrian-zone, Mobility Office at site level, Mobility Consultant visiting private households or companies).

The service-groups and services for the individual users, like information and advice, co-ordination, education, sales and reservation, new (transport related) products etc. are also described in Chapter 5.



5 MOBILITY MANAGEMENT CONCEPT

5.1 FRAMEWORK

Mobility Management is a fairly new approach in most European countries. It is an evolving idea and therefore implemented in various organisational forms in different countries.

This concept for Mobility Management¹ shows various elements that could be helpful for the introduction of Mobility Management within a city or region. Seeing that a concept should be very general in order to comprise any possible constellation as well as all national peculiarities, the concept shows roles and functions of the Mobility Management Concept (e.g. Mobility Centre, Mobility Consultant, Mobility Office, Mobility Coordinator). These roles and functions should be understood as a continuum of possible organisational arrangements for Mobility Management tailor-made to local/regional conditions. Due to these conditions actors in Mobility Management sometimes are likely to fulfil tasks of various roles and functions.

Furthermore, it is not necessary to start Mobility Management with all the elements shown in figure 5.1-1. Seeing that depending on the local situation one could start at different starting points as well as reach different levels of system initiation it might also be helpful to start with one element only.

Two levels can be distinguished -the urban/regional level and the site level. The objectives are the same for both levels although organisation and procedures may differ.

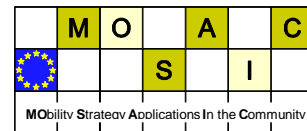
On an **urban/regional level** Mobility Management will focus on providing services for the general public in the city or region, for specific target groups (e.g. site owners/operators, employers, young people, disabled, newcomers, etc.) or for specific trip purposes. Promoters could be e.g. local/regional authorities, transport providers or interest groups. At the **site level** Mobility Management will include a range of measures involving the supply of alternative modes of transport. The target groups are all site users (employees, visitors, customers, etc.). Access to the services is therefore restricted to these groups. Promoters could be site owners/operators, site users or unions of site users.

Furthermore, Mobility Management comprises a hierarchy of three organisational levels:

Policy Level: This is where Mobility Management is initiated in the beginning and where it is supported afterwards. This level includes local authorities, transport providers, etc.. In order to initiate Mobility Management promotion and lobbying of its ideas and what Mobility Management is about has to start at this level. Selling the idea is crucial in order to get financing and funding. These activities should be complemented by additional actions at the management level.

Management Level: This is where Mobility Management is organised. Here are the people and institutions that let Mobility Management happen. This can be done at a Urban/Regional Level when the Mobility Management Services are provided for a certain

¹ This Mobility Management concept represents a common view of the MOSAIC-consortium and the MOMENTUM-consortium. Following this common concept, two names for roles used in other MOSAIC deliverables changed: The former "Mobility Adviser" is now called "Mobility Manager", the former "Mobility Manager" is now called "Mobility Consultant"



5 Mobility Management Concept

city or region. Or it could be done at Site Level. Then the Mobility Management Services are exclusively for the site users.

User Level: Here Mobility Management gets into contact with the user. This level includes all Mobility Management Services that are offered to the end user, both at Urban/Regional or Site Level.

As a link between the Policy Level and the Management Level a **Mobility Manager** is responsible for the introduction and development of Mobility Management within his/her area of responsibility. At Policy Level s/he will have to promote the idea of Mobility Management. Furthermore a co-ordination of all the parties involved at both level is required.

As a crystallisation point for Mobility Management an operational unit that offers a wide range of Mobility Management Services is required. At Urban/Regional Level this unit is a **Mobility Centre**. It offers public access to everyone. Mobility Centres can be organised in very different ways. From a large shop located on a central city square, a small office with mainly telephone access to a temporary or mobile Mobility Centre for special events many forms are conceivable. An operational unit at Site Level is called **Mobility Office**. Site here can be a work site, a retail or leisure centre. Here, access is restricted to and all Mobility Management Services are focused on the site user. Between those extreme forms all combinations are possible. One form of mixture between both could be a unit that offers Mobility Management Services for several sites in a certain district. Depending on the point of view this can either be interpreted as a Mobility Centre for this district or as a Mobility Office that comprises several sites.

The Mobility Centre and the Mobility Office has to be run and managed by their staff. Depending on the size their might be a hierarchy between those doing the conceptual work of how to organise and perform the offered Mobility Management Services and those who simply offer these Services to the user.

Mobility Management Services at an Urban/Regional Level can also be offered by a **Mobility Consultant**. A Mobility Consultant usually approaches users in order to offer his/her services. These users could be for example the general public, schools, employment sites or leisure centres. The Mobility Consultant is likely to be involved in encouraging the introduction of Mobility Plans at a number of different sites within a city or region. In contrast, at Site Level, a **Mobility Coordinator's** role is to set up and develop a Mobility Plan for one particular site or small group of linked sites. This may also include setting up a Mobility Office and taking responsibility for its day-to-day running.

An important instrument for the Site Level is the **Mobility Plan** which is a comprehensive, directive document that includes all specific Mobility Management measures and the way of their implementation for one or several sites. The implementation of a Mobility Office and/or a Mobility Coordinator could also be part of a Mobility Plan.

As Mobility Management deals mainly with information, communication, co-ordination and organisation, it is all about **services** to support individual mobility behaviour. These services can be initiated and implemented on different levels and to varying extents.

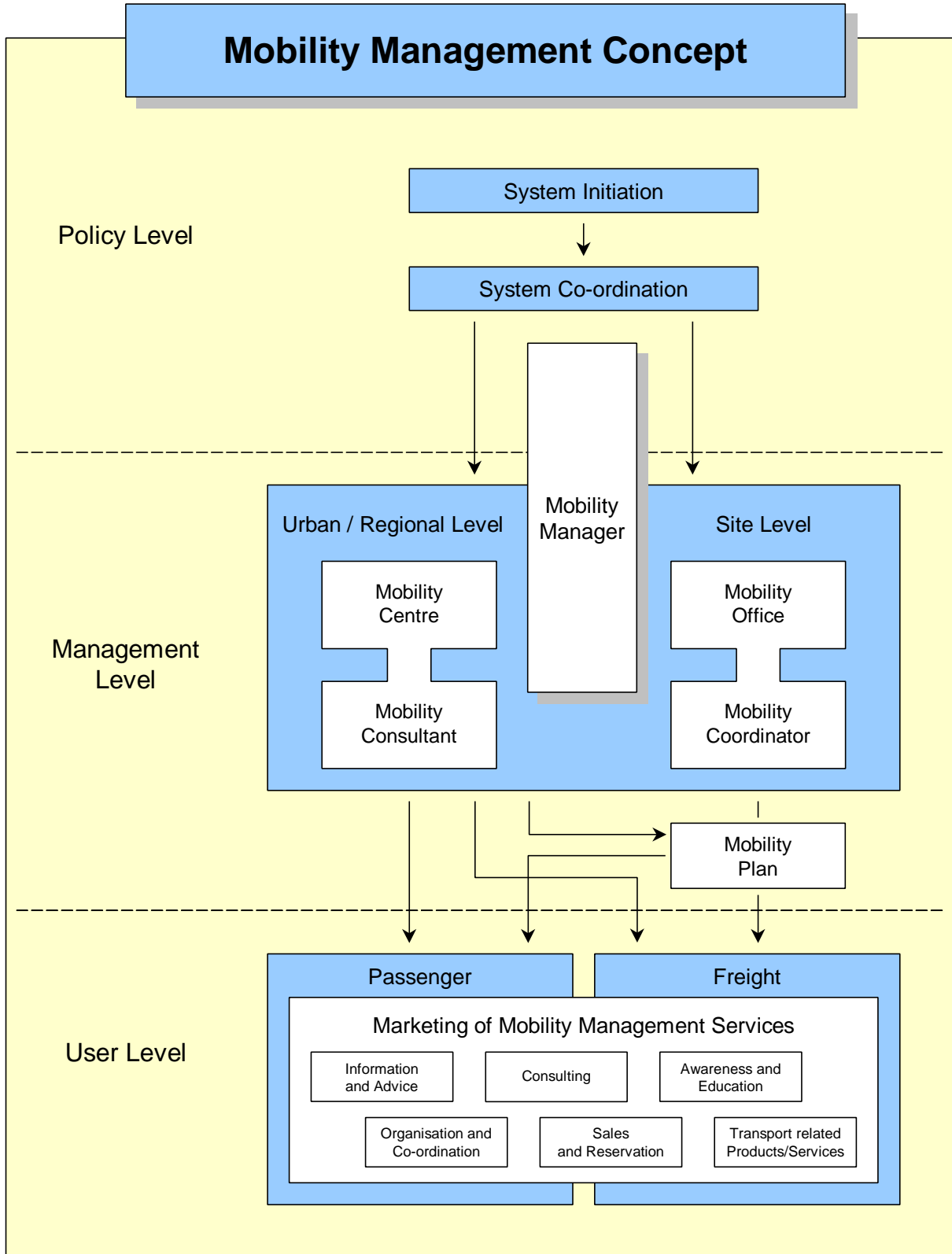
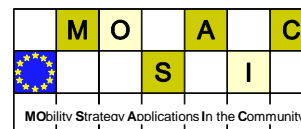


Figure 5.1-1: Elements of Mobility Management



5.2 MOBILITY MANAGEMENT SERVICES

Mobility Management offers a number of services and any Mobility Management Service is likely to be made up of a number of activities. Within the framework of Mobility Management six types of services can be offered:

- Information and Advice
- Consulting
- Awareness and Education
- Transport Organisation and Co-ordination
- Sales and Reservations.
- Transport-related Products and Services

5.2.1 Marketing of Mobility Management Services

Since Mobility Management Services should be voluntary for the user **marketing** of all services is crucial for Mobility Management. The variety of several and integrated services of Mobility Management has to be presented to the users by various marketing activities. Different media with easy access (e.g. advertisement, posters, brochures, radio-spots, pocket-cards) should present the possibilities and benefits to users and other key actors. For these actors (e.g. organisations, politicians, companies) convincing marketing ideas are needed to secure financing and stable partnerships (e.g. as public-private-partnerships) for Mobility Management activities.


Information and Advice

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 involve the other sustainable modes too: information on cycling (routes and facilities), 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. Moreover, informing is simply making existing information accessible, advice will need some processing and interpretation of the information on the part of the service provider. Advice can be given for individuals, but it is also possible for companies, schools, administrations, etc.

Consulting

Consulting comprises in depth advice to customers. It is going a step further than information and advising and includes surveying the initial situation, processing the initial 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.

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Awareness and Education

Awareness includes all the activities which draw people's 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 a 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.

Transport Organisation and Co-ordination

These services involve the **organisation of new forms of sustainable transport** or the **co-ordination and improvement of existing services**. As Mobility Management is targeted to specific user groups, the transport services will be targeted as well; this is especially true for collective transport: night buses, disco buses and collective taxis, establishing a Car Pool system for the home to work journey, etc. Transport organisation services are particularly important in site-oriented Mobility Management.

Co-ordination is an important factor for the integrated use of (sustainable) transport facilities. There should be co-ordination between different public transport providers; between providers, local authorities and private firms; between specialised transport providers and with private groups.

Sales and Reservation

This is an indirect service, meaning **the selling of transport and transport-related products**. It can be done directly through an office, but also indirectly through remote access (telephone, Internet, etc.). This category of services includes the **reservation** of public transport tickets and of other measures related to Mobility Management, such as lifts in a car pooling scheme. It also includes the sale of information material where appropriate.

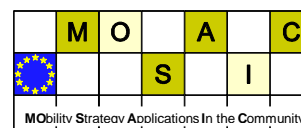
(New) Transport-related Products and Services

Transport-related services are not the organisation of transport itself, but accompanying services, like the development of special fares or season tickets, the development of combined tickets (providing transport and access to a show), etc.

Another item in transport-related services is the development of incentives to promote and stimulate the use of the sustainable modes: some examples could be lotteries, contests, bonuses for the use of sustainable modes, which are in part overlapping with the awareness services.

For examples of Mobility Management Services see Figure 5.2.1.

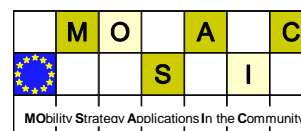
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Information and Advice	
Timetables	<ul style="list-style-type: none"> • general, personalised • hard copy, CD-ROM, On-line • area wide, line-wise • incl. co-ordination of all modes
Information on fares	<ul style="list-style-type: none"> • regular and special tickets
Information for travel organisation	<ul style="list-style-type: none"> • information about door-to-door journeys with different public transport companies
Public events	<ul style="list-style-type: none"> • information about events linked with relevant public transport information
Car Sharing	<ul style="list-style-type: none"> • conditions, fares
Maps for cyclists	<ul style="list-style-type: none"> • cycle stands, cycle ways, slopes • bike rental and repair
Maps for freight transport	<ul style="list-style-type: none"> • information on freight ramps, disposal facilities • roads closed for heavy vehicles
Accessibility guides for companies, school, universities, etc.	<ul style="list-style-type: none"> • describe how the site is accessible by all means of transport
Consulting	
Job Tickets for companies	<ul style="list-style-type: none"> • how to find partners • introduction and administration
Car Pooling	<ul style="list-style-type: none"> • how to find partners • introduction, organisation and legal aspects
Comparison between different transport modes	<ul style="list-style-type: none"> • commuter and 'one of' trips • compare travel time, costs and ecological impact
Awareness and Education	
Mobility education in kindergartens and schools	<ul style="list-style-type: none"> • traffic education plus rising awareness for the impacts of traffic and travel behaviour
Campaigns for various sustainable modes	<ul style="list-style-type: none"> • awareness and publicity campaigns, action days, etc.
Ecological impacts of traffic	<ul style="list-style-type: none"> • publicise pollution content
Car free days	<ul style="list-style-type: none"> • Show them: It is possible!
Newcomers to a town	<ul style="list-style-type: none"> • rising awareness concerning the use of sustainable modes right from the start
Transport Organisation and Co-ordination	
Co-ordinate various transport operators	<ul style="list-style-type: none"> • fares, schedules
Car Pool matching	<ul style="list-style-type: none"> • at regional or company level
Combined event and ride tickets	<ul style="list-style-type: none"> • negotiation between transport operators and promoters
Organise (un)loading times at freight platforms	<ul style="list-style-type: none"> • shorten waiting times in freight transport
Work busses	<ul style="list-style-type: none"> • examine the demand and introduce them
Disabled persons	<ul style="list-style-type: none"> • co-ordinate a dedicated system for their transport
Delivery service	<ul style="list-style-type: none"> • organise a city-wide goods delivery service for purchases

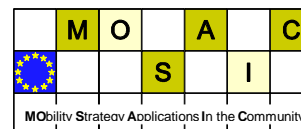
Figure 5.2-1: Examples of Mobility Management Services

5 Mobility Management Concept



Sales and Reservation	
Public transport tickets and timetables	<ul style="list-style-type: none"> • regional, national, international • regular, season and combined tickets
Bike rental	<ul style="list-style-type: none"> • public transport trip to the city centre, use a bicycle at destination
Car rental	<ul style="list-style-type: none"> • journey by train, but independence at destination
Hotel reservation	<ul style="list-style-type: none"> • in combination with journey planning
Car Sharing	<ul style="list-style-type: none"> • booking and bills
Car Pooling	<ul style="list-style-type: none"> • reservation of lifts
Personal insurance	<ul style="list-style-type: none"> • appropriate for the used transport mode, e.g. third-party and theft insurance for cyclists
Pre-book railway shuttle services	<ul style="list-style-type: none"> • speed up freight transport on rail
(New) Transport-related products and services	
Cost comparison analysis	<ul style="list-style-type: none"> • public transport / Car Sharing / private car
Special public transport fares	<ul style="list-style-type: none"> • at weekend or night time in order to promote them for leisure use
Guaranteed ride home	<ul style="list-style-type: none"> • Car Poolers working overtime and miss their pool car get offered a free ride home by their employers

Figure 5.2-1: Examples of Mobility Management Services (continued)



5.3 ELEMENTS OF MOBILITY MANAGEMENT

5.3.1 System initiation / Co-ordination

Mobility Management can be initiated in different ways. At Policy and Management Level promotion and lobbying is crucial to convince possible key-actors in Mobility Management. This can be done by clarifying the chances of win-win-situations when introducing and performing Mobility Management. Usually a promoter will look for supporters of Mobility Management activities and will try to secure financing, etc. At Policy Level the most likely promoters are public bodies, particularly local/regional or central government, but also transport providers such as public transport companies which are trying to establish themselves as companies providing services for all mobility needs. For a specific site individual companies or institutions could be promoters at Management Level. A key factor is the creation of alliances.

Besides lobbying the idea of Mobility Management to key actors the marketing of Mobility Management Services at User Level is substantial.

As a variety of parties are often involved in the implementation of Mobility Management, co-ordination is a very important element. This could be undertaken by a task force, working group or consultative board made up of promoters, supporters and other interested parties. Co-ordination is also one of the main activities of a Mobility Manager who will have to work closely with all the different parties involved. Another important aspect of co-ordination should be to establish links to Mobility Management activities in other cities or regions.

5.3.2 Mobility Manager

Role


The role of a Mobility Manager is to take overall responsibility for introducing Mobility Management, developing the overall scheme and promoting it both as a key link between the Policy Level as well as a particular city/region or individual sites. Acting as an intermediary between all the different parties involved the Mobility Manager has an important co-ordinating function. The role could also include the integration of passenger and freight transport.

The description given here should be viewed as a role which one or more persons can share the responsibility for, rather than simply act as an individual person. It is likely that the role of the Mobility Manager will develop in stages.

Where the Mobility Manager is based depends on the key promoter(s) involved in the local Mobility Management scheme. While this is likely to be the local authority, Central or Regional Government, there are other possibilities, e.g. local public transport providers or non-governmental organisations.

Activities

As well as the overall development, promotion and co-ordination of Mobility Management within an area one of the main activities is to gather the support of policy makers and key players such as public transport companies, other transport providers, big site owners, non-governmental organisations, etc. Mobility Managers should be sensitive to the

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political environment in which they are operating and good links to all relevant parties should be maintained. Mobility Manager(s) make the necessary strategic decisions to maintain the development of Mobility Management and develop new concepts. They also keep in touch with other cities/regions to exchange ideas and experiences ('networking'). When dealing with freight transport Mobility Managers will also have to maintain a good working relationship with those responsible for freight deliveries and distribution logistics in the area.

5.3.3 Urban/Regional Level

Mobility Management activities at Urban/Regional Level include all Mobility Management Services that are aimed at the general public of a certain city or region. This also comprises certain Mobility Management Services for special target groups, e.g. Mobility Education in all kindergartens and schools. The Urban/Regional Level counterpart of a Site Level Mobility Plan could be a Mobility Strategy that comprises Mobility Management measures for a particular part of a town (e.g. a suburb or an industrial district) or certain target groups (e.g. young people).

5.3.3.1 Mobility Centre

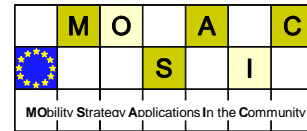
Task

A Mobility Centre is the operating unit for Mobility Management Services at urban/regional level. Offering public access it serves as a crystallisation point to achieve the objectives of Mobility Management. Mobility Centre services are aimed at influencing demand for transport, not transport supply. They shall fill gaps in information provision, create understanding for transport activities and support and encourage travellers to change their attitudes and behaviour concerning the choice of transport.

It collects, processes, provides and disseminates static and real time information to travellers. The concentration on the urban/regional level helps to ensure that the information provided is detailed and that the services offered consider specific local features. The integration of various services on transport (see Chapter 5.2) at a central place reduces the users' effort for trip planning. Aimed at integrating between all modes of transport it provides both multi-modal as well as intermodal services.

Although a large number of services can be offered within Mobility Management not all services are necessary for establishing a Mobility Centre at urban/regional level. The organisational structure of a Mobility Centre varies according to the stage of development as well as the size of the city/region. It varies from simple forms of operation, privately arranged by the village community or a transport association, to more complex arrangements involving city or county authorities, public transport companies and/or public transport authorities.

The implementation of a Mobility Centre is an important landmark for Mobility Management. Commonly a Mobility Centre is located in a central place for easy access. Here it can give a 'face' to Mobility Management initiatives within a region. A mobile Mobility Centre is more flexible when it comes to public awareness campaigns or additional activities at large events such as open-air concerts or sports events. In addition, it could bring Mobility Management Services to the people in rural areas. With the increasing use of the Internet a virtual Mobility Centre could also help to widen the range of possible users.



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The system users access to the Mobility Centre can be provided by different means such as telephone (e.g. 24 hours phone service, standardised phone number), facsimile, personal visit, information terminals, e-mail (e.g. transfer of inquiries and answers to inquiries) or on-line services (e.g. Internet).

The linkage to service providers is for information exchange, for example, access to the providers' database or transfer of reservation and sales activities. In that respect on-line services are preferable in many cases in order to have up-to-date information on services and availability. The service providers could be public transport providers or railway companies, car sharing organisations and car rental agencies, tourist offices and travel agencies. Finally, a Mobility Centre is naturally linked to all other actors involved in Mobility Management.

In freight transport a Mobility Centre would act mainly as a service and information centre for those operating in freight transport. It would provide access for all shippers, hauliers, freight forwarders, freight agents, logistics distributors, goods receivers, planners and authorities. Existing freight centres or terminals for intermodal rail-road-transport are not Mobility Centres, but could be used as the basis for further development.

In contrast to passenger transport a Mobility Centre in freight transport does not have to be located in the city centre or near the customers. The exchange of information such as current traffic information, legal news, reporting of re-loading facilities, reservation of transport capacities are usually given by phone or fax and require no personal appearance.

Activities

At the urban level a Mobility Centre provides regional/city wide services which are available to the general public.

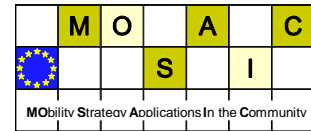
The main activities of a Mobility Centre are to initiate, implement, organise, co-ordinate and finally evaluate Mobility Management Services. Based on these activities the Mobility Centre provides information about the most suitable transport mode or a combination of different transport modes (presenting different alternatives to the use of a private car) for each particular trip purpose and their most effective use. It offers an extensive, individual customer service (far more than just information) and a solution of most of the client's problems concerning mobility and helps to improve the degree of familiarity and acceptance of the idea of Mobility Management and its services.

Staff

The task of the Mobility Centre Staff is the every-day running of a Mobility Centre and to carry out Mobility Management Services at user level. Their work could also include conceptual work within the Mobility Centre.

Mobility Centre Staff should have advanced knowledge of transport activities in general, of the local transport systems. The more advanced the services of a Mobility Centre get the more important is a professional knowledge. Therefore, an additional training of Mobility Centre Staff is recommended. Special knowledge is required for a Mobility Centre that offers freight transport services.

In the Mobility Centre they are in direct contact with the end-user offering to the customer all Mobility Management Services performed by their Mobility Centre. Depending on the Mobility Centre's size and organisational structure there might be different functions that



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have to be fulfilled by the Mobility Centre Staff. But as a team they have to offer all services via all modes of communication the Mobility Centre offers (i.e. personal conversation, telephone, fax, e-mail, Internet).

5.3.3.2 Mobility Consultant

Role

The role of a Mobility Consultant is an intermediary role as it includes project management (at a lower level than a Mobility Manager) as well as the provision of Mobility Management Services. She/he can operate from a Mobility Centre (implementing and supervising services) or in close cooperation with it.

The Mobility Consultant also gets into contact with those who do not yet try to implement Mobility Management measures on their own, but where there seems to be a rather good potential for success of such measures. This could be sites that attract a lot of traffic (companies, retail or leisure centres) or certain groups (kindergartens and schools).

A Mobility Consultant should liaise closely with the Mobility Manager where one exists and support his work. In the absence of a Mobility Manager a Mobility Consultant could be the first approach to Mobility Management at urban/regional level.

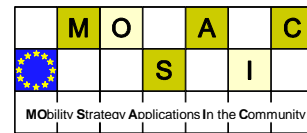
Activities

The Mobility Consultant can provide services such as organising public awareness campaigns for the broad public as well as certain target groups (e.g. schools, kindergartens, discotheques, social institutions, newcomers) and undertake mobility education (instead of traditional traffic education) and motivation projects in schools and kindergartens.

An important activity is to address, encourage and advise traffic generators (e.g. companies, retail centres, organisers of leisure and sports events, etc.) to get involved in Mobility Management and ideally develop Mobility Plans. S/he can help sites to develop, implement and evaluate Mobility Plans by support in staff surveys and accessibility analysis as well as finding adequate measures for their Mobility Plan. Advising traffic generators in funding and operational issues (e.g. possible tools, experience of others) concerning the implementation of their Mobility Plan. This could also include negotiation of special offers for sites (e.g. Job Tickets, new transport services) and co-ordinate the activities of the partners involved.

