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# WP D Integrating Mobility Management and Land Use Planning

Compendium of site based Mobility Management measures (D5)

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#### 1 Introduction

Mobility is core to every company's operations. Employees for example have to reach the workplace quickly, easily and in comfort, and have to be mobile for their daily business activities. The accessibility of the site for clients, visitors and business partners by different modes of transport has to be ensured. Every company has an interest in organising the traffic generated by its activities well, minimising its costs and maximising the satisfaction of employees, clients and visitors, whilst at the same time protecting the environment. The management of mobility is important for every organisation; those that are actively addressing the consequences of less sustainable mobility are able to recognize weaknesses, reduce costs and improve their image with wider society.

The following compendium of site based Mobility Management (MM) measures is dedicated to developers, employers, consultants and public authorities. It gives a quick overview of the possibilities that site-occupiers have to (re-) organise their traffic they generate in a more sustainable way.

## 1.1 Site based Mobility Management: Short overview

## Description

Site based Mobility Management deals with all types of traffic to and from a site: commuters, shoppers, visitors, residents and/or business traffic. Sites include companies, hospitals, schools, concert halls, sports arenas, housing areas, universities and so on. The main objective is to manage in a sustainable and rational way trips to and from the site by implementing Mobility Management measures – that is, providing a choice of ways to get there. To achieve this, the "site occupiers" (site-owners and tenants) have to play an active role in implementing a range of targeted Mobility Management measures, delivered where required in cooperation with third parties such as public transport operators, car-share companies and public authorities.

#### Benefits for site occupiers

- Cut costs (e.g. for parking and its maintenance, travel time/budgets, car fleet);
- Improved accessibility of the site by all modes for all type of site-users;
- Employees who are more motivated, satisfied and healthy;
- Use land currently under car parks in a more productive way;
- Enhance and deliver a Corporate Social Responsibility;
- Meeting planning and other conditions set by public authorities (e.g. parking requirements linked to the building permission, environmental permits).



## Reasons for site occupiers to introduce Mobility Management

- In situations of change (e.g. site relocation, site enlargement, development of a new site);
- When there is pressure on the existing supply of parking spaces;
- When there is a need to expand existing social and environmental activities (e.g. environmental management activities) within the company or organisation;
- Need to reduce costs in site-related traffic (e.g. optimising car fleet, reducing car parking costs, optimising reimbursement schemes).

## 1.2 Procedure for the introduction of Mobility Management at a site

The planning and introduction of Mobility Management schemes at a site is a continuous process of optimisation which, ideally, follows a clear process (see *Figure 1*). The main planning instrument is the so-called Mobility Plan (sometimes called also Work Place Travel Plan or Travel Plan).

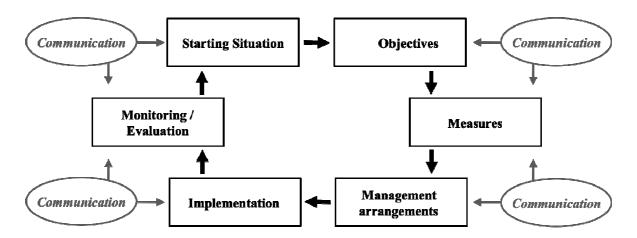


Figure 1: Procedure for planning and introduction of a Mobility Management scheme at a site

## 1.2.1 Starting Situation

A good analysis of the starting situation at a site, including maybe existing traffic problems related to it, is then the basis for defining specific targets for the plan to achieve, and the measures that should be implemented to achieve them. External and internal framework conditions need to be analysed:

- External framework conditions: such as inventory of the existing quality of accessibility of the site by all modes or requirements / planning conditions of the public authority;
- *Internal framework conditions*: like where (future) site users live and how they travel to/from the site; the existing use of parking spaces at the site; the current transport related costs of the site occupier; current parking management situation; any reimbursement schemes; work climate and schedule.

The result of this analysis should be a definition of the potential of change, i.e. how many site users might be expected to shift from car to other modes, given a set of site-based Mobility Management measures.



## 1.2.2 Objectives

On the basis of the results of the initial analysis, objectives for the Mobility Management scheme can then be defined. Those objectives can be of a qualitative or quantitative nature:

- Qualitative objectives: like increasing employee awareness of alternatives to the car or improving the site occupier's environmental image among clients or visitors;
- Quantitative objectives: such as increase of the number of visitors/employees coming by alternative modes to the car by 15% in comparison to the current situation within the next year; cutting fuel costs of the organisation's car fleet by 10% or reduction of CO<sub>2</sub> emission (in tons/year) from business travel by 20%.