5.3.4 Site Level

At Site Level Mobility Management Services are site-specific, aiming at influencing the demand for transport relating solely to journeys to and from that site and being available only to those with access to that site. In the case of a work-site, for example, this would be primarily employees, but also visitors, sub-contractors and even those making deliveries to, or collections from, that site. In other situations these Mobility Management Services could relate to shoppers' and employees' journeys to and from a retail centre or visitors' and employees' journeys to and from a leisure centre. However, for ease of description, much of the following work has been written from the perspective of applying Mobility Management on a work-site.



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5.3.4.1 Mobility Office

Task

The Mobility Office is the operating unit for Mobility Management of a particular site. In order to perform its role the Mobility Office can function at a variety of levels. At its most basic the Mobility Office may simply function as a help desk which employees and other site-users can contact by telephone with queries regarding transport to and from their site. This would be most appropriate where a single Mobility Office serves several sites belonging to the same organisation. In contrast, where there is a large number of employees all on the same site it may be more appropriate to have a particular room set aside as the Mobility Office. This can then act as a 'drop-in' advice centre where employees and, if relevant, other site-users, can come or call to ask questions, pick up literature or get information. Where the Mobility Office is to perform a 'drop-in' function it should be in a central, readily accessible location within the organisation.

Activities

The Mobility Office collects, processes and disseminates up-to-date information to employees, freight operators and other site-users and also to be the focus for Mobility Management initiatives within an organisation.

All activities performed by a Mobility Office will be part of the strategy which can be laid out in a Mobility Plan. All these activities will aim at reaching the goals defined in the Mobility Plan.

The Mobility Office should maintain good links with the local authority and other service providers to ensure that it is supplied with any new timetables and other data as soon as it becomes available. It should have good links to information and communication sources to encourage a two-way supply of information.

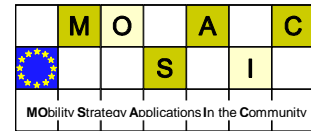
The services of a Mobility Office will not necessarily concentrate solely on passenger transport and it may also be useful to examine the options for integrating freight transport into the work of the Mobility Office.

As the work of the Mobility Office progresses it may be possible to co-operate with neighbouring organisations to co-ordinate trips by goods vehicle and reduce empty runnings.

Staff

The task of the Mobility Office Staff is the every-day running of a Mobility Office and to carry out Mobility Management Services at user level. Depending on the size of the Mobility Office this function can also be carried out by a Mobility Coordinator.

In the Mobility Office they are in direct contact with the user offering to the customer all Mobility Management Services performed by their Mobility Office. These services include, for example, general information on schedules and fares of the public transport operator, the distribution of JobTickets to the employees and administration of a Car Pool matching scheme.



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5.3.4.2 Mobility Coordinator

Role

A Mobility Coordinator's task could be to take responsibility for a Mobility Plan for a particular site. A Mobility Plan could even include the introduction of a Mobility Coordinator. His/her task would then be to continue the Mobility Plan's implementation.

The Mobility Coordinator has to ensure the support of senior management from board level down both in terms of being provided with an adequate budget to work with and in terms of co-operation with the various initiatives proposed and adopted to achieve the Mobility Plan objectives. They should ideally be located centrally within the company's organisational structure so their work becomes part of management's corporate aims and objectives. At smaller sites it may be more appropriate for the Mobility Coordinator activities to be included in the job description of another member of staff.

The Mobility Coordinator should also maintain a good working relationship with trade unions and other organisations which represent employees interests in order to ensure a consensus is reached across all levels of the organisation.

Activities

The activities undertaken in fulfilling this function will vary from site to site and are likely to develop in stages. If there is no Mobility Plan yet, the main activity of the Mobility Coordinator will be to set up a Mobility Plan and implement a Mobility Office, preferably in co-operation with a Mobility Consultant. S/he will carry out surveys and interviews among the site users in order to gain a general picture of the transport situation related to that site and to get a basis for setting up a Mobility Plan.

On that basis the Mobility Coordinator will then negotiate with his/her employers whether and how to implement a JobTicket, a Car Pool scheme with company owned cars or preferential parking for Car Poolers, theft- and weather-proof bicycle stands, changing rooms and showers for cyclists, etc..

Furthermore, based on the results of the employee survey a Mobility Coordinator sets out travel plans for every employee that offers possible alternatives to the private car.

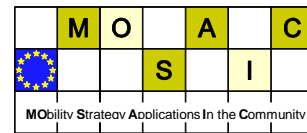
The Mobility Coordinator will also have to evaluate the results of measures taken against the objectives set out in the Mobility Plan and think about new measures when the target will not be met otherwise.

In addition, the Mobility Coordinator will take charge of the day-to-day operation of the Mobility Office if there are no Mobility Office Staff. The activities of the Mobility Coordinator are likely to develop in line with the development of the Mobility Office.

5.3.4.3 Mobility Plan

A Mobility Plan is a comprehensive and directive document that indicates how to implement and bring into force Mobility Management strategies that manage travel to and from a particular site where people gather for work, leisure or shopping purposes. It is a strategy developed to allow the site-user to organise site-related transport needs.

In general a Mobility Plan can adopt all measures that help to reduce motorised vehicle trips to and from the site it is concerned with. The Mobility Plan can be limited to certain



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types of traffic such as visitor traffic to a particular institution or commuter traffic at an industrial estate. In case of a work site, this will aim at commuter traffic, deliveries to and from that site as well as visitor traffic. Commonly, the Mobility Plan is used on the site level, but it should be conceivable as a plan for a quarter of the city or for a certain target group (e.g. young urban Mobility Plan).

Setting up a Mobility Plan requires a survey that gives an insight in the travel patterns to and from that site as well as thorough research in the area and traffic conditions around the site. Possible alternatives have to be found for certain groups (e.g. Car Pooling for all people living in the same area, bicycle for those living nearby etc.).

The Mobility Plan includes a summary of the Mobility Management measures to be taken. It also sets out who is responsible for implementing the measures, how they are to be implemented and the time schedule for implementation. Finally, a Mobility Plan should include an explicit statement of its aims that have to be reached in a certain time span, e.g. a certain percentage in reduction of motorised vehicle trips to that site within the first year after implementation. In setting such a quantitative objective the Mobility Plan

- acts as an incentive to motivate the people involved
- inclines potential funders to make resources available if they can see that the Mobility Plan has definite aims
- provides a target against which to measure its success

It is important to gain a consensus of agreement among those affected by the Mobility Plan and to consult with all levels in the organisation to ensure that the measures selected will have as wide support as possible.

6 APPLICATIONS OF MOBILITY MANAGEMENT

6.1 INTRODUCTION

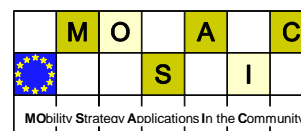
The following chapter describes the design and implementation of the demonstrators. Altogether the design for the three MOSAIC demonstrator projects covers a certain amount of the theoretical Mobility Management concept (figure 5.1-1) and only a part of all possible services of Mobility Management.

Pilot Demonstration	Wuppertal (D)	Nottingham (UK)	Dutch (NL)		
			Leiden	Utrecht	Groningen*
Passenger					
Mobility Manager					
Mobility Centre	●				
Mobility Consultant	●	●			
Mobility Office		●	●		
Mobility Coordinator		●	●		
Mobility Plan		●		●	
Freight					
Mobility Centre	●				

* Special Application Commuter Newsletter

Figure 6.1-1: Mobility Management applications in the MOSAIC project

Details about the demonstrators concerning the local situation, development of Mobility Management, features of the demonstrator, design, implementation and assessment can be found in the Deliverables D 3 (Demonstration Wuppertal), D 4 (Demonstration Nottingham) and D 5 (Demonstration the Netherlands). The demonstrator findings are summarized and serve as a basis for conclusions and thoughts on transferability to other countries. The Mobility Management concept described in this report represents a common view (and names) of the MOSAIC-consortium and the MOMENTUM-consortium. Following this common concept, two names for roles used in other MOSAIC deliverables changed: The former “Mobility Adviser” is now called “Mobility Manager”, the former “Mobility Manager” is now called “Mobility Consultant”.



6.2 ASSESSMENT STRATEGIES

The eventual aim of Mobility Management is to bring about a change in (travel-) behaviour of individual people. This must be seen as a long term process. Therefore it is important to consider and implement monitoring and assessment strategies over a longer period. Monitoring and assessment must also be used to improve concepts and services in order to reach a high degree of cost-effectiveness. Within the timescale of MOSAIC it was not possible to assess all the impacts of the demonstrators since they had not been running for a sufficient length of time when the assessment was carried out. However, it was possible to assess some aspects and consider how others might be assessed in future.

A general and comprehensive assessment strategy was designed during the project (see figure 6.2-1). This strategy was adapted to suit the different approaches and different starting conditions of each demonstrator.

Two assessment levels can be identified for the MOSAIC-project as a whole and the individual demonstrators. The first level comprises general observations during the design and implementation phase concerning the initiation of Mobility Management, and the success and failure of different approaches. This is a qualitative way of assessing approaches to implementation in different local or national frameworks.

The second level deals with specific services or activities and can draw on data which was collected during the project. Each of the MOSAIC demonstrators was assessed using a common approach in order to ensure, as far as possible, comparable results for the individual pilots in the different countries. The following sections describe:

- the objectives of the assessment in the MOSAIC project,
- the approach used to assess the pilot demonstrator findings,
- the individual approach used for each demonstrator.


Based on these findings, thoughts on transferability and general conclusions are included in the following chapters. They are based on general observations of Mobility Management initiatives in different countries and the expert knowledge of the MOSAIC-team.

Objectives

The objectives of assessment in the MOSAIC project are principally to gain sufficient knowledge of the following aspects, relating to each demonstrator:

- the degree of knowledge of Mobility Management activities,
- user potential for Mobility Management services,
- popularity of Mobility Management services,
- degree of user satisfaction gained from Mobility Management services,
- effects of Mobility Management on travel behaviour.

Additional objectives seek to identify successful and unsuccessful Mobility Management services or cases of insufficient market penetration due to lack of marketing. The opportunities and limitations of Mobility Management activities, including organisational

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6.2 Applications of Mobility Management – Assessment

and financial aspects, in passenger and freight transport are also identified.

The above objectives form the basis for the approach used to assess the pilot demonstrator findings.

This approach focuses on the type of user reaction and is grouped into five levels as shown in Figure 5.2-1. The five levels are:

- **Knowledge level** - to assess whether or not potential users know about Mobility Management at all and, if so, which services are known best.
- **Usage level** - to assess whether or not potential users actually use Mobility Management services and, if so, which services are used and how often.
- **Acceptance level** - to assess whether or not potential users followed Mobility Management advice and, if so, which services they were satisfied with.
- **Individual behaviour level** - to assess whether or not potential users changed their travel behaviour and, if so, how did they change (mode choice, time of travel, destination, trip frequency etc.).
- **System impact level** - to assess the changes in traffic flow, mode choice, emissions and energy consumption etc.

The first three levels (knowledge/usage/acceptance level) refer to user reactions (private individuals or companies with a Mobility Plan, for example), which can be assessed through surveys, counts and various types of interviews (these are called „category I effects“).

Levels 4 and 5 (individual behaviour and system impact level) focus on changes in travel behaviour and the resulting impacts on the transportation system (these are called „category II effects“). Behavioural changes and system impacts require a more complex approach to assessment, based on before and after data taken from different types of surveys (see Figure 6.2-1), and over the medium to long term as behavioural changes are unlikely to occur quickly.

With the resources available, MOSAIC concentrated on the assessment of category I effects. The quantification of changes in travel behaviour and system impacts (category II effects) would not only require extensive before and after studies, but also a careful isolation of specific local effects resulting from measures other than Mobility Management, such as changes in fiscal policy, the quality of transport supply and the overall traffic conditions etc. Such an approach would be far beyond the MOSAIC time frame and the project's main focus. Consequently, MOSAIC can only assess short term effects.

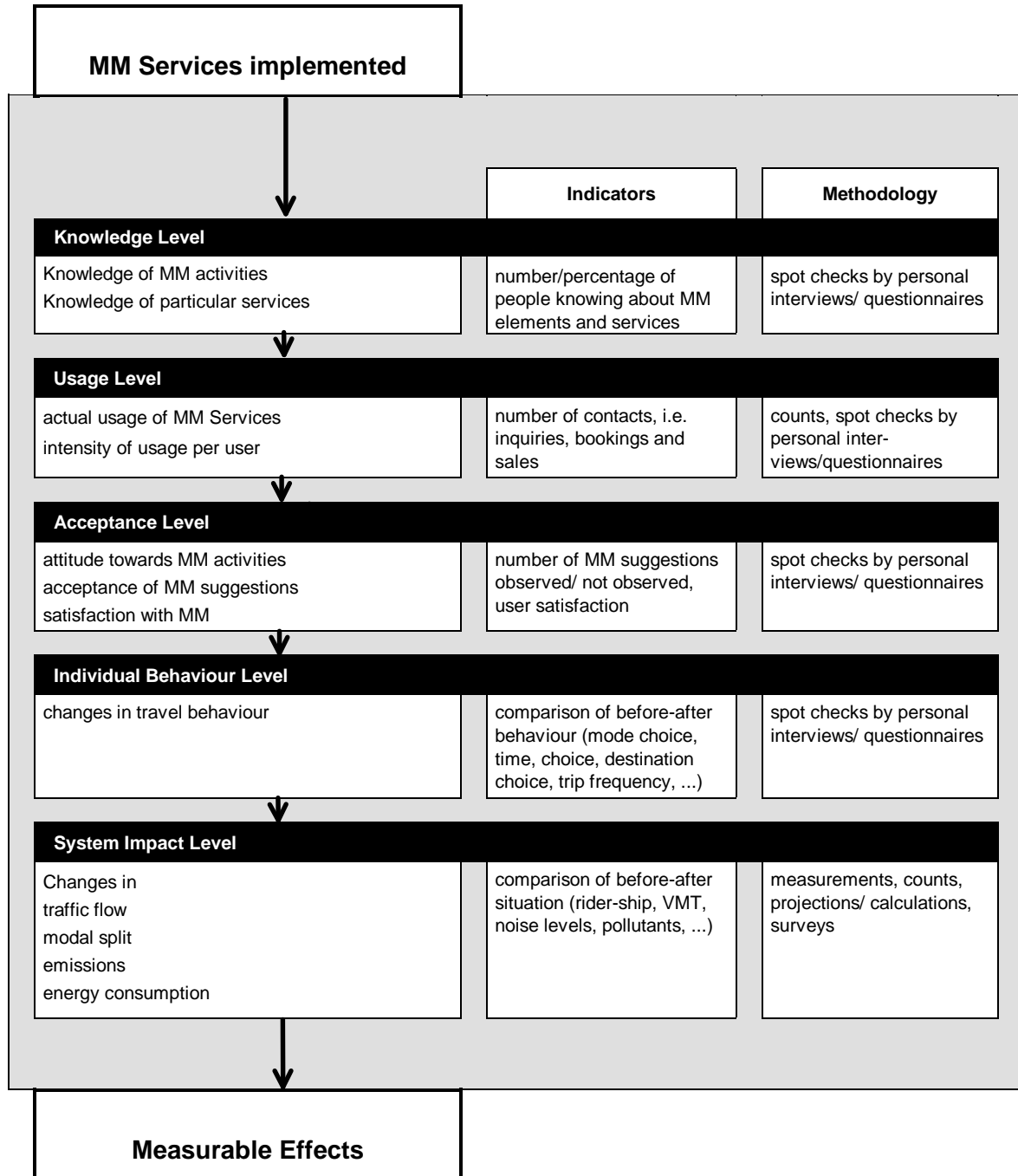
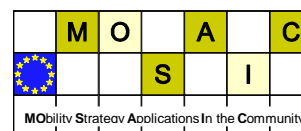


Figure 6.2-1: Assessment Framework



Assessment of the Wuppertal Demonstrator

The Wuppertal demonstrator comprises of the Mobility Centre (including Mobility Consultants working as the operating personnel of the Mobility Centre) and the Mobility Consultants working on external duty in passenger transport. These two „institutions“ are consequently subject to assessment.

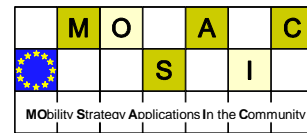
- **Knowledge level** questions are addressed to all citizens of Wuppertal. Ongoing annual postal interviews, such as the city marketing survey, could be used to answer Mobility Centre related questions, 3 of which referring to citizens’ knowledge of the Mobility Centre and about Mobility Consultants on external duty.
- **Usage level** questions are only addressed to users of the Mobility Centre and Consultant services. Such questions could be partly answered by the existing city marketing survey (did you ever use the Mobility Centre?), and partly by an ongoing cross table survey, checking how often a particular service is used.
- **Acceptance level** questions are addressed to all customers of Mobility Management services. The Mobility Centre related questions are subject to the personal interview of customers (see above), whereas the Mobility Consultant on external duty related questions are addressed to the Mobility Consultants themselves during the expert interview.
- **Individual behaviour level** questions, as far as they are relevant to assessment within MOSAIC, are addressed to all customers who followed Mobility Management suggestions.

Assessment of the Nottingham Demonstrator

The assessment of the Nottingham demonstrator has focused on examining the effectiveness of a Mobility Consultant working within the City Council in encouraging the implementation of Mobility Plans.

For the Nottingham demonstrator there are two strands to the assessment. Firstly, the Mobility Consultant, with contributions from others in Nottingham City Council, has provided his own assessment of whether the various tasks described in the Work Programme have achieved their target or aim. In a few cases, it has been possible to provide a quantitative assessment of whether targets have been reached but in most cases the assessment is qualitative, based on the Mobility Consultant and others’ perceptions of whether stated aims have been achieved.

The second strand to the assessment involved telephone interviews with representatives from organisations in Nottingham. It has been possible to assess to a certain extent whether attitudes to transport problems and Green Commuter Plans (Mobility Plans) have changed during the course of the demonstrator since the results from this survey work can be compared with the results from the earlier survey work carried out at the start of the demonstration phase.



6.2 Applications of Mobility Management – Assessment

Assessment has concentrated on the category I effects of the common assessment strategy developed for the MOSAIC project (see Figure 5.2-1).

- The **Knowledge Level** has been examined by asking those organisations not previously contacted whether they had heard of Green Commuter Plans.
- The **Usage Level** has been examined both quantitatively in terms of the number of organisations which agreed to meet with the Mobility Consultant but also qualitatively by assessing the usefulness of those meetings and subsequent contact.
- The **Acceptance Level** has been tested (again both quantitatively and qualitatively) in terms of the number of organisations developing Mobility Plans and the organisations' satisfaction with Mobility Management activities in Nottingham.

Assessment of the Dutch Demonstrators

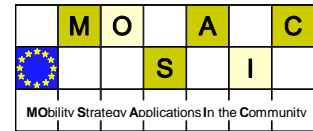
The task of MOSAIC in the Dutch demonstrators is only monitoring while activities in the other projects were partially sponsored by MOSAIC. MOSAIC did not have any influence on the actions taken by the demonstrators.

In the demonstrator in the North Netherlands the contact is through a newspaper. Therefore, the effectiveness of the demonstrator can not be judged on a company level and all levels will be regarded from the commuters' point of view; what is their knowledge about the newspaper, their usage, their acceptance, the changes in individual behaviour and the overall changes on the system.

In the other two Dutch projects (Utrecht and Leiden Region), no individuals are approached directly either. There has only been contact between a Mobility Management Centre and companies. The effects of these centres will be regarded on all five levels, but the first three levels will only be regarded from a 'company' point of view. That means that it is observed whether the companies in the target group know about the demonstrator, use the facilities of the demonstrator and accept the offered service of the demonstrator. For the latter two levels (individual behaviour and system impact), the data about individuals (that means the employees) is used, when available.

For the demonstrator in the North Netherlands, three surveys are used. In addition to this data, there is some other information from a Travel Behaviour Study (in Dutch: Onderzoek Verplaatsings Gedrag, OVG) which can be used for the assessment of the system impact in the North Netherlands. For the Utrecht demonstrator, data from four surveys was available. The latter three were in the same format. Therefore, especially the changes in this period could be analysed. In Leiden, another monitoring system is used. In this database, information is stored about the companies in the target group. No data is obtained or stored about individual changes in commuting.

Additional information was used from the regular meetings held with the contact person of the demonstrator.



6.3 DEMONSTRATORS

6.3.1 Wuppertal Demonstrator, Germany

6.3.1.1 National Context

In Germany, Mobility Management is understood as a voluntary task to be performed by local activists in order to assist people in performing their daily mobility needs in a more efficient and more sustainable way. These individual needs are mainly related to local trips to work, school, shopping and leisure. Consequently, Mobility Management is neither a national task nor based on national programs. It is more a local initiative and, as such, mainly performed by public transport operators or some local authorities (based on their legal responsibility for public transport). The local activities, however, are to a large extent based on cooperation with all kinds of other service providers in order to offer multi-modal assistance and advice.

6.3.1.2 Local Situation

The city of Wuppertal is located 30 km east of Düsseldorf and about 50 km north-east of Cologne. Together with the neighboring cities of Solingen and Remscheid the city of Wuppertal forms a conurbation of almost 700,000 people. Within the city itself live about 400,000 people.

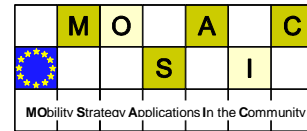
In the city of Wuppertal, public transport services are mainly offered by the city-owned public transport company “Wuppertaler Stadtwerke AG, WSW” (local bus services and suspension rail) and German Rail (suburban and regional rail services). WSW is operating a network with a total length of 695 km, served by 257 buses and 28 suspension rail units. In 1994 the public transport network was comprehensively reshaped and optimized to improve service quality and economic efficiency. Ever since, systematic connections between bus and rail system exist, an easy to remember integrated 20 minutes basic service interval was introduced to all bus routes and a 5 to 10 minutes interval (2 to 5 minutes interval for suspension rail) on major arteries. There is a common tariff-system within the Rhine-Ruhr area enabling the use of all public transport services (bus, tramway, LRT, suburban and regional rail) with a single ticket.

WSW has a new understanding of customer service as not just transporting people as goods to their destination but as a customer oriented service provider considering all questions of mobility. The targets are to serve existing customers even better as well as to gain new customers and to open new markets. As such, WSW started in March 1995 a Mobility Centre with public transport related services on city and regional level. In January 1996, the Mobility Centre became part of the MOSAIC project and started evolving a comprehensive set of multi-modal services related to all questions of daily mobility with an additional focus on freight transport.

6.3.1.3 Features of the Wuppertal Demonstrator

Elements of the Demonstrator

Based on funds through the MOSAIC project the **Mobility Centre** existing already for some public transport related services, was considerably expanded and converted into a



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pool of multi-modal information services on city and regional level. The services should be targeted to both, public transport as well as to freight, if there is a need for those services in freight transport at all. Currently, about **60 different services** are offered, mainly addressed to information and marketing, coordination and organization as well as to reservation and sales activities. A Mobility Centre is not necessarily operating the services provided, but cares about their organization and marketing.

The Wuppertal Mobility Centre is located in the central pedestrian zone and operated by 7 personnel, 6 from WSW and 1 from German railways. The center handles approximately 8,000 contacts per month, 2/3 by phone and 1/3 by personal visit.

Whereas the services provided by the Mobility Centre are to be activated by the users, the idea behind a **Mobility Consultant** is to bring mobility related services directly to the user. Mobility Consultants are a team of currently 6 well trained professionals, all employed by the local public transport operator WSW. The consultants inform and advice mainly private individuals at/in companies and institutions, schools and kindergartens, private households, retirement homes and pedestrian zones. The services provided are exclusively related to public transport and refer mainly to consulting as well as to awareness and education. Between 30 and 40 contacts are scheduled to be performed per month.

Design of the Demonstrator

The demonstrator design describes the Mobility Management services provided in respect to characteristics, responsibility and organization, user access and feasibility. For details see the respective MOSAIC deliverable 3 “Demonstration Wuppertal”.

In **Passenger Transport**, figure 6.3.1-1 gives an overview on all services provided by Mobility Centre and Mobility Consultants in Wuppertal. The services are grouped by 3 categories as basic, intermediate and advanced services as categories of importance or stages of development. “✓” marks services provided by Mobility Centre or Mobility Consultant, whereas “(✓)” marks services only partly provided by Mobility Consultant.

In **Freight Transport** the following 3 services were developed to be exclusively provided by the Mobility Centre:

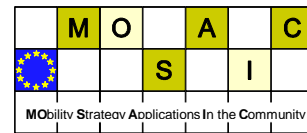
- Home delivery service of purchased goods, targeted to all individuals,
- Information system for waste disposal, targeted to private households and small enterprises,
- Local information system for freight transport (LOGIS), targeted to freight carriers, trade, building and constructing industry.

LOGIS should supplement regional and supra-regional information systems by providing local data about traffic situation, route information, land use data, traffic relevant data on environment and auxiliary services. The idea behind LOGIS is to coordinate different data sources, to pool the information and to allow access 24 hours per day, be it via phone, fax, e-mail etc. For the first time, LOGIS tries to transfer experiences gained with Mobility Management in passenger transport to freight transport as far as the Mobility Centre is concerned. In preparation of a possible pilot demonstration later on acceptance analyses were performed as a first step.

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		Basic	inter- mediate	advanced	Mobility Centre	Mobility- Consult.
	Information and Advice					
Public Transport	timetable and fare information (local services, inter-city rail services)	●			✓	(✓)
	public transport services other cities (nation-wide/international)	●			✓	
	integration of local and inter-city transport information (door-to-door)		●		✓	
	personal travel plans		●		✓	✓
Car	car sharing / car rentals	●			✓	✓
	Park & Ride	●			✓	✓
	parking supply / parking guidance systems / parking fee scheme		●		✓	(✓)
	information about routes for private transport		●		✓	
	traffic conditions			●	✓	
Bike	Bike & Ride	●			✓	✓
	bike hire facilities / bike routes	●			✓	(✓)
	bike tours / all about bicycle (e.g. bicycle shops)		●		✓	(✓)
Multi-modal	accessibility of destinations	●			✓	(✓)
	supply for handicapped persons	●			✓	✓
	advice on transport insurances			●	✓	✓
	activities of conservation groups		●		✓	✓
	information about the home-delivery service			●	✓	(✓)
	information about waste disposal		●		✓	(✓)
	tourism with environment-friendly transport modes			●	✓	✓
	Consulting					
M	cost analysis private vs. public transport		●		✓	✓
	subjects concerning environment and consumers			●	✓	✓
	Awareness and Education					
M	Courses in schools, kindergartens, private households, companies		●			✓
	Information events in public places (e.g. pedestrian zone)		●			✓
	Transport Organisation and Co-ordination					
PT	shared taxi/other operating on-demand services			●	✓	
	special trips			●	✓	
C	car sharing			●	✓	
M	delivery service			●	✓	
	Sales and Reservation					
Public Transport	sale of tickets (local transport of Rhine-Ruhr area and German Rail)	●			✓	
	reservation of seats in trains	●			✓	
	reservation and sale of additional rail services (e.g. porter at stations)	●			✓	
	sale of printed timetables and electronic timetable software (for pc)	●			✓	
Car	reservation for car sharing			●	✓	
	reservation of rented cars		●		✓	
	sale of parking tickets		●		✓	
M	reservation and sale of tickets for special events			●	✓	

Figure 6.3.1-1: Mobility Management Services in Passenger Transport



6.3.1.4 Results of Assessment

Demonstrator Findings in Passenger Transport

Following completion of the pilot demonstration, a survey was carried out in Wuppertal to gauge the effectiveness of Mobility Management measures in the field of passenger transport:

City marketing survey: This is carried out annually in the form of personal interviews, which have been extended to include questions on awareness of WSW mobility services.

Mobility Centre interview campaign: Telephone interviews were carried out with Mobility Centre customers. The focus was on user acceptance and resulting changes in behavior.

Checklist for new services: Utilization of the Mobility Centre's' new services was recorded in a checklist. In addition, it was possible to make use of existing evaluations of the extent of utilization of "traditional" services in order to reach conclusions about long-term utilization frequency.

Interview with expert Mobility Consultants: The WSW Mobility Consultants were asked about the target groups, scope and acceptance of their consulting services during a personal group interview.

The surveys are incorporated in a 5-stage evaluation concept. The complexity of the subject of "Mobility Management" has shown that an analysis of all levels (including all desirable questions) was impossible in the context of the MOSAIC-Project (e.g. Level 5).

- **Knowledge Level**

Knowledge of the WSW mobility services has increased continuously since the services were introduced. About 1/3 of the population of Wuppertal (34% 1997) are aware of the **Mobility Centre**. This is largely influenced by its central location in the heart of the pedestrian zone and the opportunity for making a personal visit. 18% of the interviewed customers indicated that they had first noticed the Mobility Centre "by chance" while passing. In addition, printed media and word-of-mouth are significant multipliers.

Knowledge of various Mobility Centre services can be deduced from the results of the city marketing survey. Services directly related to public transport (e.g. ticket sales: 92% of all Wuppertal residents who are aware of the Mobility Centre) are the best known Mobility Centre services. In comparison, the services provided in the context of the MOSAIC pilot project, such as car sharing (18%) or information on available parking spaces (12%) are less well known.

In contrast to the services of the Mobility Centre, the services supplied by a **Mobility Consultant** are still relatively unknown in Wuppertal. In addition, the expert interviews show that the task of the Mobility Consultants is partly misunderstood by the public, and that increased marketing will be needed - even within the company - to improve the level of awareness.

- **Usage Level**

On average about 6,500 inquiries per month are dealt with by the WSW **Mobility Centre**, with a fluctuation range of up to 1500. This corresponds to an inquiry frequency of approximately 15 to 20 per 1000 head of population per month. The user frequency per individual therefore corresponds to about 2 inquiries per customer and month. At a rough

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estimate, this means that about 1% of the residents of Wuppertal are users of the Mobility Centre. Approximately 1.6 services are involved per inquiry, i.e. inquiries at the Mobility Centre are usually multilayered.

Customers usually contact the Mobility Centre by telephone (78.5%). However, the effect of visits to the Mobility Centre on its acceptance should not be underestimated. The “typical” customer of the Mobility Centre in Wuppertal is female (71%), has a driving license (73%) but no car (64 %), but does have a monthly season ticket for public transport (67%), is employed (46%) or retired (27%), and aged 30 - 40 (24%) or over 60 (31%).

A variety of institutions currently make use of the **Mobility Consultants'** services. In the context of traffic safety work, there is extensive cooperation with schools and kindergartens, and this also has an effect on the co-ordination of the deployment of school buses. Until now, experience with companies has mainly been gathered in cooperation with large companies. However, contacts with smaller companies are gaining in significance.

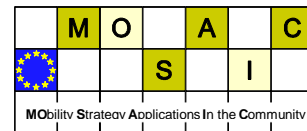
- **Acceptance Level**

Users generally rate the Wuppertal **Mobility Centre** and its consulting services as good to very good. In addition, 84% of the information and advice is followed by the customers, and only 6% is not followed (10% of inquiries concern matters for which the consulting service of the Mobility Centre is not responsible, e.g. ticket dispenser failures). The grounds given for not following the advice and suggestions of the center are usually the familiar reasons for not using public transport (taking along other passengers or luggage, speed, comfort, price).

The acceptance of individual services demonstrates a certain amount of “public transport bias”. For example, 95% of all inquiries to the Mobility Centre are directly related to public transport. 17% of all inquiries concern services that have expanded the Mobility Centre services in the context of pilot demonstration. Here, too, services relating to public transport are most requested, such as the integration of local and long-distance transport information (door-to-door information). By contrast, information concerning parked vehicles (parking availability, parking route systems) and services oriented towards freight transport (information system for waste disposal) have remained largely insignificant. The relatively low demand for these services is partly attributable to the inherently large amount of information needed by users of public transport systems, which naturally leads to a high volume of inquiries of such “traditional” information (schedule and fare inquiries), so that the volume of “multi modal-transport” inquiries is low in comparison.

The acceptance of **Mobility Consultants** in Wuppertal, particularly in the private sector, is defined by the Mobility Consultants' links to the local transport company. There is a field of tension between (1) skepticism on the part of the institutions receiving advice (accusation that the mobility advice service is too closely associated with public transport), (2) the interests of the transport companies (sale of tickets), (3) overriding global targets of Mobility Management (e.g. environmentally friendly traffic management).

In the case of new contacts, this initially necessitates a detailed explanation of the aims of mobility consulting in order to arrive at agreement and acceptance.



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- **Individual Behavior Level**

The consulting activities of the **Mobility Centre** influence its users' travel behavior. Although most (87%) of those questioned stated that the number of trips per day remains unchanged (8% make more trips, 5% less), there has still been a small but recognizable shift from private transport to public transport. No trend towards making trips by foot or by bicycle has been noted. Most destinations remain unchanged (66%), but mobility consulting has opened up more distant destinations (32%). This indicates that the establishment of Mobility Centres has a tangible but not profound impact on the modal split, although it does play a significant part in safeguarding existing mobility.

Changes in the behavior of the institutions advised by a **Mobility Consultant** are only at a very early stage, and also depend on the commitment of the consultants' contacts. The Mobility Consultants have been able to observe greater understanding of travel patterns, and this is a significant success. The following have also been observed: (1) new public transport customers (season ticket holders) have been acquired; (2) companies are discovering the benefits of car sharing as a means of reducing their own vehicle fleets; (3) the educational nature of mobility consulting has led to a decrease in the vandalism of public transport vehicle interiors.

Mobility consulting must be viewed as a long-term dialogue between mobility service providers and the institutions receiving advice. This also provides benefits from a marketing point of view.

- **System Impact Level**

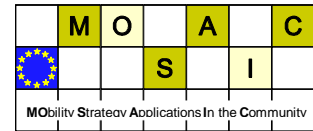
In addition to the information shown above, no quantifiable information is yet available on the influence of Mobility Management on the local traffic and environment situation. However, proof of the effectiveness of Mobility Management, in relation to its global targets, will be the standard by which the public (up to and including government subsidies) will judge Mobility Management in future. After all, this is exactly the level at which Mobility Management represents a substantial benefit for society.

In addition to the information shown above, no quantifiable information is yet available on the influence of Mobility Management on the local traffic and environment situation due to the fact that Mobility Management performed by Mobility Centres is a lengthy process, taking several years for measurable effects to become recognisable. The assessment of effects such as changes in traffic flow, modal split, emissions, energy consumption resulting from a Mobility Centre impacts requires additional time (at least several years) to allow people adjusting their travel behaviour to Mobility Management services. Consequently, specific surveys to keep detailed track of individual behaviour patterns (recording individual travel behaviour by ex-ante/ex-post studies) are needed to show these effects.

However, proof of the effectiveness of Mobility Management, in relation to its global targets, will be the standard by which the public (up to and including government subsidies) will judge Mobility Management in future. After all, this is exactly the level at which Mobility Management represents a substantial benefit for society.

Demonstrator Findings in Freight Transport

In preparation for possible pilot projects in future, the first step is to use theoretical considerations and surveys to collect information on the relevance and acceptance of



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mobility services in the freight transport sector. A multi-phase procedure, which is based on the completed, ready-for-use concept of an information center for freight transport (LOGIS), serves this purpose: (1) carrying out of a broadly designed survey in the freight transport sector on the subject of “Mobility Management in freight transport, (2) a detailed consideration of the problems of implementing the concept in the context of discussions between experts and specialists from the local freight transport sector.

Results of the surveys

A questionnaire was mailed to about 1700 companies in the freight transport sector, as well as other sectors involved in urban commercial transport (selected craft firms, construction companies and building materials traders) in the Wuppertal region and in neighboring commercial areas. The survey showed that there is little forward-looking interest in Mobility Management in freight transport. Among the best-rated services (Top 12), information services in particular stand out. In this context, dynamic information (e.g. information on traffic conditions) is rated more highly than static information (e.g. legal regulations, traffic guidance). Coordination and organization aids are rarely among the services requested.

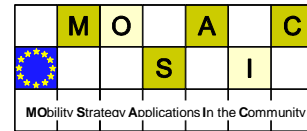
Companies whose core business is long-distance transport, and large hauliers and logistics service providers show interest in the Mobility Management services. The demand for a freight transport information center is, therefore, not exclusively restricted to the target group of urban commercial transport or smaller businesses.

The LOGIS concept was subsequently discussed with representatives of the freight transport sector. The expert survey largely confirms the results of the questionnaire survey. The fact that regional information covers only part of the route planning area is viewed as an obstacle to the implementation of a regional freight transport information center. The business sector needs more source/destination information. The experts also pointed out existing local information deficits. It was suggested that company-related accessibility directories (route sketches) could be used to make a start on solving the problems.

The differentiated requirements for information in the field of freight transport concerning fast, actual, reliable and specialised data differ from the information offered in passenger transport. The availability of relevant dynamic traffic data is not given in most cases or would be very cost-intensive. Therefore, an information-system for freight transport could not be established in a running Mobility Centre for passenger transport without substantial investments for technical infrastructure and education.

Concerning the organisation and promotion of a traffic-information system for freight transport a private organisation is preferred to run the system. The information about traffic conditions must be actual, reliable and very fast. In general public institutions (e.g. also a public transport operator or centralised services by municipalities) are considered not to be as flexible as a private organisation could be. Information from a provider who is specialised on public transport would hardly be accepted by freight transport operators and private transport firms.

Consideration must also be given to the fact that the competitive situation in freight transport imposes limits on cooperation between companies on grounds that affect their very existence, and these are reflected in the suitability, capability and willingness to participate in a comprehensive Mobility Management system.



6.3.2 Nottingham Demonstrator, United Kingdom

6.3.2.1 National Context

In the early 1990s several institutions in the UK, most notably, the Royal Commission on Environmental Pollution, called for the development of a more sustainable and integrated transport policy. These calls led to the current Government's extensive review of transport policy and the publication of the Integrated Transport White Paper in July 1998. Pressure to solve traffic problems has also been very strong at a local level, but local authorities have neither the resources for major infrastructure projects nor the political support for strong traffic restraint measures. Mobility Management is therefore often a convenient course of action and most such projects in the UK have been led by local government.

At a national level, there is now an increasing emphasis on car restraint and a more integrated approach to transport policy. Recent government guidance for local authorities in the UK has included requirements aimed at encouraging greater use of sustainable transport modes and the government is discussing with local authorities issues such as tighter parking controls to deter car use in city centres.

Local authorities around the country are adopting public awareness campaigns, such as Travelwise, in an effort to change travel behaviour and attitudes. At present Mobility Management initiatives are aimed mainly at the journey to work but in the future it is hoped to extend them to include leisure and retail activities.

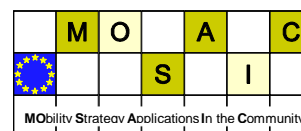
6.3.2.2 Local Situation

For the purposes of the MOSAIC demonstrator Greater Nottingham was defined as the built-up area created by the City of Nottingham and its surrounding suburbs. The area is located about 120 miles (193km) north of London and has a population of around 560,000 (1994 estimate), around half of whom live within the City boundaries.

The Greater Nottingham area is reasonably well-placed for both national road and rail connections. At present most public transport within the urban area is provided by bus services and there is a well-developed bus network, based largely on radial routes converging on the City Centre with a high frequency service on most bus routes during the day but only a limited service in the evenings and on Sundays. The UK bus industry was de-regulated in the mid 1980s and, as a result, most bus companies are now privately owned. Bus services in Greater Nottingham are operated mainly by two bus companies, Barton Trent and Nottingham City Transport. Nottingham City Transport is still owned by the City Council but they do not have full control over its operation since the legislation governing de-regulation only permits them to appoint a minority of the Board members.

The work of the Nottingham Demonstrator concentrated on journey to work trips since these trips make up a large proportion of peak period traffic and therefore make a significant contribution to pollution problems.

The study area was affected by local government reorganisation in April 1998 with the City of Nottingham becoming a unitary authority and taking over highway and transport responsibilities for the city based on the existing city boundaries. This has important implications as, for the first time since 1974, a single authority is responsible for planning and transport in the City, offering new opportunities for advancing the work on Mobility Management and other initiatives.



6.3.2.3 Features of the Demonstrator

Role of the Mobility Consultant

Funding was provided through the MOSAIC project for a Mobility Consultant to take the idea of Mobility Plans (known locally as Green Commuter Plans) to local employers in Nottingham and to encourage them to adopt plans so the City Council was able to take a proactive role in its work with other organisations. The Mobility Consultant works with Nottingham employers and employees to raise awareness of commuter plan issues; giving advice on the development and implementation of commuter plans; monitoring progress and developing a database of transport information for use in commuter plans.

Role of the Mobility Centre

There is no Mobility Centre as such in Nottingham. However, the Urban Traffic Control Centre (UTCC) is responsible for a comprehensive data gathering system. There are regular live radio broadcasts from the UTCC to provide traffic and travel information to travellers and a lot of the information is now available on the World Wide Web. The work on the MOSAIC demonstrator included a feasibility study to examine the possibility of establishing a more comprehensive travel information centre in Nottingham.

Role of Mobility Plans

To date Mobility Plans in Nottingham have primarily targeted home to work journeys, although journeys made whilst at work should also be affected by most of the plans. In the medium term the objective of Green Commuter Plans is to assist strategies to reduce traffic emissions, to promote physical exercise by supporting walking and cycling and to reduce accidents. Green Commuter Plans complement an integrated transport strategy which includes these objectives. In the longer term, the role of Green Commuter Plans is to reduce the number of cars on the road at peak times so that sufficient road space is released to allow for extensions to the bus and cycle networks and the need to build more roads is avoided.

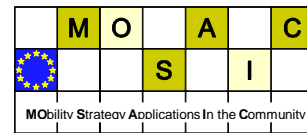
Design of the Nottingham Demonstrator

For some time the City Council had been looking for ways to involve other local employers in employee transport initiatives at the same time as developing its own internal commuter plan. The Commuter Planners' Club was formed to give member organisations the opportunity to talk to, and learn from, each other.

A number of the largest employers in the Greater Nottingham area were already members of the Commuter Planners Club and actively working towards the introduction of Mobility Management before MOSAIC started. However, there were still quite a few large employers (defined as those with 200 or more employees) in the area who had not previously had any involvement. At the start of the project a database of large employers was created based on a number of sources and now includes some 165 employers.

In order to assist in the design of the work programme and to help the Mobility Consultant to determine the best approach to be used when contacting employers a significant amount of survey work has been carried out as part of the MOSAIC project.

It would appear from comments made in the course of this research that employers do not



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particularly concern themselves with problems their employees may encounter on the journey to work. There was very little evidence that a motivating factor for corporate change was the well-being of staff, however there was a general consensus that business efficiency was a motivating factor for change.

An important finding from this initial research was that organisations did not feel that they could operate individually and in isolation to combat congestion and that a more co-ordinated effort was required. It was felt that organisations employing relatively small numbers of people could make only a minimal impact on local traffic conditions. Organisations were also concerned about the loss of business advantage if they acted alone.

Implementation

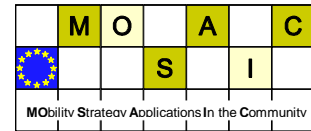
The findings of the survey work supported the strategy of co-operation and encouragement adopted by Nottingham City Council and reinforced the view that the Council needs to work with organisations in assisting them to introduce Mobility Management. Based on the findings of the survey work and the experience to date in Nottingham a detailed work programme was drawn up covering all the tasks to be included in the MOSAIC project.

The most important aspect of this work programme is introducing the idea of Mobility Management to those large employers not already involved and encouraging them to prepare and implement Mobility Plans. The Nottingham Mobility Consultant makes initial contact by letter, then, where organisations are willing a meeting is arranged during which the Consultant can determine the possibilities for establishing a Mobility Plan and offer advice as to how to get started. After the initial meeting the Mobility Consultant must maintain contact with organisations to ensure that the initial interest is sustained and to offer help and support where it is needed. However, it is not the work of the Mobility Consultant to actually design a Plan for an organisation and this is left to the organisations themselves to do. This ensures that the Plan is best suited to a particular organisation's needs and increases the likelihood that proposed measures will be adopted.

6.3.2.4 Results of Assessment

The assessment at the end of the Nottingham demonstrator focused on examining the effectiveness of a Mobility Consultant working within the City Council in encouraging the implementation of Mobility Plans. There were two strands to this assessment. Firstly, the Mobility Consultant, with contributions from others in Nottingham City Council, provided his own assessment of whether the various tasks described in the Work Programme have achieved their target or aim. Secondly, telephone interviews were carried out with representatives from a total of 77 organisations in Nottingham, shortly after the demonstration phase officially finished. The organisations contacted for the survey work were drawn from the database of organisations with over 200 employees in the Greater Nottingham area which had been set up for use in the MOSAIC project. They included Active organisations (those which were involved in Commuter Plans before MOSAIC started or which had become involved as a result of MOSAIC) and Inactive organisations (those which had been contacted by the Mobility Consultant but had not got involved and those which had not been contacted). These interviews allowed an independent assessment of various aspects of the Work Programme.

These are some of the findings from the assessment of the demonstrator.



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Attitudes to transport and the environment

Active organisations were slightly more likely than others – 86% compared to 74% - to think that the problems of traffic congestion and air pollution from traffic are likely to get worse in future perhaps because they are more aware of the issues.

Responsibility for ensuring that traffic levels are reduced

Over half the interviewees felt that employers in partnership with local government should take some responsibility for reducing traffic levels which supports the approach being adopted by Nottingham City Council of working in co-operation with local employers. The success of this approach is also indicated by the fact that 65% of the Active organisations (i.e. those that are already working with the City Council) gave this response compared with only half of the others.

Knowledge of Green Commuter Plans

Only six of the 36 ‘not contacted’ organisations had heard the term ‘Green Commuter Plan’ before and over half of the other organisations first heard the term through contact with the City Council. It would therefore appear that despite the increasing media coverage given to the issue, general levels of awareness or knowledge of the initiative are still relatively low and that most organisations are first introduced to the idea by the City Council.

Contact with the Mobility Consultant

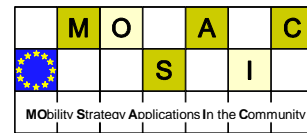
Almost half the organisations surveyed who had been contacted by the Mobility Consultant and had not taken the idea any further at the time said that they would like someone to contact them to discuss developing a Green Commuter Plan. This indicates that success in persuading an organisation to get involved may partly be simply a matter of contacting them at the right time.

Reactions to the initial meeting with the Mobility Consultant were positive with 9 out of the 19 organisations interviewed who had a meeting describing it as very useful and 6 as quite useful. Most of the organisations found the meeting useful because it provided them with ideas and information about transport issues, however, several mentioned the fact that it had simply raised their awareness more generally.

Only five of the organisations who had a meeting said that they speak to or meet with the Mobility Consultant less than once every 3 months but only one of these and two of the ‘pre-MOSAIC’ organisations have contact at least once a fortnight. Three of the organisations who had contact with the Mobility Consultant less than once every three months thought this level of contact was too little. All the other organisations (including all the ‘pre-MOSAIC’ ones) thought it was about right and none thought they had too much contact with the Mobility Consultant or the City Council. Further analysis (which should be treated with caution due to the small numbers involved) revealed that organisations employing more than 400 staff were approximately twice as likely to have contact at least once a month compared to those employing fewer than 400.

Assistance from City Council

The majority of the 23 Active organisations thought that the level of assistance they received from the City Council on Green Commuter Plan issues was what they needed. All 41 of the contacted organisations, whether Active or not, were asked whether there



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was anything else that the City Council could have done which would have encouraged them to introduce a Green Commuter Plan. The most common request from the 23 Active organisations (11 responses) was for physical improvements in the vicinity of their site (e.g. improved cycle links). It seems that organisations are not being deterred from developing Plans by the level of commitment and input required from the organisation which supports the City Council’s approach of getting organisations to develop their own plan and not simply to present them with a completed plan. Some of the Active organisations obviously felt that they did not need any other assistance and commented that the City Council had already helped them in some of the ways listed.

Twenty-six of the 41 contacted organisations were aware that the City Council organises a Commuter Planners’ Club which allows member organisations to share experience on their Green Commuter Plans and learn from each other. Sixteen of these 26 organisations said that someone from their organisation attends regularly and only six (all but one of which were Inactive) said that no-one ever attended.

Just over half (11) of the twenty organisations who attend the Commuter Planners’ Club at least sometimes said that they find the meetings very useful, usually because they provided them with ideas or information from other organisations but less often because of the opportunity for networking and making contacts. Most of the rest find the Commuter Planners’ Club meetings quite useful and only two said they were of little use, usually because they felt they were of little relevance to their particular organisation.

Most of the 23 Active organisations said that the City Council had helped their organisation to co-operate with neighbouring organisations on Green Commuter Plan issues, usually through the Commuter Planners’ Club but occasionally in another way.

First Involvement in Green Commuter Plans

Over half the organisations gave concern for the environment as one of their main reasons for getting involved in Green Commuter Plans. Most organisations said that senior management were supportive of the idea of a Green Commuter Plan from the start.

Eight of the organisations had first introduced the idea of the Plan to staff by letters or leaflets sent to every member of staff, two had held a special open meeting and two had introduced the idea via discussions with staff councils or unions.