To be able to measure the effects of the Mobility Management schemes introduced, the use of quantitative objectives is recommended wherever possible. This facilitates monitoring and evaluation on the one hand and the optimisation of the MM scheme on the other (see also evaluation tool MaxSUMO on <a href="https://www.epomm.org">www.epomm.org</a>).

## 1.2.3 Measures

The targets defined form a basis for selecting and developing an appropriate mix of Mobility Management measures. The measures (see also chapter 2) can be targeted to specific modes, site-users and kind of trips. Different types of measures include:

- Those related to the *infrastructure* of different modes at the site;
- Those of an *organisational* nature and/or by providing *incentives* (negative and positive) for the use of specific modes of transport;
- Those providing *information* regarding specific modes of transport or those that have the aim to *raise* awareness among specific categories of site-users.

Experience in practice shows that a good mix of measures, including push (e.g. restraints against car use) and pull (facilitations in favour of alternatives to the car) is most successful.

## 1.2.4 Management Arrangements

Once the mix of measures is defined, the next step the site-occupier has to take is to define the management arrangements, especially the responsibilities for the implementation of the measures within the organisation. Depending on the existing internal organisation or the type of measures different departments can be involved: Environmental Department, Human Resources, Facility Management etc (see paragraph on internal organisation below).

## 1.2.5 Implementation

Implementing and operating the measures is the core part of every Mobility Management scheme. At this stage the measures are introduced, operated and made available for those site users like employees, students or visitors who are to be targeted for travel behaviour change.



## 1.2.6 Monitoring and Evaluation

Permanent monitoring and periodic evaluation (on the basis of the monitoring results) is the method to check that the targets set can or have been achieved or not. They also help to continuously optimise the Mobility Management scheme by re-defining the targets, adjusting or omitting existing measures or by introducing new ones. Monitoring and evaluation also helps to show whether any changes in attitudes and travel behaviour are the result of the MM measures or due to other factors like changes in framework conditions such as increased petrol prices. Monitoring and evaluation is important and should be planned from the very beginning or early on in the process.

## 1.2.7 Further important aspects

Further important aspects which have to be taken into consideration during the procedure are shortly described below.

#### Communication

Communication is an important element within the whole procedure. It has to be oriented, on the one hand, to the organisation's management, and on the other to the target groups for the MM scheme.

- Management: Has to be convinced about the usefulness and the benefits of a Mobility Management scheme;
- *Site users*: Have to be made aware of, and accept, the Mobility Management measures, since they will make use of them as main target group.

## Internal Organisation

The Mobility Management scheme has to be set within the site occupier's own organisation. This is best assured by means of a so-called Mobility Manager (see also MaxExplorer: Mobility Consultant / Mobility Manager on <a href="https://www.epomm.org">www.epomm.org</a>), an employee, whose duties are:

- Overall responsibility for the development and implementation of a Mobility Plan in all its phases;
- Guaranteeing the involvement of management (especially in ensuring financing);
- Internal (assignment of duties to designated departments) and external coordination of all stakeholders involved (e.g. target groups, transport operators, public authorities);
- Monitoring and evaluation, communication and reporting to management.

It is a great advantage for the Mobility Manager to be assisted by a working group (representing all categories of site and mode users). Furthermore, the Mobility Manager should have a dedicated budget and a certain power of decision in order not to delay the development, organisation and implementation of the Mobility Management scheme.



## External Partnerships

Normally the site-occupiers can forge external partnerships during their work. Those can be with:

- Consultants specialised in site-based Mobility Management;
- Transport operators like public transport company, van pooling company, car pooling company, car-share company;
- Public authorities at the local or regional level such as transport planning departments.



## 2 Range of Measures

A Mobility Management scheme may include a range measures targeting different modes and different internal or organisational tasks. The following most common measures in site-based Mobility Management may be introduced at a site, depending on its characteristics and those of its users:

- Site accessibility
- Bike use and walking
- Public transport
- Car Sharing
- Car Pooling / Van Pooling
- Eco-driving
- Vehicle fleet management
- Parking management
- Teleworking / Flexible working hours

Certain measures have a positive and direct effect on cost savings; others have a more indirect and long term impact. Not all measures are appropriate at all types of sites. For that reason it is important that tailor-made solutions are developed during the process of planning, implementation and organisation of the specific Mobility Management scheme.