Progress on Green Commuter Plans

Thirteen of the organisations had carried out a staff travel survey. Only four of the organisations had formally published or produced its Green Commuter Plan but many of the others had already introduced one or more measures which would contribute to their Plan. The provision of information is the most common measure being adopted – 14 organisations have implemented this. Almost a third (7) of the organisations said that they were actually reducing the number of parking spaces available as part of their plan and six said that they have introduced a car park permit scheme – thus demonstrating that they are using ‘stick’ as well as ‘carrot’ measures. Four organisations have set up a car sharing database and three are offering discounted public transport tickets but none of the other measures have been implemented by more than one or two organisations so far. Cycle loans currently only offered by one of the organisations are likely to become more widespread with 8 organisations saying they were planning to introduce them. Homeworking/telecommuting currently only available at one organisation is also likely to spread with seven organisations saying they had plans to introduce this.

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The most common way in which these measures have been promoted or marketed to staff has been by articles in staff newsletters which were used by 7 organisations. Three organisations had used posters and/or leaflets, two had used fliers with payslips, one had provided information in staff induction packages and one had exhibition stands in communal areas. When asked to describe the general degree of welcome/success of the Plan amongst staff, only 5 organisations said that the Plan was welcomed and staff participated from the start. Two said that staff were initially hostile but have grown to accept the Plan and now participate, two said that the Plan is viewed negatively and staff are reluctant to participate and two that some measures are more welcomed than others. Only six of the organisations had other green transport policies, other than for commuters. Three had policies which covered ensuring fleet efficiency, two had policies of discouraging car use for travel in the course of business and one of providing information for visitors that encourages them not to arrive by car.

Further work on the Green Commuter Plan

Only one of the organisations had already carried out a second staff travel survey to monitor the effects of the measures introduced and ten planned to do so in the next two years. About half the organisations said that they planned to monitor the effects of their Green Commuter Plan in other ways. Most (8 out of 11 organisations) planned to carry out counts of those using modes other than the car, 6 had plans for vehicle counts, one to monitor the number of applications for cycle/season ticket loans, one to undertake pollution monitoring and one said they planned to undertake informal checks on parking and bicycle stand use.

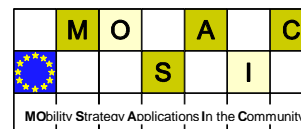
Around three-quarters of the 23 Active organisations said that they planned to continue working on their Green Commuter Plans indefinitely but two said they only planned to continue working on it for up to five years and two for only up to two years.

The active organisations were asked whether they thought that other organisations in the City, not currently adopting Green Commuter Plans, might have been encouraged to participate if the initiative were being promoted by someone else other than the City Council. Most (19 out of the 23) said that it would not have made any difference but the remaining four thought that other organisations might have got involved if it was being promoted by the local Chamber of Commerce. However, when the organisations which had been contacted but are not active in commuter planning were asked whether their organisation's decision not to proceed would have been different if the initiative were being promoted by someone else, none selected the local Chamber of Commerce and only two selected Central Government.

The active organisations were asked what their overall impression was of the City Council's work on Green Commuter Plans. Most (13 out of the 23) felt that it was a valuable initiative even if it has not been very effective to date but eight were even more supportive describing it as an innovative and effective way of solving congestion problems.

Conclusion

A total of 32 (out of a possible 108) organisations with more than 200 employees in the City are now actively working on Green Commuter Plans. Ten of these were involved before the MOSAIC project started but in the 18 months since the start of the demonstrator, 22 organisations (or more than a fifth of the remaining 98 organisations) have been encouraged to get involved in commuter planning.



6.3.3 Demonstrator The Netherlands

6.3.3.1 National context

Compared to other European countries, Mobility Management in The Netherlands has a rather long history. The stimulation of Mobility Management at companies started in 1990 and is still an issue in the mobility policy of -among others- the Ministry of Transport and Public Works. In the previous 8 years, there have been many experimental projects on Mobility Management on several levels of scale (national, regional and local) and by many organisations. In most of these project, the authorities supported the initiative financially. Furthermore, organisations (again on several levels) were founded by the authorities to improve the knowledge and the transfer of knowledge about Mobility Management.

Three of these Dutch (experimental) projects on Mobility Management are used in the MOSAIC project as a demonstrator. It is important to notice, that the role of MOSAIC in the Dutch demonstrators is rather different from the English and German demonstrators. Whereas activities in the English and German demonstrators are partially sponsored by MOSAIC, the main task in the Dutch demonstrators is monitoring. In the Netherlands, MOSAIC plays no active role in the design and implementation of the demonstrators.

6.3.3.2 Local situation

The North Netherlands

The northern part of the Netherlands is a mainly rural area, which has the lowest population density of the country. It includes the Provinces of Groningen, Friesland and Drenthe. Major cities include Groningen (population 170,000), Leeuwarden (88,000), Assen (53,000), Emmen (94,000) and Drachten (50,000). The only traffic congestion occurs around the city of Groningen. Under its traffic circulation plan the municipality of Groningen has divided the city centre into four sectors which are isolated from each other to car traffic, but freely accessible by bike or bus. The number of parking places in the centre of Groningen is limited and there is no free parking.

The low population density is also responsible for the relatively limited availability of public transport. Two intercity railways connect the area with the rest of the Netherlands. The regional transport consists of several single-track diesel railways and some supplementary express bus lines ('Interliners'). Most of these regional links offer services every 30 or 60 minutes. In addition, there is a network of rural bus services, mostly with hourly services or less. In recent years, some of these rural bus services have been turned into demand-responsive services, like call-a-bus. Local public transport consist of bus services, and several taxi-like services.

Utrecht

The Utrecht Demonstrator is in the "De Uithof/Rijnsweerd" area, a business and university area on the east side of the city of Utrecht . The surrounding region roughly corresponds to the province of Utrecht, which is situated in the centre of the country. The major cities in this region are: Utrecht (provincial capital; 236,000 inhabitants), Amersfoort (105,000), Zeist (59,000), Nieuwegein (suburb of Utrecht; 58,000) and Veenendaal (54,000).

In the 'De Uithof' area about 10 000 people are employed: 6 000 in Utrecht University and 4000 at the Academic Hospital. Apart from that, daily about 10 000 students (Utrecht University) and 1500 visitors (Academic Hospital) travel to and from 'De Uithof'

6.3 Applications of Mobility Management – Demonstrators

The city of Utrecht can be considered as the gate of the ‘Randstad’, which is the area in the west of the Netherlands containing Amsterdam, The Hague and Rotterdam. The Randstad is the most densely populated part of the country. On the motorways surrounding the city of Utrecht, long-distance traffic to and from the Randstad comes together with regional commuter traffic, with heavy congestion as a result. In the historic centre of the city of Utrecht, parking places are limited. In the “De Uithof/Rijnsweerd” area however, there is no lack of parking places.

Utrecht Central Station is the main railway interchange in the Netherlands. It has direct intercity connections (mostly twice an hour) to all parts of the country. Regional rail services (every 30 or 15 minutes) connect most of the places of regional importance; other places are served by regional bus services. The large suburb of Nieuwegein, located approximately 10 km to the south-west of Utrecht, is linked to Utrecht Central Station by a light rail line. A local bus network covers the city of Utrecht. Presently, plans are worked out to upgrade both regional rail services and urban bus services. However, De Uithof will not be connected with the regional rail network, although it is of regional importance.

The Leiden Region

Leiden is an old university town, about 30 km north of The Hague, the seat of government. The Leiden region (also called “Rijnland”) is a part of the Randstad, but does not include any of the major cities (Amsterdam, Rotterdam, the Hague or Utrecht). The main cities in the region are Leiden, Alphen-aan-de-Rijn and Katwijk. The Leiden region is a part of the province of South-Holland.

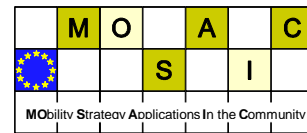
There are about 430 businesses and other organisations with more than 50 employees each in the Leiden region. Total employment in the area amounts to about 100,000. By comparison with other regions, a high proportion of the employment is provided by small and medium-sized companies and numerous organisations in the medical field.

As in the rest of the Netherlands, mobility in the Leiden region is increasing. Major congestion problems occur on the north-south motorway A4 (Amsterdam - The Hague), and on the east-west axis (North Sea coast - Leiden - Alphen-aan-de-Rijn). This traffic flow is fully dependent on provincial roads. The municipality of Leiden enforces a strict parking policy, particularly in the historic town centre with its canals and narrow streets. The parking capacity is limited and some of it is reserved for residents and others dependent on the area. Other motorists have to pay high parking rates on working days.

Leiden is an important railway station on the main line Amsterdam - Schiphol Airport - The Hague - Rotterdam (- Belgium). This line offers very frequent train services (up to 10 trains per hour in each direction). Apart from a single-track rail line to Alphen-aan-de-Rijn, there are no additional regional rail lines. Hence, regional public transport in the Leiden region largely depends on bus services, which have not a high enough standard (especially in the urban area of Leiden) to attract a lot of car users.

6.3.3.3 Feature of the Demonstrators

The design, implementation and assessment of three Dutch demonstrators is described in this MOSAIC project. These are the commuters’ newspaper in the North Netherlands, the Mobility Office in Utrecht and the advice centre for the Leiden Region. The commuters newspaper is published to encourage commuters to start a car-pool and use more sustainable transport. It has three main objectives: increasing the use of carpooling (by



6.3 Applications of Mobility Management – Demonstrators

means of carpool matching advertisements), improving general traffic information and improving public transport information. The first objective can be seen as the main purpose. The other objectives have been added as a result of the Commuters' Newspaper. The objectives have been set in qualitative terms (a substantial number of car-poolers, a shown relation with increase in carpooling). Initially, the target group was a small group of employees of selected companies in the Groningen transport region. In the next phase (1995), the newspaper was issued in (the surroundings of) the city of Groningen. From January 1996, the paper was issued in the North Netherlands (Groningen, Friesland and Drenthe).

For the demonstrator in the North Netherlands, 3 surveys are used in which commuters were interviewed by phone. In addition to this data, some other information from the Travel Behaviour Study (in Dutch: Onderzoek Verplaatsings Gedrag, OVG) is used for the assessment of the system impact in the North Netherlands. Finally, information is used from the regular meetings held with the contact person of the demonstrator.

The Mobility Office in Utrecht has been opened outside the city centre, near the University and the Academic Hospital to reduce the car usage in commuters traffic and to optimise the accessibility of the public companies in the area. The Mobility Office developed a Mobility Plan for the whole area and regular consultations with the public transport companies operating in the area were held.

The objectives for the Mobility Office De Uithof/Rijnsweerd are a reduction of car use in commuter traffic and optimising the accessibility of the area. The Mobility Office in Utrecht has a more or less common structure, which can also be seen in other places in the Netherlands. The main task is to provide information to the participating companies. It should be noticed that individual companies have their own transport plans. This means that the Mobility Office is mainly working on aspects above the company level, e.g. consultations with local, regional and national authorities, or discussions with public transport companies.

For the Utrecht demonstrator, data from four surveys was available. The latter three were in the same format. Therefore, especially the changes in this period could be analysed. Again, additional information is used from the regular meetings held with the contact person of the demonstrator.

In South Holland (a province in the west of The Netherlands), one of the most heavily traffic loaded provinces in the Netherlands, a new approach for Mobility Management has been adopted. The traditional approach, which requires a thorough investigation on travel patterns with help of specialised research institutes, didn't have adequate results. The new approach, established in the Leiden Region, can be described as more action oriented and more direct. The role of research institutes has been diminished. The Mobility Consultant has been introduced. His or her role is to visit, inform and stimulate the companies, and to try to co-ordinate Mobility Management measures in the area. This means a direct link from government to companies (through the Mobility Consultant and vice versa). The financial input from companies is very little to none. The relation manager is employed by the Foundation "Rijnland Mobiel". The services provided by a relation manager are based on the role as an intermediate between companies and Mobility Management service providers. The main objective is to develop, implement and co-ordinate Mobility Management at companies and institutions in the area of operation and making (national) government bodies aware of the accessibility issues of companies and institutions.

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In this demonstrator, another monitoring system is used. In this database, information is stored about the companies in the target group. No data is obtained or stored about individual changes in commuting. Also for this demonstrator, additional information is used from the regular meetings held with the contact person of the demonstrator. From another research, the characteristics of successful companies in Mobility Management are used in the assessment.

6.3.3.4 Results of Assessment

It was noticed that the role of MOSAIC in the Dutch demonstrators differs from the English and German ones. MOSAIC did not have any influence on the actions taken by the demonstrators. Moreover, the collection of evaluation data was not for the responsibility of MOSAIC and the main quantitative data for the monitoring was obtained by the demonstrators. MOSAIC could make suggestions on the surveys, but was not involved directly. This is the reason why the available data is not uniform for all demonstrations. The used assessment framework is equal to the one used for the other demonstrators.

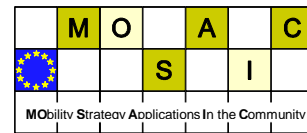
In the demonstrator in the North Netherlands, there has been no direct contact between the individual commuters and the demonstrator. Here, the contact is through a newspaper. Therefore, all levels will be regarded from the commuters point of view; what is their knowledge about the newspaper, their usage, their acceptance, the changes in individual behaviour and the overall changes on the system.

In the other two Dutch projects (Utrecht and Leiden Region), no individuals are approached directly either. There has only been contact between a Mobility Office and companies. The effects of these centres are regarded on all five levels, but the first three levels -knowledge, usage and acceptance- will only be regarded from a 'company' point of view. That means that it is observed whether the companies in the target group know about the demonstrator, use the facilities of the demonstrator and accept the offered service of the demonstrator. For the latter two levels (individual behaviour and system impact), the data about individuals (that means the employees) is used, when available. Unfortunately, the monitoring system of the Leiden Region (currently the standard system) does not give any information about individual changes in commuting trips.

The North Netherlands

The available data is from three surveys. The first was in November 1995. This indicates the situation before the newspaper was issued on a large scale; in 1995 the paper was issued in (the surroundings of) the city of Groningen. From January 1996, the paper was issued in the North Netherlands (Groningen, Friesland and Drenthe). The second and third review were held in October 1996 and July 1997 respectively. The surveys and analysis were done by Rijkswaterstaat.

It was seen that the number of respondents who have ever heard about the commuters newspaper has increased significantly over the years. It should be denoted that the newspaper had only been issued on a small scale, when the first review was performed. Furthermore, a significant increase of the number of respondents who have ever seen the newspaper was found. It was concluded that the majority of the respondents knew the existence of the commuters' newspaper. Moreover, this proportion has increased over the years. The number of respondents who have read the paper has increased significantly in between the second and third review. The results indicated a reasonably stable group of readers and can be applied as an indicator of the usage of the paper.



6.3 Applications of Mobility Management – Demonstrators

It was seen that a bit more than 20 % of the respondents who have read the commuters' newspaper state that the paper has kept them abreast of traffic problems. Unfortunately, only a small proportion of the respondents in all surveys who did not carpool, stated that they regarded carpooling as a realistic mode for themselves. No significant increase of the acceptance over the years was seen.

It was seen that more than 4 % of the respondents in the second review who had read the newspaper say that the newspaper had contributed to a decision that they started a carpool or carpooled more often. In the third review, over 2 % responded positively. The proportion of people placing a call for a carpool partner and the proportion responding on this call can be seen as another indicator for the acceptance of the commuters' newspaper. From a questionnaire amongst readers in September 1997 it was found that only a very small proportion of the respondents had ever placed a call for a carpool partner or responded on a call. From those calls, 25% led to a carpool match. Therefore, the influence of the newspaper on the behaviour of commuters is very small.

From the questionnaires, no conclusions could be drawn about the impact on system level. Therefore, data from the annual travel behaviour survey (OVG) is used. Significant changes in the share of car drivers and public transport users in the modal split were seen. Unfortunately, these could not be found any proof in this data of a correlation between the newspaper and the changes. Therefore, no hard conclusions can be drawn about the effect of the commuters' newspaper on system level. More sophisticated assessment methods have to be developed to be able to prove a relationship with the commuters newspaper.

Utrecht


Besides bilateral meetings between the contact person of the demonstrator and the TNO Inro on which the assessment is partly based, the demonstrator itself has conducted some monitoring. In 1990 a survey is carried out to determine the necessity and desirability of a Mobility Office. In 1991, 1992 and 1994 three successive survey are performed to determine effects of the demonstrator. These surveys were held at the University of Utrecht and the Academic Hospital Utrecht.

There is an optimal knowledge in the four main companies in this area about the services of the demonstrator, since these organisations contributed a member of the board to spend time on the Mobility Office. Many other organisations in the area are member of the foundation. It can be concluded that the knowledge of the companies about the demonstrator is sufficient.

There is an intense relationship between the Mobility Office on the one hand and most of the companies on the other hand. This will stimulate the usage of the demonstrator. Based on the positive attitude and the acceptance of the suggestions, it can be concluded that there is a high acceptance of the demonstrator.

The data from the surveys held in 1992 and 1994 is used to analyse the changes in individual behaviour. It is seen that at the university, the travelled distance increases for almost all modes, while at the hospital the travelled distance decreases slightly for most modes. In the survey of 1994, respondents were asked about their main current mode and the mode they were using in 1992. Both from the employees of the university and the hospital, 88 % indicated that they were still using the same mode.

Furthermore, respondents were asked about their mode choice on a business trip. For the university, it is seen that the use of the own car declines over the years, while the use of

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6.3 Applications of Mobility Management – Demonstrators

public transport increases. The use of the bicycle slightly declines as well. For the hospital, it is seen that the use of the car on a business trip keeps growing. In contrast with this, the use of the bicycle decreases after a strong increase. The share of public transport is stable.

Analogous to the Commuters Newspaper, more sophisticated assessment methods have to be developed and used to prove the relationship between Mobility Management measures and changes in travel behaviour.

The impact on company level and companies' commitment to Mobility Management is shown by the contribution of a member of the board in the Mobility Office. Moreover, all companies involved pay a fixed annual fee.

In this demonstrator, the target group is much smaller than the total number of commuters in the area. Moreover, the changes on individual level are small. Therefore, it can be concluded that there might be some changes on individual level, but these are too small to accomplish significant changes on system level.

The Leiden Region

The monitoring is performed through a regular contact between 'Rijnland Mobiel' and a consultant of TNO Inro and the use of a combined database and software program. This is used by several Mobility Consultants, therefore a countrywide monitoring is possible. Unfortunately, there was no information available about the potential and/or results related to the size of the company.

The companies contacted represent around one third of the total number of companies in the area. Consequently, it is assumed that around 30 % knows about this demonstrator and the related activities and services. Sixty to seventy % of the companies that know about the demonstrator, is interested in the services of the Mobility Manager. This includes companies that have already been advised or have already implemented Mobility Management measures. This is seen as an indicator of the usage of the demonstrator, which is a satisfying proportion.

The acceptance level is analysed by reviewing the acceptance of the suggestions and the 'Mobility management barometer'. The latter one combines the status of the companies with the opportunities for Mobility Management at that company. Both indicators showed an increased level of acceptance.

When mobility measures have been introduced or when a company will continue on Mobility Management independently, it can be concluded that Mobility Management is introduced in the company policy. From June 1996 until June 1997, the percentage of the contacted companies that had introduced some mobility measures increased from 2 to 8 %.

The changes on company level are small. Therefore, it can be concluded that there will not be significant changes on a system level.

Summary of site-level impacts

In the first half of 1997, an additional survey at 15 companies in the Netherlands was held. The aim of this survey was to gather additional information on the effectiveness of Mobility Management measures, depending on the type and location of companies.

6.3 Applications of Mobility Management – Demonstrators

Impact of Mobility Management measures

Generally, there was very little quantitative information available from the companies to evaluate Mobility Management measures. Companies are not actively collecting data. Despite the lack of quantitative data, the Mobility Managers were willing to make an estimation of the share of employees in their company that moved from car use to other modes. Figure 6.3.3-1 shows information about the companies and the results of the estimation of the effects.

Company ID	Company Type ¹	Location Type ²	Reason for MM ³	% of employees with commuting distance < 7 km ⁴	Reduction of car use (estimation)	Distribution of reduction over alternative modes			
						Bicycle	Public Transport	Car-pooling	Company buses
1	Ind.	C	P	8	- 10%			100%	
2	Oth.	A	G	67	U.K.				
3	Off.	B	P	20	- 5%	20%	30%	50%	
4	Oth.	B	P	5	- 9%			50%	50%
5	Off.	B	G	15	- 4%	20%	40%	40%	
6	Ind.	C	P	29	U.K.				
7	Off.	C	G	31	- 5%	100%			
8	Oth.	R	P	47	- 23%	9%	90%	1%	
9	Off.	A	G	20	- 10%	27%	67%	6%	
10	Off.	A	G	13	- 10%		100%		
11	Oth.	C	G	50	- 5%	30%		70%	
12	Oth.	B	P	20	U.K.				
13	Oth.	R	G	U.K.	U.K.				
14	Off.	C	G	20	- 11%	60%	40%		
15	Ind.	R	P	10	- 15%		5%	70%	
Average					- 9%	22%	51%	23%	4%

Figure 6.3.3-1: Available information and effects

¹ Ind. = Industry, Off. = Office, Oth. = Others (e.g. companies with strong visitors function)

Location Type	Accessibility by public transport	Accessibility by car
A	Good	Bad
B	Good	Good
C	Bad	Good
R	Bad	Bad

³ P= an actual problem concerning transport or accessibility, G = a 'general' environmental concern

⁴ U.K. = unknown

6.3 Applications of Mobility Management – Demonstrators

It is seen that, on average, the estimation of the reduction of car usage is around 10 %. Most of the ex-car users changed to the public transport use. Carpooling and cycling are equal in their share of alternatives for car usage.

Success of Mobility Management measures and influence of situational factors

First of all, the degree of success in a specific company has to be seen against the background of the aim that company has with Mobility Management. Figure 6.3.3-2 shows the aims used by the different companies.

Aim	Number of companies
Reduction of car use (number of cars)	7
Reduction of car use (car kilometres)	1
Environmental concern	1
Conditions of employment	1
No explicit aim	5
Total	15

Figure 6.3.3-2: What is success? Mobility Management aims, used by the companies

In general, Mobility Management was, to the opinion of the Mobility Managers, considered as a success in half of the companies. Tables 6.3.3-3 -4 and -5 show the relationship between the degree of success and location type, company type and commuting distance.

Location type	Success
location type A	2 out of 3 companies
location type B	1 out of 4 companies
location type C	1 out of 3 companies (no response: 2 companies)
location type R	2 out of 2 companies (no response: 1 company)
Total	6 out of 12 companies

Figure 6.3.3-3: Success of Mobility Management, related to location type

6.3 Applications of Mobility Management – Demonstrators

Based on this sample, good results seem to be easier to achieve on location types A and R, than on location types B and C. On location type B, Mobility Management is generally not very successful due to the fact that the quality of public transport is already good and that it is very difficult to impose measures for discouraging car use on this location type.

Company type	Success
office	4 out of 7 companies
industry	1 out of 2 companies
others	1 out of 3 companies
total	6 out of 12 companies

Figure 6.3.3-4: Success of Mobility Management, related to company type

No great differences can be found between company types. Most problems seem to be experienced in the category 'others', which is somewhat surprising, because in this category relatively many measures directly aim at discouraging car use.

Commuting distance < 7 km	Success
< 25% of employees	5 out of 8 companies
> 25% of employees	1 out of 5 companies
Total	6 out of 13 companies

Figure 6.3.3-5 Success of Mobility Management, related to commuting distance

It can be seen that Mobility Management is considered not very successful by companies with many employees on 'cycling distance'. The probable reason is, that bicycle use in those companies is already quite high, and organising car pools and good public transport on short distances is very difficult.

7 TRANSFERABILITY OF ELEMENTS

7.1 INTRODUCTION

A description of the transferability of concepts, functions and services of Mobility Management requires a more general view of the findings that were derived from the MOSAIC pilot demonstrators. The design and implementation of the MOSAIC demonstrators was based on local circumstances. To a certain degree the success or failure of concepts and services depends on the personal skills of the individual actors that support the idea of Mobility Management. But there are also various results that can be attributed to aspects of design, marketing and operation of Mobility Management.

The research and demonstration phase of MOSAIC identified some findings and provided experience for the introduction and implementation of different roles or elements of Mobility Management. The aim of this chapter is to transfer these findings and experience into a more general view and to describe transferability to other cities, regions and countries in Europe. Some important points relating to the local or national context have to be considered when describing transferability. This includes the scale of the area that is examined and also general conditions such as regulations, tax, financing, planning system etc. in the different countries. During the MOSAIC-project the partners involved also observed other national or international examples of Mobility Management. This experience and knowledge is represented in the following chapters as well.

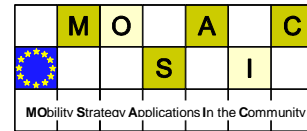
The methodology to describe transferability is based on a 3-step approach with reference to the following aspects:

- step 1: key findings and experience for each element (general)
- step 2: significance of scale
- step 3: national perspective from the United Kingdom, The Netherlands and Germany (influence of national situation/framework for the transferability, other examples in these countries)

Starting with a more universal aspect such as scale the national and wider European perspective provide an indication of the way in which the approaches have to be adapted to individual situations.

Transferability is described with regard to these aspects and considering the elements and roles of Mobility Management that were defined during the research phase of MOSAIC.

This element by element description does not disregard the importance of a comprehensive concept of Mobility Management. To reach a full Mobility Management scheme with all elements, different approaches are possible. Mobility Management is a long term, continuous process and organisational arrangements should be tailor-made to suit local or regional conditions. Although a full scale approach might be a good thing for Mobility Management in some regions, an initial approach starting with only one or two Mobility Consultants might also be appropriate in other regions where a full scale version would be too much. Therefore it is not appropriate to design a proscriptive method of implementing Mobility Management. The elements and functions of Mobility Management referred to here are the basic and common components and are therefore used to identify aspects of transferability.



7.1 Transferability – Introduction

Step 1: Key findings and experience

The findings and experience derived from the MOSAIC demonstrators are described without reference to particular demonstrators and are limited to those which are valid for similar circumstances in other places. It is likely that circumstances will differ in many cities. That is why some other important factors are mentioned in the following steps.

Step 2: Scale

Two levels are generally identified - the **Urban/Regional Level** and the **Site Level**. These levels need to be divided according to size in order to specify suitable organisational arrangements, the right range of services, secure financing etc.

At an **Urban/Regional Level** the focus is on providing services to the general public in the city or region, for specific target groups (e.g. young people, disabled, newcomers, tourists) or for specific trip purposes (e.g. commuting, shopping, leisure). The number of potential customers or users of Mobility Management services is important for the design and operation of Mobility Management elements. Available transport modes also differ in different size towns and cities (e.g. underground rail networks are only usually found in larger cities) and public authorities have varying responsibilities according to the city-size. The following distinctions seem to be sensible with regard to scale:

- urban areas, cities < 100,000 inhabitants
- urban areas, cities > 100,000 < 500,000 inhabitants
- urban areas, cities > 500,000 inhabitants
- super centres
- collection of towns and rural areas

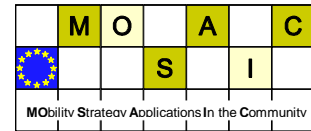
At the **Site Level** the number of companies or institutions in an area and the number of employees are important factors when implementing elements of Mobility Management or designing a Mobility Plan. Usually the participation in Mobility Management activities is easier for big companies than for smaller firms.

Using the number of employees (for commuter trips) to describe significant distinctions in company size, the following divisions seem to be reasonable:

- < 50 employees
- 50 – 200 employees
- 200 – 500 employees
- 500 + employees

For leisure or shopping trips a different scale would need to be established.

For freight transport the amount of goods and the kind of business and – related to this – the size, number and origin of trucks could help to quantify the critical mass that is required for a reasonable implementation of Mobility Management Services.



7.1 Transferability – Introduction

Step 3: National perspective

Transferability must be considered with regard to the influence of national circumstances. The range of influencing factors is very wide and thus only some examples are indicated below:

- ownership/regulation of public transport
- legislation, tax
- political support for sustainable mobility
- structure of public administration
- co-operation between land-use planning and transport planning
- co-operation with private companies (Public Private Partnership)
- role of non-profit organisations/pressure groups
- employment issues (travel allowances)
- financing and funding etc.

Sometimes the national framework acts in support of certain elements of Mobility Management, sometimes it acts against them. According to this framework the most promising elements in the local situation should be chosen as a starting point for Mobility Management.

Together with Chapters 4 (“Reasons for Mobility Management”) and 5 (“Concept of Mobility Management”) this chapter about recommendations and transferability serves as guidance to support the implementation of Mobility Management by local authorities, transport operators, companies and institutions. It should also provide advice for decision-makers at the local and national level as to how to support Mobility Management in the future.

The following points explaining figure 6.1-1 show the relationship of the different chapters and identify how to find detailed information concerning transferability.

1. What are seen as the most important local or regional problems with regard to transport, - congestion, environment, transport organisation, parking space etc.? Could these **problems** be solved by software-orientated measures (e.g. more people using public transport, walking or cycling)?
2. Which **roles, elements or services** of Mobility Management could be suitable and what is the main area of action (city/regional level or site level or both)?
3. Concerning the local situation, which possible partners could be interested in Mobility Management activities? Are there any similarities with the local framework described in the MOSAIC demonstrators? Are there any **key findings** for an element of Mobility Management that can be transferred?
4. What is the **scale** of the catchment area (city/regional level) or which companies or institutions will be involved ? Which scale-related experience should be considered to implement one or more elements or roles of Mobility Management ?
5. What could be important regarding the **national or regional framework** ? Do any factors support or obstruct any of the elements described below ?

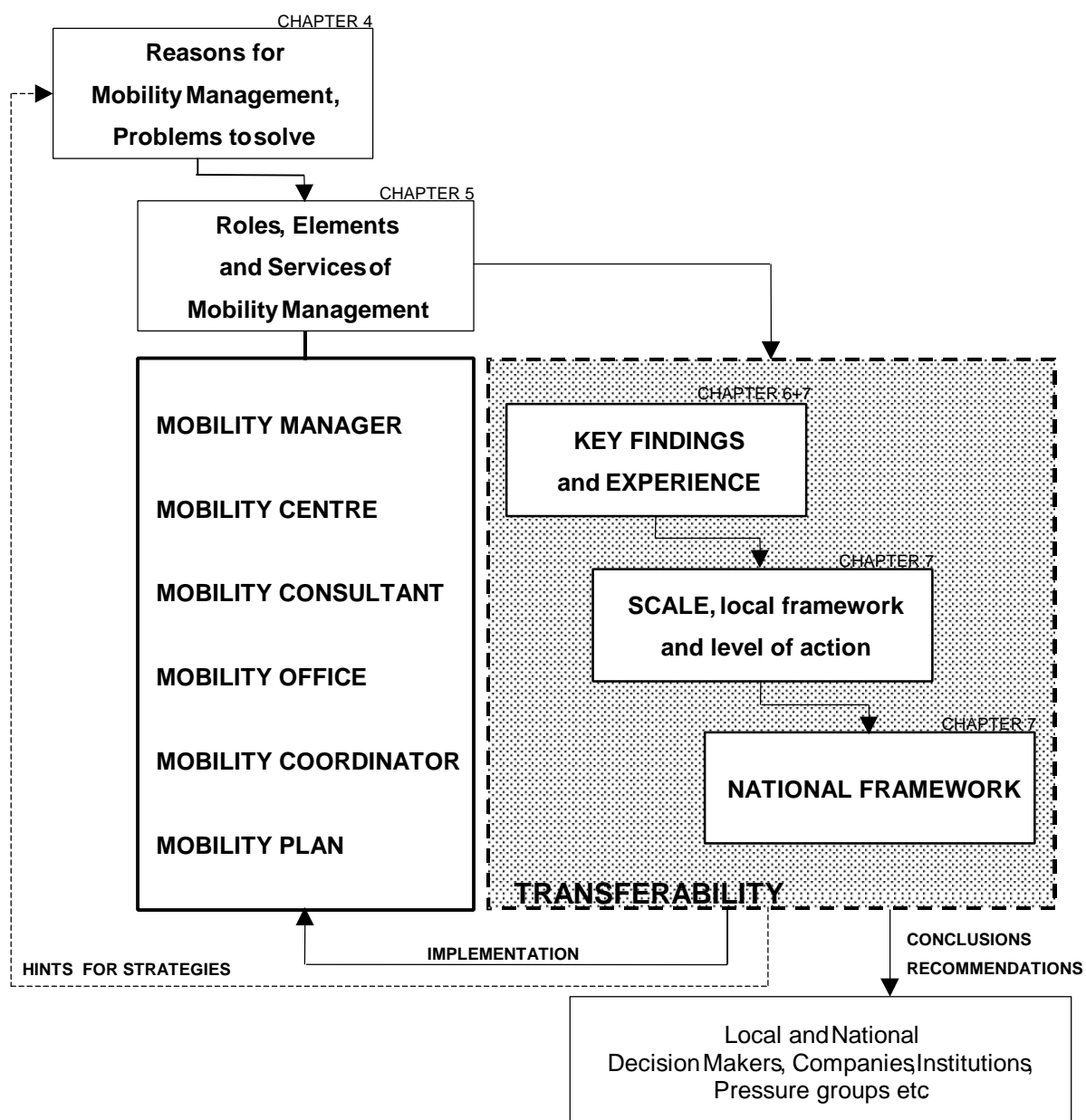



Figure 7.1-1: Structure for transferability of findings and recommendations

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			S		I	
MOBility Strategiev Applications In the Community						

7.2 MOBILITY MANAGER

7.2.1 Key Findings and/or Experience

The role of a Mobility Manager is to take overall responsibility for developing and promoting Mobility Management in a particular city/region or at individual sites. As described in section 5 (Mobility Management Concept), the Mobility Manager acts as a link between the policy level and the management level, as well as an intermediary between all parties involved.

The name 'Mobility Manager' suggests a person, but it rather is a *role*. The Mobility Manager can have various appearances: It can be one or more persons, as well as an organisation. The Mobility Manager can be based at or closely linked to the local authority or the central or regional government, but it can also be based at (for example) a local public transport provider or a non-governmental environmental organisation.

The role and appearance of the Mobility Manager depends very much on:

- the policy framework
- the stage of implementation of Mobility Management

The policy framework

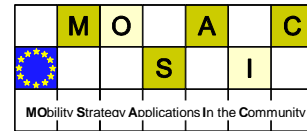
The degree to which Mobility Management is supported by local, regional or national policy influences the role and appearance of the Mobility Manager. In a situation with little policy support, Mobility Management is developed from individual interests (bottom-up) or from societal (environmental) concerns. The main role of the Mobility Manager is then gathering support and funding at the policy level, initiating Mobility Management projects and exchanging information between projects. The Mobility Manager will be linked to parties that have interest in Mobility Management, like a company/site with traffic problems, a public transport organisation that wishes to increase ridership, or a non-governmental environmental organisation.

In a situation where Mobility Management is a full part of transport policy, the Mobility Manager is likely to be closely linked to local, regional or national government. In this case, the main role of the Mobility Manager is to support the introduction and development of Mobility Management at particular sites or for particular target groups. Education and coordination are key functions of the Mobility Manager.

The stage of implementation of Mobility Management

Depending on the stage of implementation of Mobility Management, the role of the Mobility Manager will show different accents. Where Mobility Management is in a very early stage of implementation, promotion, lobbying and gathering funding will be the main task of the Mobility Manager. His efforts will mainly focus on setting up and evaluating pilot projects, and showing positive results in order to increase awareness and support. In this stage, the success of Mobility Management often depends on the engagement of few persons, which is quite risky when such a person for any reason leaves the stage.

The further Mobility Management develops to a well established part of transport policy, the more the focus of the Mobility Manager will shift from initiating projects to supporting a continuous process of evaluation, modifying and expanding. Also, the Mobility Manager



7.2 Transferability – Mobility Manager

will be involved less directly in particular projects. He will rather support and coordinate Mobility Management on a more distant level. In this stage, the role of a Mobility Manager is likely to depend less on particular persons, and to develop into an organisation with a firm basis.

7.2.2 Scale

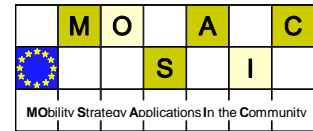
The scale on which the Mobility Manager operates, is rather different from the scale of the other roles in Mobility Management. From figure 4.1-1 (Elements of Mobility Management) it is seen that the Mobility Managers is the link between the Policy Level and the Management Level. Therefore, the Mobility Manager can operate on a national, regional and local level. The scale on which the Mobility Manager operates, is of influence on the organisation and the activities of the Mobility Manager. The larger the operating scale of the Mobility Manager, the more the Mobility Manager operates on higher policy level and the activities concentrate on general educational and co-ordination issues. The smaller the operating scale, the more the Mobility Manager is involved on a local policy level and in actual Mobility Management projects. Here, the three operation scale levels for a Mobility Manager (national, regional and local), including their main activities are described.

Among the members Mobility Manager on national level are representatives of Mobility Coordinators, governmental bodies, consultants, non-governmental organisations etc. Their main activities include:

- promotion
- education, exchange of knowledge and experience
- coordination and exchange of information by organising national and regional meetings
- research and development

Mobility Managers on regional level should co-ordinate Mobility Management activities in a region. It can be linked to and funded by a region or Province. Its services resemble those of a organisation on a national level, but are more directly aimed at initiating and developing Mobility Management projects at companies or sites in the entire Province. Therefore, an organisation of Mobility Managers on a regional level has a closer relationship with the Management Level of Mobility Management (e.g. Mobility Consultants and Mobility Coordinators).

The activities of a local Mobility Manager are on a smaller scale than the above mentioned activities. The local activities are more directly aimed at actually implementing and co-ordinating Mobility Management measures at different sites in the region. Therefore, the role of a Mobility Manager on a local level is rather similar to the role of a Mobility Consultant. The difference between the Mobility Manager on local level and the Mobility Consultant is that the first should keep contact with the Policy level and communicate experiences and requests in both directions.



7.2 Transferability – Mobility Manager

7.2.3 Transferability in Germany

The role of the Mobility Manager is not very well-known in Germany. Nor does there seem to be any marked interest at the national level in the introduction of Mobility Management measures. The measures being taken therefore differ widely in terms of their organisation, and are usually the result of local Initiatives (e.g. by transport companies, chambers of commerce). Hence, much effort must be spent on promoting the idea of Mobility Management in general and on raising the awareness for Mobility Management measures in Germany.

The consolidation of budgets at the local and regional levels of government is forcing municipalities and districts to make considerable cuts in their expenditure, which inevitably leaves less room for financing additional voluntary tasks (e.g. Mobility Management measures). It follows that there is virtually no prospect of additional public funds being made available (by municipalities or regional authorities) to finance the co-ordinating role of a Mobility Manager, although this is primarily a task for the public sector. Financial possibilities may be reflected in the restructuring and redistribution of tasks between existing administrative agencies (e.g. the public transport co-ordination office of a district) and elements of Mobility Management.

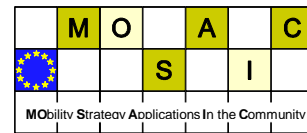
Because the concept of Mobility Management does not require all elements to be implemented simultaneously (step-by-step approach), the difficulties of financing the role of the Mobility Manager do not exclude the local introduction of other elements of Mobility Management. If the number of elements grows and their local importance increases, there is a distinct need for co-ordination of the local Mobility Management scheme. This may force the implementation of a Mobility Manager at a later point of time.

7.2.4 Transferability in the United Kingdom

The role of a Mobility Manager transfers very well to the UK situation. At a local authority level, Mobility Management initiatives have often been prompted by one or two individuals who have taken on the task of Mobility Manager. A Mobility Manager, can therefore, perhaps, be viewed as the best way of initiating Mobility Management in the UK and there are now several examples in existence. Such people are usually involved in a much wider range of issues than just Mobility Management, and are therefore able to set it in the wider policy framework of their local authority. They are able to ensure that the authority's planning and transport policies complement the Mobility Management strategy and to ensure that all the necessary players are involved.

National government interest in Mobility Management has increased rapidly in the past year. It seems likely that their support will grow still further in the near future and, it is possible to envisage centrally funded Mobility Managers each responsible for encouraging Mobility Management in a particular region. The extent to which Mobility Management is being adopted varies throughout the UK and this would seem to be an ideal way of introducing Mobility Management in areas which have so far done very little.

In a UK context, it seems most likely that a Mobility Manager would work in the public sector. However, there is no reason why someone employed by a private company should not take on the task of trying to encourage Mobility Management policies in the surrounding area.



7.2 Transferability – Mobility Manager

7.2.5 Transferability in The Netherlands

The Mobility Manager role in the Netherlands is quite well established at all three levels, because of the already quite long history of Mobility Management. Like most projects, the activities are mostly aimed at site-based measures.

In general, Mobility Management has a firm base in Dutch transport policy. Therefore, the Mobility Manager role is mostly supported by national or regional government. On a national level, there is an organisation (Vervoermanagement Nederland, “Mobility Management in the Netherlands”) in which governmental bodies take place. On a regional level, organisations are linked to and funded by Provinces and/or Regions. An example is the Projectbureau Vervoermanagement Noord-Holland (“Project Agency for Mobility Management in North Holland”), which is linked to the Province of North-Holland and the Greater Amsterdam Region. Both these organisations are just Dutch examples of the existence of these kind of organisations. They are not related to the MOSAIC project.

The privatisation and decentralisation process currently taking place in public transport in the Netherlands, makes it less likely for a public transport organisation to act as a basis for Mobility Management.

7.3 MOBILITY CENTRE

7.3.1 Key Findings and/or Experience

Key Findings in Passenger Transport

Mobility Management performed by Mobility Centres is a lengthy process, which should first create awareness, then initiate a change in awareness before finally effecting a change in attitudes and behaviour. It takes several years for measurable effects to become recognisable. Public awareness campaigns can be used to speed up the process, as can supporting measures such as improvements in the field of the sustainable modes or restrictions in private car use.

Lobbying, along with permanent and intensive marketing, are essential to raising awareness of Mobility Centre activities and ensuring that the services provided are used. The basic idea behind Mobility Management should be promoted, i.e. the provision of intermodal consulting that goes beyond information relating to public passenger transport services. Marketing should appeal to all user groups, with particular emphasis on private car users as well as cyclists and pedestrians.

Mobility Centres should have a central, inner city location, if possible in the pedestrian zone, and should have ground floor access for the disabled or the elderly.

Access to Mobility Centres should be given 24 hours a day and 7 days a week, at least by phone. Personal access to the Centre could be limited to normal shop opening hours. It may not be necessary to provide the full range of mobility services at all times of day.

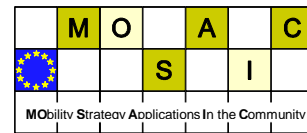
Personal access to the Mobility Centre should always be offered. In addition access should be possible by phone and fax as well as via fax call-off and electronic media (e.g. Internet). Contact with the Mobility Centre should only be subject to waiting times in exceptional circumstances.

The level of utilisation depends on the scope and type of services provided. If the Centre has a large associated urban area, in which there is a relatively high level of awareness, as a rough estimate about 15 – 20 inquiries can be expected per 1000 head of population and month. Most of these concern public transport, for which, by virtue of its very nature, there is a considerable demand for information. The inquiries received by the Mobility Centre are usually multi-layered, i.e. a single telephone call or visit concerns more than one service. The number of callers far exceeds the number of visitors (approximately 2/3 are callers).

Normally, Mobility Centre services are free of charge. Phone access might be charged at local call rate. In this context it could be advisable to think about charging fees for special cases where consulting takes a lot of effort (e.g. provision of Mobility Management services to companies/institutions).

Mobility Centres should be organised and coordinated from a single source. A joint ownership by local authority and the transport companies would be preferable, or possibly just by the transport companies.

The financing and operation of a Mobility Centre cannot, however, be achieved without the formation of alliances. Public-private partnerships, in particular, play a crucial role in the financing, because public and private sector interests coincide in such a Mobility



7.3 Transferability – Mobility Centre

Centre. In addition, agreements concerning the operation of a Mobility Centre must be reached with providers of certain services (e.g. car-rental companies), in order to ensure that a comprehensive and complete range of services can be offered to the user.

Key Findings in Freight Transport

Mobility Management in total and Mobility Centres in particular are completely new in the context of freight transport. This new approach has to be explained to transport customers and transport providers. In comparison with the situation in the field of passenger transport, where it is recognised as the way forward, there is a need to raise awareness of its relevance to freight transport and its structures. Nevertheless, Mobility Management is accepted as a new, additional tool for organising transport demand and transport operations in order to achieve further improvements in productivity in freight transport and to work more efficiently towards achieving environmental policy targets.

Mobility Centre services in freight transport - in particular a dynamic information system that includes urban traffic - demands a high level of technical and financial investment, which it is currently impossible to forecast in its totality. However, it must be emphasised that a system of dynamic traffic information would meet a wide range of needs and act as a stimulus to achieving management objectives.

In terms of scope and from the point of view of competitive quality conformity, many mobility services required by freight carriers could be established and provided without a Mobility Centre, e.g. dynamic traffic information, education and training, as well as consulting.

Principal reservations exist with regard to Mobility Management services organised as a centralised/monopolistic service or non-private business sector service, because they could possibly exert influence on or distort the competitive situation. In this context the question of ownership is particularly significant.

Currently the most important task for Mobility Management in freight transport is to convince the entire economy that the objectives of Mobility Management have to be achieved if the transport industry is to continue to make a positive contribution to a secure future. Therefore, it is recommended:

- to launch initiatives to avoid operationally unnecessary trips by lorries;
- to further develop consulting activities in the fields of transport and logistics to Mobility Management for freight transport;
- to design marketing concepts for Mobility Management in freight transport and to intensify marketing efforts;
- to incorporate Mobility Management in the regional and structural promotion programs for economic development.

Key Findings related to Integration of Mobility Management Services in Passenger and Freight Transport

The structures of Mobility Management for passenger transport cannot be applied to freight transport without modifying the strategic concept and establishing new lines of assistance. The following must be taken into account:

Freight transport is mainly handled by private-sector organisations, which organise and implement transport in response to direct orders from, and in close consultation with, their

7.3 Transferability – Mobility Centre

customers. There is no 'public freight transport' that corresponds to 'public passenger transport'.

The commercial aims of freight transport overlap to some extent with the transport and environment related aims of Mobility Management. For many years modern communications and information technology have been employed in the quest to achieve these aims. Therefore, at this time no new and different initiatives can be expected from the private freight transport sector aimed at introducing Mobility Management.

Synergy effects resulting from an integration of Mobility Management services in passenger and freight transport are not obvious at this moment in time. This is due, for example, to the fact that passenger and freight transport are based on non-integratable transport systems with separate vehicle parks / services, demand groups, types of services, legal bases and terms of competition.

Additionally, the recommendations concerning the form of organisation (ownership) of a Mobility Centre for passenger and freight transport are different, as are their levels of development and maturity. In the short and medium term this indicates that Mobility Management in passenger and freight transport will continue to follow separate paths. Nevertheless, the primary aims apply equally to both forms of transportation.

7.3.2 Scale

The efficiency of a Mobility Centre depends largely on

- number and type of incoming inquiries;
- the local knowledge of the personnel.

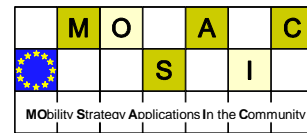
The mutual dependency of these two parameters also influences the catchment area of a Mobility Centre. If, for instance, a Mobility Centre receives too few inquiries (e.g. because the catchment area is too small) then its resources will be insufficiently utilised and it will not operate economically (personnel, overheads, etc.). If the catchment area is too large, there is a danger that the operation of the Mobility Centre will be hampered by the inadequate local knowledge of the personnel (e.g. dissemination of incorrect information).

On the basis of past experience, it has been found that it is worthwhile to set up a Mobility Centre in areas with more than 100,000 inhabitants. In municipalities with less than 100,000 inhabitants, regional Mobility Centres can be set up to cover a number of municipalities. Catchment areas should be aligned to municipal boundaries, if this is not already guaranteed by other considerations (e.g. financing).

In thinly populated areas or very large or multinuclear municipalities it may be worthwhile to set up several decentralised Mobility Centres or "branches" of a Mobility Centre. This has the advantage of bringing the Mobility Centre closer to the citizens it serves (e.g. it enables them to visit the Mobility Centre) and of creating justifiable and meaningful organisational units.

7.3.3 Transferability in Germany

Not only cities and large towns with major traffic problems can benefit from Mobility Centres. They also have an important role to play in rural areas in particular, where they can draw attention to alternatives to the private motor car. In principle, there is a place for Mobility Centres in all parts of Germany. Newly established Mobility Centres in



7.3 Transferability – Mobility Centre

conurbations such as Wuppertal or Frankfurt as well as rural areas such as Hameln are the proof of this.

Within the federal German states (in German “Bundesländer”), an administrative distinction is made between a local level (municipalities) and a regional level (at which several municipalities are joined together to form a district, with cities being responsible for local as well as regional administration). Practicable catchment areas for Mobility Centres are to be found especially at the regional level (districts and cities).