In the following sections each measure will be described by means of an overview, along with the following characteristics:

- Short description;
- Subdivision of possible actions at the site into the following categories (not every category is relevant to every measure and so in some cases no information is given):
  - o Infrastructure (at the site itself)
  - o Organisation and incentives (positive and negative)
  - o Information and awareness raising;
- Information about suitability of the measures for specific categories of sites and relevant target groups;
- Links to more information, where available and appropriate: a further description of the measure within <a href="MaxExplorer">MaxExplorer</a>, a case study example from ELTIS, and an explanation of who might provide the measure.



## 2.1 Site accessibility

The corporate image of a site-occupier – especially on the Internet – includes information on the accessibility of the site with all types of modes of transport. Leaflets and invitations are provided with transport information. Business meetings are set in accordance to the existing public transport timetable.

## Possible actions at the site

#### **ORGANISATION / INCENTIVES**

- Meetings with clients / partners are timed in relation to the arrival time of public transport at the site
- Provision of service to collect clients from the closest public transport stop to the site

#### INFORMATION / AWARENESS

- Providing a wide range of transport and accessibility information on the website of the site-occupier (public transport timetable information, bike accessibility, information about the availability of on-site car parking spaces and street access, etc.)
- Summarised transport information on all type of written information (flyers, letters of invitation, brochures etc.) sent out by the site-occupier
- Recommendations for public transport connections and timetable information included on invitations to meetings at the site

## Suitable sites and target groups

- Companies: business partners, clients (and employees)
- Large shopping centres: visitors, clients (and employees)
- Housing areas: residents

- MaxExplorer: Multimodal information & trip advice
- Website of the Sihlcity shopping area, Zurich, Switzerland (in German)

## 2.2 Bike use and walking

Bike use and walking can be enhanced by a site-occupier using a range of different measures. This can improve the health of site users – especially employees – and also reduce the costs of providing car parking.

## Possible actions at the site

#### **INFRASTRUCTURE**

- On-site bicycle parking (weather protected, close to entrances and where bikes can be locked)
- On-site storage, showers and changing rooms
- Direct and secure bike and footpaths to the site (in cooperation with the public authority)

#### **ORGANISATION / INCENTIVES**

- On-site pool bikes for short business trips
- Financial incentives for people who walk or cycle (changes to reimbursement schemes, additional holiday)
- Special home delivery service for walking/cycling customers / (especially at shopping centres)

#### INFORMATION / AWARENESS

- Information on accessibility of the site by bike and on foot in all information materials
- Events promoting bike use and walking, like bike repair days, biker and walkers' breakfast or bike training
- Participation in "bike to work" events and campaigns for companies

## Suitable sites and target groups

- Companies: business partners, clients (and employees)
- Big shopping centres: visitors, clients (and employees)
- Housing areas: residents

- <u>MaxExplorer:</u> Cycling facilities improvements
  Pool Bikes
- ELTIS Case Study: Promotion of bike use at company Anton Paar, Graz, Austria
- Awareness raising campaigns and programmes "Mit dem Rad zur Arbeit", Germany (in German) and "Bike to work", Switzerland (in German, French and Italian)



## 2.3 Public transport

A site-occupier has different possibilities to increase the use of public transport by different target groups to reach the site. The benefits of further public transport use centre on the reduction of costs, first of all related to car /car parking at the site. Furthermore, with public transport measures the site-occupier improves the accessibility of the site for all. Many measures need to be implemented in cooperation with the public transport company and/or public authority.

#### Possible actions at the site

#### **INFRASTRUCTURE**

- Providing weather protected public transport stops at the site
- Providing comfortable walking connections to nearest public transport stops (direct, secure, well-lit)

#### **ORGANISATION / INCENTIVES**

- Dedicated shuttle services between the nearest public transport stop (railway station) and site
- Improving frequencies of public transport stops at rush-hours an general re-organisation of site-accessibility by public transport (in cooperation with the public transport company)
- Provision of various types of financial incentives for public transport use (participation in existing "job-ticket" schemes, grants for annual public transport tickets)
- Changing reimbursement schemes for business trips to favour the use of public transport

#### INFORMATION / AWARENESS

- Public transport related information in all kinds of communication and publications put out by the siteoccupier
- Action days, events, etc. related to public transport use to the site

## Suitable sites and target groups

- Companies: business partners, clients, employees
- Big shopping centres: visitors, clients (and employees)
- Housing areas: residents

## More information

MaxExplorer: General improvements for PT accessibility
 Job PT ticket / rebated seasonal PT tickets
 Re-organisation of PT schedules