Because Mobility Management is not financially self-supporting, the financing of Mobility Centres is, in general, problematic. Public transport companies in particular, however, have an intrinsic interest in more efficient dissemination of information about their services, and in mobility services that enhance their own public transport services. Moreover, cities and districts have an interest in setting up Mobility Centres as part of a policy of limiting the negative consequences of private car use and of drawing attention to alternatives. In addition, Mobility Centres are relatively familiar in Germany as an element of Mobility Management, so existing centres can fulfil a flagship function with regard to political commitment in neighbouring regions. In Germany, the financing of Mobility Centres by transport companies, cities or districts could be a viable model. A not unimportant factor is that a large proportion of transport companies are in the hands of districts and cities, and therefore solutions involving the participation of a transport company on behalf of local government are certainly conceivable. Another potential method of financing Mobility Centres would be to integrate existing public transport information services into them.

The Mobility Centres that have been established in Germany are currently proving themselves in practice. Viewed against the background of a new system of organisational and financial responsibility for public transport (the districts are now responsible for the local and regional services), they must be regarded as having considerable potential for expansion.

7.3.4 Transferability in the United Kingdom

Virtually all public transport operators in the UK are now private companies and are, therefore, likely to be unwilling to co-operate with their competitors to provide information on the whole range of services on offer. If an individual operator were to set up and run a Mobility Centre, it is likely that the information they provided would be biased towards their services and it might be difficult to oblige them to provide information on other public transport services or on alternatives such as walking and cycling.

However, all operators are required to inform the local authority of changes to their services at least six weeks in advance. The local authority, therefore, has access to all the necessary information on local public transport services and would not be biased towards any particular operator. In fact, many already offer a telephone information service for local public transport and a few provide the information on the Internet. In the largest metropolitan areas in the UK the Passenger Transport Executives have information offices providing details of all local public transport services and often national coach services. Some even sell tickets for national coach services as well as for local public transport. There are a few other examples of public transport information centres run either by operators or the local authority, providing information on, and selling tickets for, all local public transport services and sometimes national services too, but none of these centres provide information on other modes of transport.

7.3 Transferability – Mobility Centre

The main barrier to expanding any of these centres into a more comprehensive, publicly accessible Mobility Centre would be one of funding as finance would be needed to set up and staff the centre and to gather information on other transport services.

Current transport policy in the UK aims to improve the integration of different transport modes and encourage people to use alternatives to the car. Obviously, Mobility Centres providing information on all modes of transport could make an important contribution towards achieving these aims and there are already a few signs that bus and rail operators recognise the importance of providing co-ordinated information on their services. However, unless public transport is re-regulated to some degree, it seems unlikely that many Mobility Centres will be introduced. In the short term, at least, Mobility Centres are unlikely to be the easiest way of introducing Mobility Management in the UK due to the problems of organising and financing them.

An alternative approach, and one that is already being tried in a few places in the UK, is to set up 'virtual' Mobility Centres, providing information on various different services via the internet. It may be that this could offer a first step towards introducing a physical Mobility Centre, offering walk-in access.

7.3.5 Transferability in The Netherlands

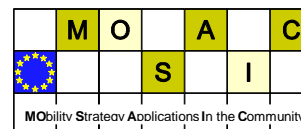
Mobility Management in the Netherlands is mainly based at site level. The information given here generally focuses on the possible changes in the daily home-to-work trips. Moreover, information focused on all public transport trips is given on a national level. The combination of giving advice about all possible modes for a daily trip is not common in the Netherlands. Therefore, Mobility Centres on city/regional level, as defined by MOSAIC, are not common in the Netherlands. However, there exist several services that could be a part of future Mobility Centres, or could develop into Mobility Centres.

Many public transport companies operate information centres near the station or in the city centre. Sometimes, the services of these information centres go beyond actual public transport information, like information on recreation tours.

Since several years, a nation-wide public transport information service exists in the Netherlands. This service offers a personal travel advice from door to door, which can include any means of public transport. The service is accessible by phone and Internet (www.ovr.nl)

These services are mainly aimed at the public transport traveller. At present, there is a strong tendency in transport policy towards a more multimodal approach. This means that public transport and the private car are not so much seen as competitive systems anymore, but rather as complementary systems. So, the management of such multimodal trips (e.g. by provision of information) is becoming an important issue. In the near future, the origination of 'mobility providers' can be expected, which offer services connected to door-to-door trips, regardless of the means of transport used. One such an organisation ('Transvision') already exists. It is aimed at the business traveller, and provides information, reservation and payment services for door-to-door trips. Also, the nation-wide public transport information service intends to expand its information system with individual modes and with reservation and payment services.

The Dutch national government supports these developments by research and the development of pilots, but leaves the actual implementation to initiatives in the transport market.



7.4 MOBILITY CONSULTANT

7.4.1 Key Findings and/or Experience

Key Findings

The role of a Mobility Consultant based in a local authority was successful in encouraging organisations to adopt Mobility Plans. Meetings with the Mobility Consultant were viewed positively by the organisations who participated – they are considered a useful way of providing organisations with ideas and information about transport issues.

The alternative approach of Mobility Consultants appointed by a public transport company was considered successful with regard to non-profit organisations but there were difficulties in persuading private organisations to accept the advice provided (the Consultants were considered to be biased towards public transport).

Most organisations thought the level of contact they had with the Mobility Consultant was about right. However, some organisations would like a lot more assistance, especially with survey work, than the Mobility Consultant is currently able to provide.

The Mobility Consultant's success in persuading an organisation to get involved may partly be simply a matter of contacting them at the right time. This was indicated by the fact that almost half the organisations surveyed who had been contacted by the Mobility Consultant and not taken the idea any further at the time would still like to discuss the idea of developing a Mobility Plan.

The opportunity to share ideas and experience at meetings which the Mobility Consultant helps to organise was viewed very positively.

Most organisations felt that it would not have made any difference if the Mobility Consultant had been based elsewhere but a few felt that a Mobility Consultant based in the Chamber of Commerce may have succeeded in getting more organisations involved.

There are additional areas of activity for Mobility Consultants as providers of advice to:

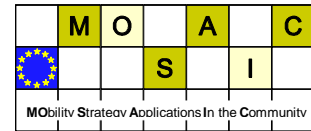
- Educational establishments
- Social welfare facilities for senior citizens
- Private households
- In pedestrian precincts

Each of these various target groups needs to be addressed in different ways so the Mobility Consultant must develop a range of strategies and approaches.

There was a very high level of acceptance of the Mobility Consultant services at educational establishments. The acceptance level at social welfare facilities and in pedestrian precincts is also high but there has not yet been a significant level of acceptance among private households.

Experience

The Mobility Consultant role may be too much for one person in bigger cities and it may be necessary to employ two or more people to undertake this work. The Mobility



7.4 Transferability – Mobility Consultant

Consultant needs to co-operate with others performing similar roles in the surrounding area.

A site meeting is a very effective way for the Mobility Consultant to introduce Mobility Plans in more detail and to learn about the organisation, its site and its staff. However, Mobility Consultants may need to deal with smaller organisations (those with fewer than 500 staff) differently from larger ones (those with more than 500 staff).

Regular meetings, such as the Commuter Planners' Club, are an excellent opportunity for the Mobility Consultant to renew and develop contacts with employers. Such meetings were also the most effective method of stimulating co-operation between employers and are highly recommended to other cities.

In situations where employers are not in a position to develop a Mobility Plan immediately, the Mobility Consultant should maintain contact as such positive relationships pay off later when there may be an opportunity for the organisation to develop a Mobility Plan. Almost all employers do contact the Mobility Consultant when they have questions or need information or advice.

The location of the Mobility Consultant within a local authority was satisfactory, however there was some confusion over the linkage between progress on commuter plans and the statutory requirements associated with planning applications.

It was very important for the Mobility Consultant to take time to encourage and support the site-based Mobility Coordinators as the work of introducing and implementing a Mobility Plan involves a lot of time and energy.

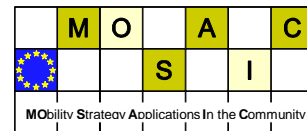
The high levels of acceptance among non-profit organisations meant that a large number of advice sessions were undertaken by the public transport company. Such a high level of activity can only be maintained by a team of Mobility Consultants. This then allows different members of the team to specialise in different areas of activity. Established contacts should always be handled by the same person to ensure continuity and to achieve maximum success.

The benefits arising from the use of Mobility Consultants are difficult to quantify and can only be recognised in the long term. The provision of Mobility Consultant services by a local public transport company provides benefits for the general public as well as for the marketing of the company. For example:

- new public transport customers (e.g. season ticket holders) can be acquired;
- a greater understanding of travel patterns can be obtained
- organisations become more aware of less well-known transport modes (e.g. car sharing, car pooling) as a means of reducing their own vehicle fleet;
- Mobility consulting in schools leads to a decrease in the vandalism of public transport vehicles.

7.4.2 Scale

The role of Mobility Consultant is transferable to urban areas of any size but only likely to be appropriate where the problems of congestion, air pollution and/or accessibility are such that organisations can be convinced of the need for Mobility Management. Such problems are only likely to exist in larger urban areas or historic towns with a very limited highway capacity.



7.4 Transferability – Mobility Consultant

However, even in urban areas with a population of less than 100,000 a Mobility Consultant could be very successful if the area suffers from severe traffic problems, especially if these problems are associated with one or two large employment sites and these sites are targeted. In areas of this size a part-time Mobility Consultant may be sufficient. The role could thus be incorporated into an existing function or one Mobility Consultant could be appointed to provide advice for organisations in a group of neighbouring towns.

In slightly larger urban areas (100-500,000 population), traffic problems are likely to be more severe and the number of large employers will be higher, so at least one full-time person would be required.

The demonstrator has shown that in an urban area of around 500,000 population the Mobility Consultant role is too large for one person so it would seem that ideally more than one person is required in larger cities where the number of people requiring support will be greater.

The Mobility Consultant appears to be most successful with the very largest organisations (500+ employees) and such organisations should be encouraged to introduce Mobility Management first. They then act as the catalyst to encourage others to get involved.

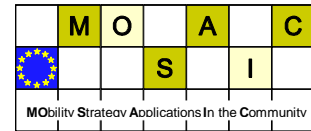
The Mobility Consultant may need to deal with smaller organisations (those with fewer than 500 staff) differently. Those with 200-500 employees should also be targeted by the Mobility Consultant as experience suggests that many organisations of this size may be looking to expand and would therefore be interested in the potential space savings offered by Mobility Management.

However, when it comes to small organisations (those with fewer than 200 employees) then the issue may need to be addressed differently. The Mobility Consultant may need to develop initiatives which encourage groups of smaller organisations to work together either in area based groups or sector based groups.

7.4.3 Transferability in Germany

Mobility Consultants are a little known instrument of Mobility Management in Germany, where only few of them are to be found. In past years only a few projects with a conceptual approach comparable with the role of the Mobility Consultant have been carried out in Germany. The projects were concerned with commuter routes or mobility advice in schools. Ultimately these approaches were wound up after a relatively short period of operation, because their financing (e.g. through job creation measures, research projects, municipalities) was only provided for a limited period of time without a follow-up financing.

Complete financing of Mobility Consultants by the public sector appears unlikely due to the pressure to achieve savings (see 6.2.3). This is the main reason for the low number of implemented examples so far. The MOSAIC pilot demonstration in Wuppertal shows, however, that applications can be launched after establishing a Mobility Centre or by linking various interests while electing for financing comparable to that of a Mobility Centre (joint financing by a transport company and local authorities). In addition job creation programs could support the establishment of Mobility Consultants, if a long-term financing is guaranteed by embedding the measures in the local Mobility Management structures.



7.4 Transferability – Mobility Consultant

7.4.4 Transferability in the United Kingdom

There are a number of other Mobility Consultants already in existence around the UK employed in a variety of ways, for example, through a Chamber of Commerce or jointly by the local authority, health authority and other agencies. In the short term, the main factor likely to limit the introduction of local authority based Mobility Consultants elsewhere in the UK is the lack of funding available to local authorities to employ such staff. However, in the longer term there is the potential for new sources of funding. There are proposals to give local authorities greater powers to raise their own revenues for transport initiatives by charging for road use or workplace parking and when these powers are available they will offer greater opportunities for funding Mobility Consultants and other elements of Mobility Management. Even where funding is available, for the role to be successfully transferred elsewhere in the UK, there will need to be sufficient political support at a local level to ensure that other policies (for example, land-use planning) do not conflict with the work of the Mobility Consultant.

Recent draft guidance on Local Transport Plans published by the UK government says that local authorities will be expected to demonstrate in their Local Transport Plan how they intend to encourage organisations in their area to adopt Green Transport Plans. This suggests that they should consider employing members of staff who act as Mobility Consultants.

Some local authorities in the UK are now using planning agreements to legally oblige developers to introduce Mobility Plans. Where a Mobility Consultant is based in a local authority this may be a good way of encouraging the adoption of Mobility Plans. There should be good links to the development control department to ensure that the Mobility Consultant is advised of any relevant new developments and is involved in the setting up of appropriate planning agreements.

7.4.5 Transferability in The Netherlands

Experiences with a Mobility Consultant in the Netherlands (like in the Leiden region) show that this role in Mobility Management transfers well to the Netherlands. Positive results are gained by the Mobility Consultant. It should be noticed that the approach of the Mobility Consultant (actively developing and maintaining contacts with individual companies) is one of the main reasons for the encouraging results of the Mobility Consultant in the Netherlands. Furthermore, the Mobility Consultant can offer a contribution to the design and formulation of a Mobility Plan. This part of the role is appreciated in the Netherlands.

Furthermore, it was seen that the role of the Mobility Consultant transfers best to the Netherlands when the this persons it part of an organisation that is independent of governmental bodies. In that situation, the Mobility Consultant has an intermediary role between all parties involved.

Currently, Mobility Consultants are financed by (a regional branch of) the Ministry of Transport. However, after 2000 some must generate their own income. It is to be seen if this will be feasible. If not, the existence in (and transferability to) the Netherlands will become in danger.



7.5 MOBILITY OFFICE

7.5.1 Key Findings and/or Experience

The Mobility Office does not necessarily need to provide physical access as long as the Mobility Coordinator can be contacted by phone and/or email. Information and posters can be displayed in prominent places in communal areas around the site so that the Mobility Office does not have to be located in a prominent place itself.

It is more important that the Mobility Office should be well-equipped, in particular, it should have good IT facilities so that the Mobility Coordinator can provide information by computer where appropriate, design posters, install a ride-sharing database etc.

The Mobility Coordinator is likely to need access to fast and efficient means of distributing information to all staff. It would also be useful if he/she could draw on any marketing skills which already exist within the organisation when designing materials to promote the Plan to staff. For these reasons, it may be appropriate for the Mobility Office to be located either within the Personnel or Marketing sections of an organisation or at least to have good links to these sections. However, these may not necessarily be the most appropriate sections for the Mobility Coordinator to be based in.

The services offered by a Mobility Office are likely to vary according to the stage of development of the Mobility Plan for that site and the availability of certain facilities. Examples of the type of services which could be offered at an early stage include: information on different public transport services available to travel to/from the site including fares and timetables; management and promotion of a car sharing scheme including an emergency ride home scheme if applicable; and management of parking allocations/permit schemes/charges etc. and the organisation of reserved parking spaces for car sharers. At a more advanced stage the Mobility Office could sell season tickets for local public transport and Park and Ride services and organise regular promotions of alternative modes.

The organisation and financing of a Mobility Office will vary according to where it is located but in most, if not all, cases it will be funded by the private sector. The resources available to fund the Mobility Office could be raised by increasing parking charges for employees or visitors or doing away with another incentive which encourages car travel as this would support the aims of Mobility Management. For retail and leisure centres, the Mobility Office is likely to be funded by the organisation which manages or runs the centre, possibly by levying a charge on individual tenants.

7.5.2 Scale

The applicability and role of a Mobility Office in organisations of different sizes will vary, not only due to the number of staff they employ but also due to the nature of their business. In organisations where most staff work at desks and have access to a computer, a virtual Mobility Office distributing information via email could be set up. Such a Mobility Office is likely to work equally well in any size organisation provided that it has its own intranet system.

For other types of employment, for example manufacturing, a different approach will need to be adopted and it may be appropriate to have some form of public access office. In

7.5 Transferability – Mobility Office

such cases, the facilities provided are likely to vary far more with the size of the organisation. Organisations with only two or three hundred staff may find it less easy to provide the computing and other facilities required for a Mobility Office. Where such organisations are based on a business park or industrial estate, it may be possible for a group of organisations to jointly fund a Mobility Office for use by all organisations on that site.

7.5.3 Transferability in Germany

Only a very few number of Mobility Offices have been established in Germany so far. Basically the commitment of government and local organisations (e.g. large employers) in the field of Mobility Management at site level can be categorised as slight. Activities are frequently restricted to key individuals. Moreover the German tax laws tend to favour private car use for home-to-work trips which can be estimated as subject to changes in future. The establishment of Mobility Offices would appear to be desirable for, in particular, large companies in the service sector with flexible working hours. This should be feasible at low cost, as there is probably potential for traffic reduction through car pooling or use of public transport.

The development of technology centres and business parks in Germany in past years has often resulted in concentrations of numerous small companies and organisations in one location. Here too there are possible applications for Mobility Offices.

Measures to make the public more aware of the establishment of Mobility Offices are just as necessary in Germany as the provision of new incentives for companies and organisations to establish Mobility Offices. One incentive could be to link Mobility Management measures with the necessary proof of car parking places on site. Ultimately it appears that the active support of workers' representative organisations for the establishment of Mobility Offices will be necessary, because workers also profit financially from Mobility Management measures, e.g. by car pooling.

7.5.4 Transferability in the United Kingdom

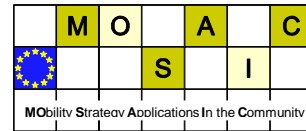
The idea of a Mobility Office is likely to transfer well to any organisation of sufficient size in most urban areas in the UK. However, the approach adopted is likely to be different for different types of organisation as discussed in Section 7.5.2.

It also seems likely that Mobility Offices will be most applicable in areas where the local authority is actively involved in Mobility Management. In such situations there is more likely to be sufficient information and support available to help the Mobility Office function successfully.

The comments in Section 7.6.4 on the transferability of the Mobility Coordinator also apply here.

7.5.5 Transferability in The Netherlands

Mobility Offices (in Dutch: *vervoercoördinatiecentrum* or 'transport coordination centre') can be found in many places in the Netherlands, since Mobility Management in the Netherlands is mainly based at site level. In the Netherlands, Mobility Offices mainly work on the level of a business or industrial area, rather than in one company. This has the advantage, that the Mobility Office can support measures that affect the whole area, like



7.5 Transferability - Mobility Office

improving accessibility by public transport and bicycle. Also, carpooling can be organised much more efficiently when several companies join their efforts. Mobility Offices in the Netherlands stimulate these kind of initiatives on business and industrial areas. Finally, it was seen in the Netherlands that the experiences in one company can be used in other companies.

This does not mean that companies are not directly involved. Companies are responsible for the income of the Mobility Centre. They pay a contribution and they pay for the offered services. These are the two sources of income of the Mobility Office. This means that there is no constant and safe flow of money from the government, which makes the Office vulnerable.

It should be noted that the approach in the Netherlands, a Mobility Office outside a company, could lead to a rather great mental distance between the employees and the Mobility Office, which leaves an important role for the Mobility Coordinator, who is based in the company.

7.6 MOBILITY COORDINATOR

7.6.1 Key Findings and/or Experience

It is seen that the success of the Mobility Coordinator (and therefore Mobility Management) in companies largely depends on the environment in which the Mobility Coordinator plays his role. According to the motivation for Mobility Management and the way Mobility Management is embedded in the organisation, there seem to be three types of organisations:

- companies with a general, societal motivation for Mobility Management;
- companies where Mobility Management is pushed by authorities and
- companies with a clear self-interest in Mobility Management

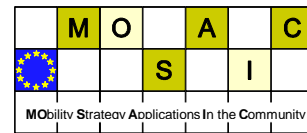
In companies with a general, societal motivation, Mobility Management is often initiated at the personnel department. In most organisations, there is no clear target, no Mobility Plan and little (financial) support from the management. Results are usually limited.

Companies where Mobility Management is pushed by external bodies (e.g. by governmental directives or by the works council) would not have introduced Mobility Management if they were not pushed to do so, since they do not see enough the importance for the company. Generally these companies have more budget, thanks to external (governmental) financing, and have made a Mobility Plan. Although unpopular measures (like reducing the amount of parking spaces) are not taken, results are often quite good and the employees are content. However, Mobility Management is not seen as a main issue at the management level. When, for any reason, the source of enforcement disappears or the finance declines, the experience is that Mobility Management fades away as well; no new initiatives are taken and the attention for existing declines.

A third group of companies acts from a clear self-interest, for example, they experience a parking problem. This makes the company management responsible for implementing Mobility Management. There is a Mobility Plan with clear quantitative targets. Although the employees are not always very enthusiastic, because some measures affect their 'freedom' of car use, results are usually good. In this type of companies, Mobility Management often achieves a firm basis in long-term company policy.

Organisations with a Mobility Coordinator are much more likely to have contact with the Mobility Consultant at least once a month and are therefore more likely to benefit from mobility advice. It is therefore very important to have a designated person to act as the point of contact with the Mobility Consultant.

Another reason it is desirable to have a designated person is so that they can act as a point of contact within the organisation. They need to be well known throughout the organisation so that employees can approach them with complaints, queries and their own ideas for the Mobility Plan. They can also act as a focus point and a catalyst for initiating activities for the Mobility Plan. Mobility Coordinators may well start off their work by looking at one particular issue, for example parking, which then leads them on to looking at other transport-related activities and so to other initiatives associated with the Mobility Plan.



7.6 Transferability – Mobility Coordinator

The Mobility Coordinator needs to be sensitive to the internal politics of the organisation they are working in. It may be difficult to change systems which have been in place for a long time and a good understanding of the organisational structures and the decision making processes is vital. The Mobility Coordinator must have good support from senior management since difficult decisions will need to be made in terms of changing existing policies and in allocating adequate resources to the work of the Mobility Coordinator. So the Mobility Coordinator needs to be someone who understands all the issues involved and can build consensus at a management level.

As already noted, the work of introducing and implementing a Mobility Plan involves a lot of time and energy and it is therefore important for the Mobility Consultant to take time to encourage and support the site-based Mobility Coordinators. This also means that a particular kind of person is needed to undertake the role of Mobility Coordinator. The following are suggested as essential attributes of a Mobility Coordinator:

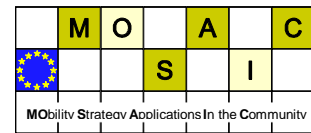
- They need to be very persuasive and able to withstand criticism and negative attitudes from other staff who are unhappy with the process of change.
- They should have good communication skills so that they can sell their ideas to others.
- They need to be able to set the Mobility Plan in the wider context of the organisation's activities and particularly to be aware of the links between the work of the Mobility Plan and other complementary aspects such as occupational health and environmental management. This aspect is vital if the work of the Mobility Coordinator is to be maintained.

Experience suggests that the most successful Mobility Coordinators tend to be based within the Estates or Facilities Management functions of an organisation. This is probably since the impetus to introduce a Mobility Plan often comes from the need to solve problems of access to, or space on, the site so these functions have the most to benefit from the success of the Plan. There are examples of Mobility Coordinators employed elsewhere in organisations but this does not seem to work as well.

Contact with other Mobility Coordinators is very important, both formally, perhaps in some forum organised by the local authority and on a more informal basis when they can swap ideas of a very practical nature, for example, about the type of car sharing software or cycle lockers to use. Furthermore, the contact between the Mobility Coordinator and the employees is very important. The Mobility Coordinator should be well informed about the experienced mobility problems and the possibilities of the employees to change their travel pattern to be able to take the appropriate measures. The kind of services a Mobility Coordinator would offer and the ways in which they might be financed are the same as for a Mobility Office and have already been covered in Section 7.5.1.

7.6.2 Scale

On sites employing very large numbers of staff (over 1000) and where there are severe parking or access problems which need to be solved then it is unlikely that much progress would be made unless a full-time Mobility Coordinator is employed. Even where there are not such severe problems, any site employing over 1000 staff could probably benefit from a full-time Mobility Coordinator. For organisations with fewer than 1000 staff, unless they have a lot of issues which need to be dealt with, then it is unlikely that a full-time Mobility Coordinator would be employed and it is more likely that the role would form part of



7.6 Transferability – Mobility Coordinator

another job. As discussed in 6.6.1, the combination of the role of Mobility Coordinator with other aspects of facilities or site management appears to work well.

In smaller organisations (i.e. those with only a few hundred staff), it is still feasible that the role of Mobility Coordinator could be designated as a small part of another job.