- ELTIS Case Study: Improvement of public transport accessibility and financial incentives for employees at <u>Business Park Goudse Port, Gouda, Netherlands</u>
- Job-Ticket <u>"ZVV-Bonuspass"</u>, on behalf of ZVV, Zürich regional public transport network, Switzerland (in German)



## 2.4 Car-sharing

Car-sharing is a mobility service where people pay to use the car by the hour/day, and the car is owned by a company that runs the scheme on a commercial basis. Individuals and (often) also organisations such as local authorities or companies can become members of a car-sharing scheme. Business car-sharing schemes are of particular interest to companies or housing areas, because it allows them to block-book car-sharing cars for a chosen time-period (e.g. from Monday to Friday during normal working hours). For companies participation in a business car-sharing scheme has the advantage that their own car fleet can be reduced or at least not enlarged, thus optimising costs.

#### Possible actions at the site

## **INFRASTRUCTURE**

• Provision of dedicated parking spaces for car-sharing cars

#### **ORGANISATION / INCENTIVES**

- Participation in existing car-sharing and business car-sharing schemes
- Adaptation of any existing travelling reimbursement scheme in order that employees use car-sharing cars for business trips
- Offering employees the use of car-sharing cars for private use as well (with reduced fares)

#### INFORMATION / AWARENESS

- Organisation of action days where car-sharing cars can be tested
- Provision of information about the car-sharing scheme at the site through all types of existing communication channels (flyers, website, magazines)

#### Suitable sites and target groups

• Companies: employees

Big shopping areas: employees and clients

• Housing areas: residents

- <u>MaxExplorer:</u> Car-sharing
- ELTIS Case Study: Car-sharing for residents at the car-free quarter Stellwerk60, Cologne, Germany
- <u>Business car-sharing</u> (description of the product), Mobility CarSharing, Switzerland



## 2.5 Car-pooling / Van-pooling

Car-pooling is where two or more people share the same journey, using one of the participants' own private cars (lift-share). It is one of the most common and effective alternative modes, particularly in areas that are not well served by public transport.

Van-pooling is where employees in a group run a minibus to and from work, sharing the cost of the vehicle and its operation. It is also an adequate alternative in areas not well served by public transport.

#### Possible actions at the site

#### **INFRASTRUCTURE**

• Define preferential parking spaces for car-poolers and van- poolers at the site

#### **ORGANISATION / INCENTIVES**

- Reduced parking fees or other type of financial incentives for car-poolers at the site
- Installation of an on-site car-pooling matching scheme
- Partial or full payment of the costs of a van-pool scheme by the site-occupier(s)

## INFORMATION / AWARENESS

- Information on existing car or van-pool schemes at the site itself
- Action or "test days" for potential car and van-poolers

## Suitable sites and target groups

Companies: employees

#### More information

• <u>MaxExplorer</u>: Car-pooling

Van-pooling

• ELTIS Case Study: Car-pooling promotion in business areas of Norwich, United Kingdom



## 2.6 Eco-driving

Eco-driving is a special way of driving that reduces fuel consumption and fuel costs. It is of particular interest to companies with their own car fleet, and to professional drivers. Eco-driving courses are promoted in various countries in Europe. Courses are provided on-road or with so-called Eco-driving simulators.

## Possible actions at the site

## **ORGANISATION / INCENTIVES**

- Financing Eco-driving courses for professional drivers
- Financing one or half a day Eco-driving courses with Eco-driving simulators

#### INFORMATION / AWARENESS

- Information on Eco-driving
- Organisation of on-site test days in Eco-driving

## Suitable sites and target groups

• Companies (with their own car fleet): professional drivers, employees

- <u>MaxExplorer:</u> Eco-driving
- Travel plan, including Eco-drive of the British Library, London, United Kingdom
- Homepage of the European Project <u>"Ecodriven"</u>, Intelligent Energy for Europe, 2006 2008
- Homepage of the European Project "Recodrive", Intelligent Energy for Europe,



## 2.7 Vehicle fleet management

In the framework of vehicle fleet management a site occupier can replace older cars with so-called EcoCars: cars that run on alternative fuels like natural gas or hydrogen, electric cars or hybrids. EcoCars have a reduced energy (or fuel consumption) and reduced CO<sub>2</sub> emissions. Although the price of purchase is at the moment higher in comparison to normal cars, cost savings can be achieved in the long term, as well as environmental savings.

#### Possible actions at the site

#### **INFRASTRUCTURE**

• Provision of on-site service station for alternative fuels

#### **ORGANISATION / INCENTIVES**

- Before purchasing a new car check if the existing cars can be used more efficiently
- New criteria with regard to vehicle procurement, including energy efficiency, fuel costs, ecology and security
- Replace old cars with new energy efficient cars and so save on fuel costs

#### INFORMATION / AWARENESS

Distribution of information about EcoCars to employees, to influence private purchase

## Suitable sites and target groups

• Companies (with their own car fleet): professional drivers, employees in general

- <u>MaxExplorer:</u> Eco-driving
- ELTIS Case Study: Clean municipal fleet, Malmö, Sweden
- AVERE The European Association for Battery, Hybrid and Fuel Cell Electric Vehicles
- E'Mobile Swiss Association for electric and efficient vehicles, Switzerland (in German)



## 2.8 Parking Management

Parking management refers to the process of controlling the amount, the costs and/or the access to car parking on a site. Depending on the existing external framework conditions (especially the accessibility of the site by public transport) it is one of the most effective actions promoting the use of sustainable modes. In most cases, car parking management measures are combined with those to promote the use of public transport and/or bike and walk. This combination makes sense because restraints on car parking are more acceptable if, at the same time, measures to encourage the use of sustainable modes are also provided. Site-occupiers have various possibilities within this field of action. Charging fees for on-site parking generates revenue that can then be used for financing Mobility Management measures for the use of alternatives to the car.

## Possible actions at the site

#### **INFRASTRUCTURE**

• General reduction of the amount of car parking at a site

#### **ORGANISATION / INCENTIVES**

- Imposing parking fees (during working hours and also outside working hours for additional users)
- Distribution of parking allowances and/or setting different parking fees on the basis of the quality of accessibility by public transport for different site users
- Management of on-street parking (e.g. only short term parking in the area around the site) in order to avoid "spill-over" effects (responsibility of the public authority)
- Parking cash-out (provision of an amount of money) for those who give up their entitlement to a parking permit

#### INFORMATION / AWARENESS

• Different types of information activities to inform site users about the changes to the on-site car parking management regime

#### Suitable sites and target groups

• Companies: employees

Big shopping centres: employees and clients

• Housing areas: residents

#### More information

• <u>MaxExplorer:</u> Site-based Parking Management

 ELTIS Case Study: Car parking management combined with Access Contingent Model and other measures in the shopping area of <u>Sihlcity</u>, <u>Zurich</u>, <u>Switzerland</u>



## Teleworking / flexible working hours

Teleworking means the use of telecommunications like telephone, fax, e-mail, websites or video conferences to substitute physical travel. It is a suitable field of action to replace or to reduce business (and commuting) trips by a site-occupier's staff or clients.

Flexible working hours allows some flexibility in daily work schedules. They help to reduce travel during peak hours on the one hand and the need to travel at all on the other. They are also helpful for employees who need to combine trips to/from work with other ones (e.g. part-time employees often combine commuting with other types of trips, e.g. picking-up school kids)

#### Possible actions at the site

#### **INFRASTRUCTURE**

• Providing a special conference room with video-conference tools (screens)

#### **ORGANISATION / INCENTIVES**

- Amendment of policy on business trips, including the type and number of meetings which should be carried out by video conference
- Promotion of "working at home schemes" where appropriate
- Introduction of compressed work weeks (working 9 days in 10, but for longer hours)
- Changing working or appointment hours (coordinated with public transport schedules)
- Introduction of electronic shopping facilities (combined with home delivery services)

## INFORMATION / AWARENESS

• Using all information channels to inform site users about the new measures

## Suitable sites and target groups

Companies: employees

• Big shopping centres: employees and clients

## More information

• <u>MaxExplorer</u>: Telework

Flexible working hours

ELTIS Case Study: Flexible working patterns at <u>Bristol City Council</u>, <u>United Kingdom</u>



## 3 Further information and contact details

The MAX WP D Guidelines for the integration of Mobility Management with Land Use Planning and further information, as well as other helpful tools for enhancing the use and integration of Mobility Management in various ways can be downloaded via <a href="www.epomm.org">www.epomm.org</a> or <a href="www.max-success.eu">www.max-success.eu</a>.

If you need further assistance in organising a training course (D3), a planning simulation workshop (D4) or for presentations on integrating Mobility Management and land use planning, please get in touch with any of the following:

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The MAX project ran from 2006 to 2009 and was the largest research project on Mobility Management within the EU's sixth framework programme. The MAX consortium, of 28 partners, served to extend, standardise and improve Mobility Management – it did so in the fields of quality management, campaigns, evaluation, modelling and land use planning.