7.6.3 Transferability in Germany

Mobility Coordinators are virtually unknown in Germany at present, although first examples (similar to a Mobility Coordinator) are now developing. Companies and organisations in Germany could probably appoint Mobility Coordinators quickly at low cost, an outside stimulus will probably be necessary. The circumstances in technology centres and business parks, where several small companies are concentrated in one location, favour this development. There is usually some form of local site management, to which the task of Mobility Coordinator for the site can be entrusted.

The future development of the role of Mobility Coordinator in Germany will depend largely on the extent to which national government takes an interest in Mobility Management at site level, and takes steps to make it better known or provides incentives to make it more attractive to companies and organisations.

7.6.4 Transferability in the United Kingdom

The role of Mobility Coordinator is likely to transfer well to any organisation of sufficient size in most urban areas. There is an increasing expectation by both national and local government that business will play its part in solving transport problems and many large organisations are also now working towards environmental quality standards. For these reasons a number of large employers are now employing Mobility Coordinators.

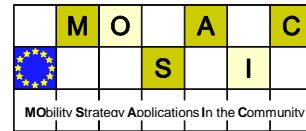
However, the role is perhaps less likely to be a full-time one in Central London, except for the very largest organisations. This is because the commuting characteristics of employees in Central London are somewhat different than in other urban areas in the UK and there is already high use of public transport. However, even in Outer London and some parts of Inner London, there is high enough use of car for the journey to work to justify the employment of Mobility Coordinators.

The role of Mobility Coordinator is less likely to transfer very well to rural areas, except for the very largest organisations.

7.6.5 Transferability in The Netherlands

The role of Mobility Coordinator transfers well to many organisations in The Netherlands. This role is already well known and the interest of companies in Mobility Coordinators is still growing. It is seen that companies used to act from a more societal motivation or were pushed to introduce Mobility Management. Currently there is a shift taking away from these motives towards a clear-self interest in Mobility Management. Due to the declining direct (financial) involvement of the national government it is expected that in the future, only companies who see their own interest in Mobility Management will employ a Mobility Coordinator.


In The Netherlands most companies have a part-time Mobility Coordinator. Only companies with a large number of employees have somebody who can spend full-time on



7.6 Transferability – Mobility Coordinator

Mobility Management. These companies are mainly based in the west of The Netherlands (the part with most mobility problems).

In The Netherlands, the Mobility Coordinator is in many organisations based at Human Resource Management Department, while the management of traffic facilities is mainly at department of Facility Management or Internal Affairs. This requires a good communication between those parts of the organisation.

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MOBility Strategie Applications In the Community						

7.7 MOBILITY PLAN

7.7.1 Key Findings and/or Experience

The Mobility Plan should be the basis of Mobility Management within an organisation. It facilitates the introduction and process of Mobility Management. The Mobility Plan includes information about the aims on the field of the reduction of car usage, the objectives regarding car-poolers, cyclists, etc. and the planning to reach those aims in relation to the introduction of measures. It should give information about the planned measures and the available funding. Furthermore it describes the tasks, responsibilities and the authority of all involved. Finally, it should be a product to be used for communication. For example, it explains the measures (what they are like, why they are taken and how they are taken) and gives information about the progress.

A Mobility Plan should be seen as part of a continuous process instead of a solitary product and has fit in the way the organisation operates, like Safety Policy.

The motive to write a Mobility Plan can differ. Companies can be pushed to write a Mobility Plan while they are not really convinced of the benefits of it and Mobility Management in general. It is possible that in these situations, companies do not feel the need to take the measures mentioned in the Mobility Plan and neglect it after a while.

On the other hand, when a voluntary approach is used and companies are really convinced of the benefits of Mobility Management, the Mobility Plan will be an important product and gives a solid basis to the execution of Mobility Management. In this situation, it is seen that the continuity of Mobility Management is more secure.

The writer of the Mobility Plan (normally the Mobility Coordinator) should be well informed about all possible measures and all relevant regulations. The Mobility Consultant can advise about these things.

It is important to not only initiate the process of Mobility Management by making a Mobility Plan, but also evaluate the effects of the measures compared to the goals of the plan. This evaluation is twofold. First, the evaluation whether the proposed measures are implemented and secondly the evaluation of the effects of the traffic and transportation system. This is indicated in figure 6.7-1. On the basis of this evaluation, a modified Mobility Plan should be written, including the conclusions of the evaluation and the justification for the (new) taken measures. This indicates that a Mobility Plan should not be seen as a final document, but as an element in a continuous process.

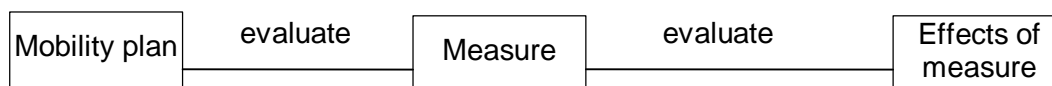


Figure 6.7-1 The two levels of evaluating the effects of a Mobility Plan

The writer of the Mobility Plan (normally the Mobility Coordinator) should be well informed about all possible measures and all relevant regulations. The Mobility Consultant can advise about these things.

A Mobility Plan should include both push and pull measures which are feasible in that particular company or group of companies. Examples of pull measures are bicycle promoting measures, a carpool scheme and public transport promoting measures. An



7.7 Transferability - Mobility Plan

example of a push measure is the reduction of the number of parking places near the company. As maintaining staff support for a Mobility Plan is very important, pull measures should be used in the first years, then later the push measures. Pull measures benefit everyone e.g. existing cyclists and public transport users, push measures target sole car commuters.

Parking should be a central factor in a Mobility Plan; supply of parking space in relation to the demand of space. This demand will relate to the price (differentiation) of the parking place. Planning policies must reduce parking provided with new developments and require facilities for pedestrians, walkers, car sharers and public transport users with new developments.

Large employers developing Mobility Plans have a very positive effect on the transport service providers in the city by demanding new and/or improved services and facilities. This supports other aspect of the cities transport strategy.

7.7.2 Scale

The concept of a Mobility Plan is transferable to urban areas of any size but most likely to be introduced in areas with traffic problems. Such problems are more likely to occur in dense areas. However, even in less dense areas with a small population, a Mobility Plan is appropriate to reduce the solo use of cars.

The amount of possible measures depends on the size of the company and the geographical size. Small companies can introduce small appropriate solutions. For example, they can charge for parking, give subsidies to public transport, produce a map showing bus and cycle routes, promote health dimension of a Mobility Plan, add transport to their Environmental Policy etc.

The problem with small employers is that they are less likely to suffer from the parking and congestion problems that are the key motivators for a Mobility Plan. Other incentives from the authorities are required, for example Grant schemes to improve Environmental Performance.

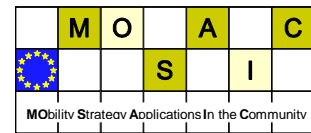
Bigger companies, or more companies combined in one Mobility Plan for a region, can introduce these measures as well. In addition to these measures, they can offer a carpool matching service. For these services, a certain critical mass is needed. The size of this critical mass depends on the homogeneity of the travel pattern of the employees.

Companies with over 500 employees can be in a position to negotiate with a public transport operator about the adjustment of the time-table and routes of busses near the company in favour of their employees.

The appropriateness of the measures also depends on the location and the accessibility of the company, either by car, bike or public transport.

7.7.3 Transferability in Germany

Mobility Plans are virtually unknown in Germany as a consequence of the low level of commitment in the field of Mobility Management at site level (see section 7.5.3). The current public opinion in Germany is characterised by the view that the choice of transport modes (e.g. for home-to-work trips or to leisure locations) is a matter for the individual, and therefore measures with a more or less “binding” character (Mobility Plans) are often rejected in the field of transportation.



7.7 Transferability - Mobility Plan

German planning legislation provides municipalities with relatively powerful instruments such as legally-binding land-use plan (in German “Bebauungsplan”) for shaping land use in the public interest. Questions of transport compatibility are one of the factors that have an important influence on decisions concerning land use.

In principle the political landscape in Germany does not appear to offer a very receptive environment for the initiation and implementation of the Mobility Plan as an additional planning instrument at the moment, because

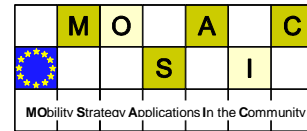
- this would involve a considerable injection of public funds to disseminate the concept of the Mobility Plan in companies and organisations;
- the tenor of the public debate in Germany in recent years has been to reduce the private sector contributions to the financing of social costs, on the grounds that such contributions have a harmful effect on the international competitiveness of German industry.

It can be assumed that the initiative of the industry to set up Mobility Plans voluntarily is fairly low, except new incentives to set up Mobility Plans are provided. If the national government regards this as a field in which it is called upon to take action, the transferability of related know-how to the situation in Germany seems to be possible, but will take a longer period to show effects. Necessary future actions in environmental issues (e.g. Local Agenda 21, sustainable development) may accelerate this process.

7.7.4 Transferability in the United Kingdom

There are a number of quite well known examples of Mobility Plans in the UK. As current government policy encourages local authorities to work with employers on the voluntary introduction of Mobility Plans, it seems unlikely that the compulsory approach adopted in the Netherlands will transfer to this country in the near future. Some authorities are using planning legislation to require Mobility Plans as part of new developments. However, it is widely believed that the voluntary approach will lead to more successful Mobility Plans as the organisations introducing them will see the benefits for themselves of making the plan succeed.

The current taxation system in the UK, which requires employees (or their employer) to pay tax on company provided bus services and other Mobility Plan measures but not on parking spaces, acts as a significant barrier to the wider adoption of Mobility Plans. However, this system is currently under review and it seems likely that significant changes will be made in the near future, therefore encouraging more organisations to implement a Mobility Plan. There are also plans by Central Government to market Mobility Plans better to the private sector.



7.7 Transferability - Mobility Plan

7.7.5 Transferability in The Netherlands

This part of Mobility Management is well known all over The Netherlands. Mobility Plans belong to one of the earliest Dutch initiatives of Mobility Management in the early nineties.

There is a push from the Dutch government to write a Mobility Plan. It was even brought up that an obligation could be possible in the near future. The Mobility Consultants involved in advising companies about their Mobility Plan should be very attentive and be sure that companies are really convinced of the benefits of making and implementing a Mobility Plan. Nowadays, more companies write a Mobility Plan since they notice benefits in Mobility Management and the implementation of the Plan.

In the Amsterdam they started a new approach to increase the number of companies that have a Mobility Plan. Before companies with more than 100 employees and/or 500 visitors a day can obtain an obligated environmental licence to start the company, they have to write a suitable Mobility Plan in which they show their (future) effort to reduce the usage of cars. The experiences are very positive, both for the local authorities and the companies.

In The Netherlands, for most companies there is a wide range of possible measures to be included in the Mobility Plan. The high density of the population in the whole country makes many measures possible in all areas, even for small companies. Furthermore, cycling is a very common and accepted mode for commuting trips. Therefore, it is accepted to initiate cycling measures and the probability that the measures will be successful is high. Finally, some fiscal changes are made in the Dutch legislation, which enlarge the benefits that can be offered to employees which use desirable modes.

At this moment, some changes are made in the organisation of public transport in the Netherlands. This used to be a public organisation, but currently it is in a transitional phase towards deregulation of the public transport system. It is expected that due to the deregulation of the public transport system, the public transport organisations will behave more market-oriented. This will increase the chance that possible measures related to changes in the public transport system (like a time table or an adjusted route) in favour of the employees will be introduced.

Currently, there is a very tight labour market in the Netherlands. Therefore new employees will obtain good (secondary) conditions of employment, sometimes even including a lease car. This will decline the possibilities for employers to reduce car usage.

8 CONCLUSIONS: ESSENTIALS FOR IMPLEMENTATION

8.1 GENERAL

This Chapter covers the essential factors which will make for the successful implementation of Mobility Management. It starts by considering the issues that are common to all levels of Mobility Management activities and then focuses on those which are specific to the City/Regional level or the Site level.

The factors discussed in this sub-section are all essential for the implementation of a comprehensive approach to Mobility Management. They are primarily related to the whole system and should be borne in mind when designing a detailed and long term Mobility Management strategy. These common factors can be summarised as follows:

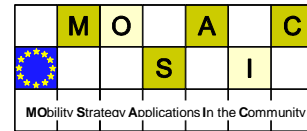
- deciding where to start
- lobbying and promotion
- creating alliances
- marketing activities
- monitoring and evaluation

Deciding where to start

First steps to introduce a Mobility management scheme are to identify relevant user groups and target groups (who are the end-users and who is going to implement Mobility Management services and put them into practice on-site) and to agree about general aims. Depending from relevant target groups and defined aims one could focus upon site level applications or urban level applications (which does not exclude a combination of both).

In countries where transport operators are publicly owned it may be easiest to start by developing public transport related Mobility Management Services and expanding on these to set up a Mobility Centre as the starting point for Mobility Management. In other countries, where public transport is run under direct influence of free market forces, it may be easier for local authorities to start by trying to encourage site-based Mobility Management. In such a situation the employment of a Mobility Consultant may act as the starting point for Mobility Management. However it is introduced, Mobility Management should be developed over time and opportunities identified for introducing new elements. Existing initiatives might be the basis or a starting point. The comprehensive concept of all possible elements should be the background and destination for further activities.

Local partnerships of different partners should be established in an early stage. A broad support from local authorities, transport operators, private companies and interest groups helps to spread knowledge and acceptance of Mobility Management Services. Such a network could be the basis of long term, positive and co-operative relationships between Local Authority, transport operators, employers etc.. Each element of the Mobility Management concept (e.g. Mobility Centre, Mobility Consultant, Mobility Office, Mobility Plan) could be the starting point to establish links to elements and other closely related planning activities (e.g. land-use planning).



8.1 Essentials for Implementation – General

Similarly, the kind of Mobility Management services that should be offered depends on the local situation. It is advisable to start with basic services which have comparatively low costs and are of use to a large target group. Some services, for example, a city wide Car Pooling scheme, require a minimum number of potential users to work reliably. Hence, such a system will not work well in a small city. A good mixture of Mobility Management services will strengthen the whole system since each service supports others. For example, a home delivery service will support the use of public transport. Hence, people will require more detailed information about the schedule and special fares. Once they get used to this mode of transport they will also use it for other purposes, e.g. for the ride to the theatre.

Lobbying and Promotion

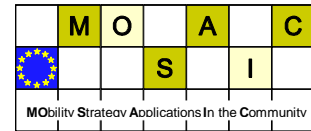
Promotion and lobbying are crucial to convince possible key-actors to get involved in Mobility Management, particularly at the Policy and Management Levels. Usually a promoter will look for supporters of Mobility Management activities and will try to secure additional funding for initiatives if required. The most likely promoters of Mobility Management at the Policy Level are public bodies, particularly local, regional or central government, but transport providers such as public transport companies may also be involved. They will need to “sell the idea” of Mobility Management to other key actors if Mobility Management is going to succeed. These key actors might include other local authorities and transport providers not already involved (trade organisations, the local Chamber of Commerce, community groups, etc.). The aim should be to convince and persuade these key actors to support and accept responsibility for the idea of Mobility Management.

Promotional activities should also be aimed at large employers and the operators of specific sites to encourage them to adopt site-based Mobility Management activities. Where, one organisation is already involved in site-based Mobility Management they may be willing to promote it to others in the area by sharing their positive experiences of Mobility Management initiatives and providing successful examples which might be applied elsewhere. For example, if one company was able to expand on their existing site rather than moving by introducing a Car Pooling scheme and better bicycling facilities and thus successfully reducing the number of parking spaces on site, they could persuade others in a similar situation to do the same.

Creating Alliances

It should be clear to all parties involved that Mobility Management is a long term and continuous process. Right from its initiation an important factor for the success of Mobility Management is the creation of stable alliances and partnerships of key partners. The right alliances can increase public support for Mobility Management by combining a variety of skills and representing a wide range of different interests. Mobility Management should be an integral part of related transport and planning activities such as land-use planning, Local Agenda 21 processes and strategies to improve air quality in urban areas. This integration could potentially increase the success of each activity since their aims support each other.

The setting up of some form of “consultative board” or steering group will help to ensure that the various strategies are all co-ordinated and supporting each other as much as possible. Different members of the consultative board (such as local authorities, regional government, public transport providers, interest groups, individual companies,



8.1 Essentials for Implementation – General

administration, leisure promoters etc.) could contribute in different ways (manpower, financing, infrastructure, advice etc.).

Creating alliances should be seen as both a top-down and a bottom-up approach. Local initiatives dealing with transport matters can also provide a valuable input and help to secure community support for Mobility Management.

Marketing activities

Marketing of all services is crucial for Mobility Management. The ideas and services should be continuously publicised because a change in attitudes towards sustainable mobility is a long-term process. Regular local press coverage is a good way of ensuring that the Mobility Management services stay in the public eye.

The range of integrated Mobility Management services should be presented to users by means of various marketing activities e.g. advertisements, posters, brochures, radio-spots, etc. These should present the possibilities offered by Mobility Management and demonstrate the benefits to users. Convincing marketing ideas are also needed for key actors (e.g. organisations, politicians, companies) in order to secure financing and stable partnerships (e.g. public-private-partnerships) for Mobility Management activities.

Each service should be marketed individually and according to its target group. Before and during implementation these target groups should be identified and asked for their views on the elements and services of Mobility Management. In addition, it should also be clear to users that all the various Mobility Management services are offered as part of a joint strategy. Hence, a corporate identity e.g. a common logo should be used for all services (even when the services are provided by external partners). This shows the user that the service is offered as part of a wider strategy of local Mobility Management activities.

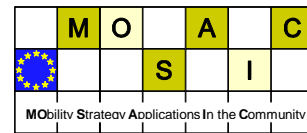
Monitoring and Evaluation

Most Mobility Management services do not earn any profit and must be financed indirectly. Hence, reliable monitoring of all services is important to ensure that the Mobility Management activities are provided as efficiently as possible and that the services are meeting their intended aims.

Mobility Management initiatives can not be evaluated using simple economic indicators and those implementing Mobility Management should take a long-term view of the potential benefits. In the short term, monitoring should concentrate on awareness of the services on offer and a change in attitude towards alternatives to the car. This attitude change is the first step towards a change in behaviour.

It may be useful to set targets against which the success of the Mobility Management strategy can be evaluated. These targets could cover different aspects, for example, the level of take-up of services offered by a Mobility Centre or a reduction in solo car drivers to a particular site. Surveys could be carried out to determine levels of use of, and satisfaction with, different services and the mode used for particular journeys. Where a particular initiative consistently fails to meet its targets then it may be necessary to adapt the strategy used or perhaps to assess whether the targets are realistic.

A full evaluation of the costs and benefits of Mobility Management should also take into account the external costs associated with high traffic levels (e.g. the cost of treating diseases caused by air pollution) and the potential of Mobility Management to reduce

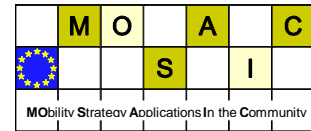


8.1 Essentials for Implementation – General

these costs. Other, less easily quantifiable factors, such as quality of life, should also be considered.

When monitoring Mobility Management activities it may be hard to distinguish the effects of the strategy from wider changes in the surrounding area. New developments, changes in traffic levels or car ownership in the surrounding area, changes in central or local government policy, public transport fare reductions etc. may all have an influence on people's behaviour and on traffic levels. Ideally, the effects of Mobility Management should be isolated from the effects of these other changes but this may not always be possible. To compensate for this, records should be kept of major related changes during the monitoring period.

Mobility Management is a lengthy process, which should first create awareness towards sustainable modes, then initiate a change in awareness before finally effecting a change in attitudes and behaviour. It takes several years for measurable effects to become recognisable. Marketing should appeal to all user groups, with particular emphasis on private car users.



8.2 Essentials for Implementation – Urban/Regional Level

8.2 URBAN/REGIONAL LEVEL APPLICATIONS

The application of Mobility Management at the urban/regional level requires a comprehensive approach and considerable financial input to address all kind of trips and all modes of transport. Elements which could be introduced for the urban or regional level are a Mobility Manager, a Mobility Centre and a Mobility Consultant. Mobility Management could start with different elements on different levels. The implementation of e.g. a Mobility Centre profits from the support of a Mobility Manager and close co-operation with Mobility Consultants.

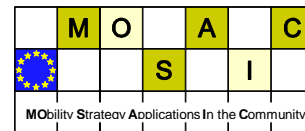
The role of a **MOBILITY MANAGER** to take overall responsibility for developing and promoting Mobility Management in a particular city/region or at individual sites is crucial to establish a Mobility Management scheme. Especially in larger cities or regions with a differentiated planning organisation and sectorised competence it is helpful to have a Mobility Manager. His/her role would be important to ensure that the authority's planning and transport policies complement the Mobility Management strategy and to ensure that all the necessary players are involved. It seems most likely that a Mobility Manager would work in the public sector. For a city-wide implementation of Mobility Management a Mobility Manager should take the lead to create interfaces between different elements of Mobility Management, to reach synergy effects, to establish regional alliances and co-operation and to secure a long term operation of Mobility Management.

MOBILITY CENTRES could be an important building block in the establishment of a Mobility Management scheme for all kinds of trips. **Possible applications** for Mobility Centres exist in both urban areas (major traffic problems due to the volume of cars on the roads) and rural areas (pointing out Mobility Management Services and alternatives to private cars).

The **services** should be developed in stages, depending on the necessary technical and financial resources and the personnel and time required. In this context a distinction can be made between Basic services (mainly intermodal information/advice-oriented and sales/reservations-oriented services), Intermediate services (all preferable services offered to the customers including consulting-, organisation- and co-ordination-oriented) and Advanced services (a universal pool of travel-related services, e.g. information on traffic conditions (road), ticket sale for special events). **Starting a Mobility Centre** with basic services is a cost-effective short-term approach with little risk. In order to ensure the effective development of a full-scale Mobility Centre a strategy should be drawn up in which the period of time and the scope of the implementation of additional services is laid down. The increase in number of services will be influenced by the user acceptance as well as by political importance. On the other hand, specific local requirements, the willingness of institutions/organisations to co-operate and the financial resources available will influence the stage of development of Mobility Management services to be introduced in a city/region.

Co-operation and agreements with service providers are necessary- if users are to be provided with a comprehensive and complete range of services (e.g. car hire firms, national rail companies, transport companies). On economic grounds, as a rule the **catchment areas** should have a population of at least 100,000 people, but should not be so large that the provision of reliable information is no longer guaranteed.

Access to the services should be as simple and transparent as possible. For this, a central, inner city location, if possible in the pedestrian zone and an easily identifiable,



8.2 Essentials for Implementation – Urban/Regional Level

memorable phone number are useful. Normally, service access should be free of charge at least for basic services. Access to Mobility Centres should be given 24 hours a day and 7 days a week, at least by phone. Personal access to the centre could be limited to normal shop opening hours. Charging fees should only apply if consulting takes a lot of effort (e.g. provision of Mobility Management services to companies/institutions).

Considerable demand is made on the **personnel**, both by users and service providers. They must have a good knowledge of public and private transport networks and of local circumstances. Furthermore, they must have service-specific specialised knowledge and must know how to use modern information technology systems. Personnel must therefore receive a good grounding, followed up by regular further training. The **technical equipment** should include high quality computer systems (e.g. to run modern timetable information software, electronic street plans, Internet searches), so that standardised user inquiries can be handled quickly and efficiently. Databases with already collected data (e.g. timetable data concerning popular destinations in other regions) should be established and maintained to enable good quality, up-to-date information to be provided.


Customers must be made aware and persuaded of the merits of the services of the Mobility Centre by means of **comprehensive marketing**, because Mobility Centres, in contrast to other elements of Mobility Management (e.g. Mobility Consultants) do not themselves approach their customers directly.

The **emphasis on the “principles”** of Mobility Centres **voluntariness** (customers contact the Mobility Centre of their own free will), **neutrality** (the advice provided does not favour specific transport media) and **intermodality** in marketing appears to be necessary, because, not infrequently, the public perception of the work of Mobility Centres is that it has a political or ideological purpose. This impression must be responded to decisively by achieving the necessary consensus of all politically relevant local parties (opinion formers). Otherwise there is a danger that unfounded preconceptions in the mind of the public could doom this initiative to failure. Marketing should therefore involve professional, informative and continuous local press and public relations work.

Public-private partnerships play a key role in the question of financing, because public and private sector interests coincide in Mobility Centres. Many providers of services, especially public transport companies, have an intrinsic interest in improving the provision of information about their services. In particular, mobility services that complement public transport services (e.g. car-sharing) are of importance from the point of view of the transport companies. In addition, the public sector has a clear interest in the establishment of Mobility Centres, which can help to limit the negative consequences of motorised individual transport and point out mobility alternatives. Co-operation with municipal city-marketing or information services (Tourist Information) facilitates a joint positive presentation and external image.

The **organisation and co-ordination** of the Mobility Centre should be brought under one roof, however, in the interest of making management structures as efficient as possible. By contrast, all interested parties should be involved in the financing. On grounds of efficiency, it is advisable to vest responsibility for organisation and co-ordination in one of the participating partners, who should have extensive experience in the transport sector and in the communication of information. The establishment of an operating company for this purpose appears to be a feasible option.

The operation of a Mobility Centre naturally has **costs associated with** it, e.g. for labour (salaries, training of personnel etc.), infrastructure (rent, furniture, computers, phone/fax,

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MOBILITY STRATEGY APPLICATIONS IN THE COMMUNITY						

8.2 Essentials for Implementation – Urban/Regional Level

copy machine etc.) consumables (phone/fax, booklets, campaigns etc.). The options for reducing the cost of running a Mobility Centre to a financially feasible level clearly depend on the local situation. Creative, sometimes unconventional, ideas are needed. Potential financing options include the integration of the transport company's existing public transport information service into a Mobility Centre or provision of services for third parties, provided they are compatible with the day-to-day business of the Mobility Centre.

The establishment of Mobility Centres also generates **synergy effects**. Existing centres serve as models for political commitment in neighbouring regions without a Mobility Centre. As the number of existing Mobility Centres increases, the costs for the acquisition of information from other regions will fall, because the centres will be linked in a network and because geographical areas of responsibility will be clearly structured. A Mobility Centre collects a lot of customer satisfaction data in the course of its activities as a provider of information. It can, therefore, make a major contribution to assuring the quality of the services provided, since the information collected can be used by service providers to implement improvements (e.g. improvements in public transport services). Other service providers or initiatives will have a central partner that they can contact in the context of building up a network.

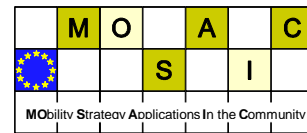
Mobility Centres could be implemented as the first element of a comprehensive system-- if public transport is not de-regulated and a public transport operator is able to upgrade e.g. an existing ticket-office or information bureau. For other forms of operation it is important to take account of the circumstances prevailing in the country in question, and a degree of creativity is needed to further develop the concept.

There are potential fields of activity for **MOBILITY CONSULTANTS** as providers of advice to companies and organisations to encourage the introduction of Mobility Management measures (e.g. developing a mobility plan). Other potential fields of activity include

- schools and kindergartens (e.g. organising education sessions and lessons on the subject of mobility, explaining aspects of public transport utilisation, promoting safe bicycle and walking routes to school, distributing classroom material addressing a range of mobility issues),
- social welfare facilities for senior citizens (e.g. holding information events, advising elderly people on the use of various means of transport),
- private households (e.g. providing information about individual alternatives to private car use, such as car-sharing, and cost comparisons between private cars and public transport),
- in pedestrian precincts (e.g. handling general questions on the subject of mobility, providing information about delivery services for shopping purchases).

This shows that the role of a Mobility Consultant is a relatively broad one, requiring the development of correspondingly differentiated strategies and approaches to address the various target groups. A restriction to specific fields of activity is possible (e.g. the target group "companies and institutions", to initiate the developing of mobility plans as shown in Chapter 7.4).

The **appointment of Mobility Consultants** by a municipality or comparable administrative body is a tried and proven approach. Other approaches such as direct support by public transport companies can run into acceptance difficulties concerning the



8.2 Essentials for Implementation – Urban/Regional Level

provision of advice to private companies and organisations (accusation of lack of neutrality). This approach is, however, potentially attractive with regard to other tasks of Mobility Consultants (e.g. mobility instruction in schools).

The activities profile of a Mobility Consultant makes **high demands in terms of personnel qualifications**. A Mobility Consultant must have good communication skills and powers of persuasion (e.g. to convince companies and organisations to develop a mobility plan); good teaching skills (e.g. for provision of advice in schools and kindergartens, social welfare facilities, private households), theoretical knowledge of the basic Mobility Management concept and basic knowledge of transport planning and transport engineering. These skills and knowledge can probably only be acquired through special training programs. Under the condition that the role of a Mobility Consultant is performed by more than one person, it is likely that they could concentrate on specific user or target groups.


To achieve a **maximum of continuity of consulting**, established contacts should always be handled by the same person (one-face policy). In addition, precautions should be taken to ensure that existing contacts are not broken off when fluctuations in personnel occur, and then have to be re-established.

The **costs associated** with the introduction of Mobility Consultants are mainly on the personnel side. In view of the public service character of their task, however, public sector participation in financing and initiating this element will probably be essential. The number of Mobility Consultants needed varies widely, depending on the local situation of an area and the planned scope of the services.

It seems, however, that the complex range of tasks that can be grouped under the heading “Mobility consulting in companies and organisations” could be entrusted to a single person only in small towns. Mobility consulting in schools and other facilities (social welfare institutions, households, pedestrian precincts) requires a large number of advice sessions and can therefore only be provided by a team of Mobility Consultants. Mobility instruction in schools and kindergartens in particular enjoys a high level of acceptance, so that this field requires a relatively large number of personnel. In the case of the pilot project in Wuppertal (approx. 400,000 inhabitants), where 6 Mobility Consultants were engaged, it was generally agreed that more would have been desirable, in view of the increasing number of tasks.

As with other Mobility Management elements, **benefits due to the use of Mobility Consultants** are difficult to quantify and can only be recognised in the long term. For example, mobility consulting in schools should stimulate a process of development of awareness, which can only result in changes in behaviour and attitudes towards transport in the long term. In this case, it is hardly possible to quantify the benefits of Mobility Consultants in contrast to other influences. A comparison of the efficiency of different fields of consulting is therefore basically impossible. Rather, the use of Mobility Consultants must be regarded to some extent as a public sector task, to encourage an environmentally and socially compatible choice of transport mode.

Mobility Consultants can be an element of Mobility Management in the initial stages of the creation of a comprehensive local **Mobility Management scheme**. The knowledge of mobility consulting gained during the MOSAIC project seems to be applicable to the situation in other European countries.

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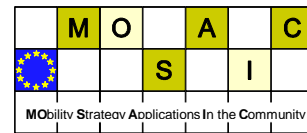
8.2 Essentials for Implementation – Urban/Regional Level

Freight Transport at Urban and Regional level

The structures of Mobility Management for passenger transport cannot be applied to freight transport without modifying the strategic concept and establishing new lines of assistance. Services should mainly focus on information. Mobility Centre services in freight transport - in particular a dynamic information system that includes urban traffic - demands a high level of technical and financial investment, which it is currently impossible to forecast in its totality. However, it must be emphasised that a system of dynamic traffic information would meet a wide range of needs and act as a stimulus to achieving management objectives.

In terms of scope and from the point of view of competitive quality conformity, many Mobility Services required by freight carriers could be established and provided without a Mobility Centre with personal access (e.g. dynamic traffic information, guidance system in the Internet etc.). Principal reservations exist with regard to Mobility Management services organised as a centralised/monopolistic service or non-private business sector service, because they could possibly exert influence on or distort the competitive situation. In this context the question of ownership is particularly significant.

Synergy effects resulting from an integration of Mobility Management services in passenger and freight transport are not very obvious at this moment (exception: delivery service). Passenger and freight transport are based on non-integratable transport systems with separate vehicle parks / services, demand groups, types of services, legal bases and terms of competition.



8.3 SITE LEVEL APPLICATIONS

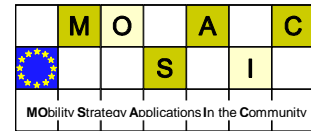
When first attempting to encourage the adoption of site level applications of Mobility Management, it is probably best to **target the largest organisations** within an area first, particularly those with parking or congestion problems. These might be large employers but could also be a large leisure or retail complex, where Mobility Management activities would be aimed at visitors as well as staff. It ought to be possible to identify two or three key organisations which are well-known in the area and which, once involved, will act as a catalyst to encourage others to get involved. By demonstrating to organisations the benefits for themselves rather than the wider benefits to the environment and the local community, it ought to be possible to convince them that this is something they, rather than government, should take responsibility for.

If an organisation has chosen itself to adopt a **MOBILITY PLAN** and has been very involved in the development of that Plan, they are more likely to have a sense of ownership for it and to ensure that it gets adequate support. It is therefore recommended that a voluntary approach to the encouragement of Mobility Plans should be adopted. The organisation should have a clear and easily recognisable self-interest in Mobility Management. This makes it more likely that measures will be implemented. When organisations are uncertain of their reasons for adopting Mobility Management, initiatives will be neglected after a while. Similarly there should be clear benefits for the end-users of any measures introduced. When measures are introduced or services offered without clear benefits, they will have little effect and Mobility Management will lose its reason to exist.

The **MOBILITY CONSULTANT** should contact appropriate organisations and, if they are willing hold a meeting with them at their site when the Consultant can get to know the site. The Consultant can also show the organisation how a Mobility Plan might solve some of their existing parking or access problems and the benefits there are for them as an organisation. After this meeting the Consultant should offer organisations help and support where it is needed whilst they develop their Plan but should not simply present the organisation with a completed Plan. This is so that each organisation can design a Plan which best suits their own needs and as they will have spent time developing it they are more likely to take responsibility for its implementation. Ideally, **the Mobility Plan should be incorporated into the organisation's operations** in a similar way to policies on health and safety at work and should be seen as a continuous process.

Success in persuading an organisation to develop a Mobility Plan may be partly a matter of contacting them at the right time. The organisation's ethos may change and become more interested in Mobility Management or its financial situation may have improved so that it is more willing to take on extra responsibilities and to consider a Mobility Plan. This indicates that, if staff resources permit, it may be worthwhile periodically re-contacting organisations which did not respond positively initially.

This approach may require the Consultant to devote a lot of time to each organisation, in the initial stages to encourage them to get involved and later to offer advice and support. **So ideally more than one person should be employed for this role**, especially in larger cities where the number of organisations needing support will be greater. The employment of more than one Mobility Consultant is also desirable in order to ensure the continuation of contacts with organisations if one of the Mobility Consultants changes jobs.



8.3 Essentials for Implementation – Site Level Applications

Similarly, it is recommended that more than one person is designated the role of **MOBILITY COORDINATOR**, responsible for the Mobility Plan for a particular site. At the least, there should be someone else who is familiar enough with the Mobility Plan that they can take over and ensure its continuation in the event that the designated Mobility Coordinator leaves the organisation. If work on the Mobility Plan ceases for any length of time it is likely that interest will dwindle and much of the earlier work to raise awareness and ensure acceptability may need to be repeated.

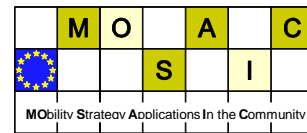
Local authorities should try and respond positively to requests by organisations adopting Mobility Plans for complimentary measures, such as improvements to the pedestrian and cycling infrastructure around the site. As the necessary legal and financial processes may be lengthy, the timescale for the implementation of such measures is important. Therefore, whenever possible, authorities should talk to site owners or operators at an early stage in the development of their Mobility Plan to ensure, within the resources available, that such improvements are provided.

The work of introducing and implementing a Mobility Plan for a site involves a lot of time and energy. Especially initially, the Mobility Coordinator may feel very isolated as the idea may not be very popular with everyone in the organisation. Therefore, the **Mobility Consultant should take time to encourage and support Mobility Coordinators**. One way of overcoming such isolation is to hold regular meetings where the Mobility Coordinators can meet others in similar situations, share ideas and swap information. As well as providing an opportunity for neighbouring organisations to identify ways in which they can work together on Mobility Plan issues such meetings also provide an excellent opportunity for the Mobility Coordinator to renew and develop contacts with organisations in the area.

It is very important to maintain support for a Mobility Plan and, in order to ensure acceptance of measures, the Mobility Coordinator should develop and maintain an effective communication strategy. In the initial stages of the Plan only pull measures, such as improved cycling or public transport facilities should be introduced. Such measures benefit everybody and are unlikely to be unpopular. However, as the availability of parking is an important factor in the decision to drive then in the later stages it will be necessary to introduce push measures which target solo car users, such as parking charges.

The role of Mobility Coordinator can be a difficult one and a particular kind of person is needed. They need to have good inter-personal skills as they will need to deal with people at all levels within the organisation and they will need to be sensitive to the internal politics of the organisation to ensure they can win the necessary support for the Mobility Plan. They also need to be strong enough to withstand the negative attitudes of those who disagree with the aims of the Mobility Plan. The most successful Mobility Coordinators tend to be based within the Estates or Facilities management functions of an organisation. This is probably since the impetus to introduce a Plan often comes from the need to solve problems of access to, or space on, the site so these functions have the most to benefit from the success of a Plan.

The Mobility Coordinator will need good support at senior management level if his/her work is to succeed. This includes the provision of adequate financial resources for funding elements of the Mobility Plan, including a **MOBILITY OFFICE** if appropriate. There does not necessarily need to be a physically accessible Mobility Office since information can be displayed in communal areas or distributed via an intranet. However, it is important to have a place where staff or visitors to the site can contact the Mobility Coordinator and approach them with any complaints or ideas they may have about the Mobility Plan. The



8.3 Essentials for Implementation – Site Level Applications

Mobility Coordinator needs to be able to communicate well with both management and employees. Good communication is one of the main factors for the success of a Mobility Plan. The role of the Mobility Coordinator as the focus point for Mobility Management activities on that site is also very important. They should be well-known to staff and, even if there is not a walk-in Mobility Office, **the Mobility Coordinator should be contactable by phone, fax and email.**

The activities undertaken by a Mobility Coordinator will vary from site to site and are likely to develop in stages, closely linked to the services offered by the Mobility Office. At an early stage, one of the most important services offered by a Mobility Coordinator will be to ensure that adequate information is available to all those who travel to and from that site to allow them a choice of modes other than the car and raise awareness about the alternative modes. They may also be involved in operating a computerised car-sharers database and, if implemented, a car-poolers reserved parking space and guaranteed emergency ride home schemes. As the Mobility Plan develops they may offer other services, such as the organisation of subsidised public transport season ticket schemes and interest-free loans for bicycles.

Site-level Mobility Management is most likely to be financed by the private sector, particularly site owners and operators. Individual organisations could finance their own individual Mobility Coordinators or one Co-ordinator could be employed by several organisations grouped together in a particular geographic region. It may also be possible to obtain funding for the Mobility Coordinator in a planning agreement with the developer or advertising and sponsorship could be sought to partly fund the work.

Finally, the importance of monitoring should not be forgotten. Monitoring is often considered to be costly and difficult and is therefore ignored. However, without monitoring it will be impossible to determine how well the Mobility Plan is working and whether any changes are required. Low cost methods for undertaking certain aspects of monitoring are currently being developed so that it should be easier in future. Mobility Consultants may need to provide technical advice on how to carry out this work. It is recommended that thought is given at an early stage as to how the Mobility Plan will be monitored. However, it is also very important that organisations do not have unrealistic expectations of the effects of introducing any one single measure. Measures should be introduced as part of a package which also considers any policies which may impact on travel choices.

8.4 CONCLUSIONS AND RECOMMENDATIONS FOR ACTION

Mobility Management is still an evolving idea. Concepts of Mobility Management for passenger transport are already generally accepted. In comparison with the situation in the field of passenger transport, where it is recognized as the way forward, there is a need to raise awareness of its relevance to freight transport and its structures.

At the present time there seems to be no reason why the expertise acquired in the course of the MOSAIC project, should not be applicable to all European countries. The transfer of such expertise, however, requires appropriate adjustments to take account of the circumstances prevailing each country, and a degree of creativity during the further development of Mobility Management activities.

The financing of certain elements of Mobility Management (particularly Mobility Managers, but also to some extent Mobility Consultants and Mobility Centres) is likely to be responsibility of public bodies.

Some elements may develop their own momentum after the initial development (e.g. Mobility Centres), other elements may require ongoing support to ensure that their work is maintained (e.g. Mobility Coordinators in a company).

There are not yet any examples of cities or regions where all the elements, roles and services have been combined to form a comprehensive Mobility Management strategy. Where this to happen the combined impact may significantly increase the measurable effects of any one Mobility Management scheme. The same applies for the long-term co-ordination with land-use planning.

Unless there are fundamental changes in traffic policies Mobility Management will probably make a measurable but not really significant impact on the choice of transport modes. Nevertheless Mobility Management measures should be recognised as socially important because they make an important contribution to raising awareness about the availability of transport alternatives.

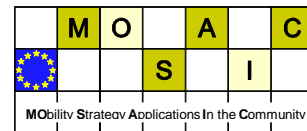
MOSAIC considered the following objectives of Mobility Management:

- to encourage greater use of sustainable transport modes
- to improve sustainable accessibility for all people and organisations
- to increase the efficiency of use of transport and land use infrastructure
- to reduce traffic (growth) by limiting the number, length and need of motorised vehicle trips

Mobility Management is a long-term approach which requires political and public support. The method of achieving Mobility Management objectives should be both top-down (European and National level) and bottom-up (local initiators). Therefore we recommend the following actions:

At the European level

Interest in, and awareness of, Mobility Management has increased considerably during the lifetime of the MOSAIC project. The current state of knowledge and interest in Mobility Management needs to be maintained after the MOSAIC project finishes.



8.4 Essentials for Implementation – Conclusions

The European Commission could support this by:

- setting up an umbrella organisation offering information on best practice in Mobility Management
- providing a central place for exchange of experience
- continuous dissemination to support Mobility Management on a long term basis (European Platform)
- supporting demonstrator-based research programmes studying the effects of Mobility Management
- encouraging Mobility Management initiatives in freight transport (research and demonstration programmes)

At the national level

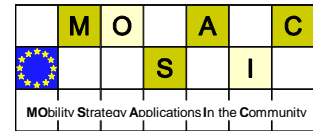
Experience from the MOSAIC project shows that national support has a significant effect on the success of Mobility Management. Good examples of this can be seen in the site level approach used in the Netherlands and the effect that national support has had on the level of activity at site level in the UK. The establishment of Mobility Centres is rather successful in Germany.

Further activities at the national level could be:

- enactment of supporting legislation and fiscal policies
- research programmes that concentrate on national obstacles to the implementation of Mobility Management
- research into the effectiveness of software-orientated measures like Mobility Management against hardware-orientated measures (upgrading of transport infrastructure)
- set up a network and harmonise technical infrastructure for comprehensive databases and a consistent data-format (e.g. network of Mobility Centres represented in the Internet)
- set up a framework system of incentives to encourage the implementation of Mobility Management
- kick-off Mobility Management initiatives in freight transport
- initiate research and demonstrator programmes concerning site level applications (especially for Mobility Offices there is a lack of practical demonstrators)
- financial incentives for companies to implement Mobility Management measures
- encourage Mobility Management activities at leisure and retail sites (most site-level experience to date is at work-sites)

At the regional and local level

MOSAIC's experiences from both the city/regional and site level applications of Mobility Management show that the adoption and implementation of Mobility Management at the local level strongly depend on the willingness and the co-operation of local key-actors.



8.4 Essentials for Implementation – Conclusions

At this level the following activities would support the successful implementation of Mobility Management:

- actively promoting the participation of private companies in public-private-partnerships
- implementing regional networks for those involved in Mobility Management
- co-ordinating land-use planning and transport planning
- initiating research and demonstrator programmes concerning site level applications

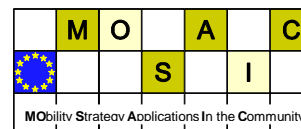
Mobility Management in the Future

It is likely that there will be continued economic growth throughout the European Union and in the States which are expected to join in the future. This economic growth will increase the demand for travel as people are able to take part in more activities and purchase more goods and services. Increasing wealth will almost certainly lead to higher car ownership. In addition, there is an expectation that more people will live in urban areas in the future. These factors will increase demand for movement by road. Without action to manage this demand, road traffic will grow and lead to further congestion, a deteriorating environment and a reduction in mobility for those people without access to a car.

Mobility Management can assist in reducing demand for road traffic. The MOSAIC demonstrators have shown that it is possible to provide a range of Mobility Management services in three Member States. The demonstrators were in operation for too short a period of time to be able to say with certainty that Mobility Management will reduce the use of the private car and of goods vehicle movement. However, the acceptance by organisations and the public of the services offered was encouraging and the outcome of the research should be publicised as widely as possible. Many useful lessons have been learnt and the concepts and methods of introducing Mobility Management can generally be applied throughout the Community.

The impact of Mobility Management on road traffic and the environment will only be measurable in the medium to long term, perhaps 5 to 15 years. There is a need, therefore, to put in place means of monitoring the longer term effects of Mobility Management. Action should be taken by the Commission and Member States to ensure that this happens.

Finally, Mobility Management is only likely to be successful if it has support from all sections of a community and if supported by other measures to improve mobility by sustainable modes of travel. If this is forthcoming then Mobility Management can make a significant difference to the quality of life for people in urban areas.



9 ANNEX: DISSEMINATION

Articles and presentations

Binnenbruck, Horst-Herrmann, Peter Hoffmann, Stephan Krug, *Mobilitätsmanagement im Personen- und Güterverkehr*, *Praktische Erfahrungen in Wuppertal im Rahmen des europäischen Forschungsprojektes MOSAIC [= Mobility Management in Passenger and Freight Transport. Practical Knowledge gained in Wuppertal within the European Research Project MOSAIC]*, *Der Nahverkehr*, No. 9/98, p. 19-24, 1998.

Bradshaw Ruth and Jones, Peter, *TDM Trends in Europe*, *Journal of International Association of Traffic and Safety Sciences* Vol.22 No.1, 1998

Bradshaw, Ruth and Lane, Robert, *Mobility Management – A New Approach to TDM*, *International Conference on Traffic and Transportation Studies* (Beijing), 1998

Bradshaw, Ruth, *Employers' Views on TDM*, *Presentation at the Transport Demand Management: Approaches to Implementation conference* (Nottingham), 1997

Bradshaw, Ruth, Grosvenor, Tim and Wofinden, Diana, *Employers' Attitudes to Green Commuter Plans*, *World Conference in Transport Research* (Antwerp), 1998

Bradshaw, Ruth, *Mobility Management – A New Approach to Transport Planning*, *European Council for an Energy-Efficient Economy, Summer Study*, 1999

Bradshaw, Ruth, *Mobility Management, the MOSAIC Project and Green Commuter Plans*, *International Symposium on Travel Demand Management* (Newcastle) 1998

Department of Environment, Transport and the Regions, UK, *Managing local air quality*, Video, 1998

Finke, Timo; Krug, Stephan; Witte, Andreas, *The MOSAIC-Project*, *European Conference on Mobility Management Nottingham 1998, Conference Proceedings*, p. 3-15, London: PTRC, 1998

Finke, Timo; Witte, Andreas; *Mobilitätsmanagement – Konzepte und Erfahrungen im Rahmen des europäischen Forschungsprojektes MOSAIC [Concepts and Experience in the course of the European RTD-Project MOSAIC]* *Stadt Region Land*, Issue 67, pp. 29, Aachen: Institut für Stadtbauwesen, 1999

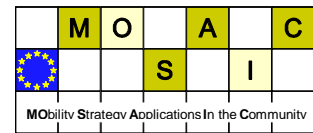
Krug, Stephan; Witte, Andreas, *Bausteine eines Konzeptes zum europäischen Mobilitätsmanagement. Das europäische Forschungsprojekt MOSAIC. [= An Approach towards a European Mobility Management Concept. The European Research Project MOSAIC]*, *Der Nahverkehr*, No. 1-2/98, p. 15-19, 1998

Local Government Management Board, *From Rio to Reality*, Video, 1997

Major, Mark, *Green Commuter Plans and Parking Policy*, *Aménagements Urbains et Transports Publics, TEC Liège-Verviers, Belgium*, 3. Conference presentation, October 1996

Major, Mark, *Local Agenda 21 - Implementing Sustainability*, Athens, Greece, "Partnerships with business", Conference presentation, 25-26 May 1998

Major, Mark, *Perspectives on Mobility Management in the Workplace*, Berlin, Germany, "Encouraging Mobility Management", Seminar presentation, 6-7 July 1998



9 Annex: Dissemination

Major, Mark, *Teaming up to tackle the culture of the car*, Planning, 17 October 1997

Ploschke, Carsten, *WSW-Mobility Service - applied Mobility Management in Wuppertal, Germany*, European Conference on Mobility Management Nottingham 1998, Conference Proceedings, p. 241-245, London: PTRC, 1998

Internet

MOSAIC information pages in English Language, starting in June 1997

URL: <http://www.rwth-aachen.de/mosaic/>

MOSAIC information pages in German Language, starting in February 1998, currently updated until submission of the final project report.

URL: <http://www.ivv-aachen.de/mosaic/mosaic.htm>