

# Mobility management in spatial planning and companies – A way to lead out of trouble?

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## Abstract

More than ever, transport is the “bad boy” regarding energy savings. Whereas other sectors follow determined strategies to reduce their energy consumption, CO<sub>2</sub>-emissions from transport blast away beyond good and evil.

Next to technology (energy efficient vehicles, optimised drive train), alternative fuels and influencing behaviour (Labelling, ECO-DRIVING), an important field to get a grip on energy demand in transport is Mobility Management. If it works out to abridge this instrument with land use and spatial planning, this gives a real long-term perspective on reducing energy consumption in transport.

Subsequently, Austria started two programmes within its comprehensive climate protection programme: one for mobility management in companies and another one for mobility management in spatial planning.

The objectives of mobility management in companies are environmentally-friendly transport and the rationalisation of transport, in other words, less damage to the environment and, not least, cost benefits for companies and their employees. There are presented spheres of action, working methods and results as for instance the Pilot project “Sanfte Mobilitäts-Partnerschaft – company management of staff’s travel choices” involving authorities and business.

The mobility management in spatial planning has the aim to set framework conditions (fiscal, legal, subsidies, training) which make it more attractive to implement sustainable mo-

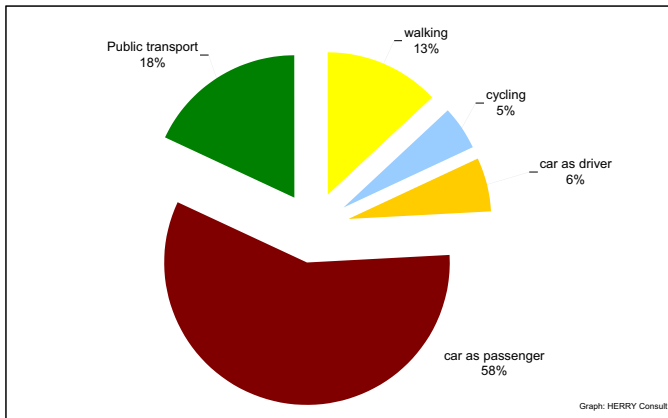
bility concepts, already in the planning phase. Car-free settlements, ideal public transport connections, parking space management etc. shall guarantee at least equal opportunities for public transport, cycling and walking. Austria is starting a programme “Mobility Management in the Spatial Planning” within its comprehensive climate protection programme “klima:aktiv” which will be explained.

## Introduction

More than ever, transport is the “bad boy” regarding energy savings. Whereas other sectors follow determined strategies to reduce their energy consumption, CO<sub>2</sub>-emissions from transport blast away beyond good and evil.

Next to technology (energy efficient vehicles, optimised drive train), alternative fuels and influencing behaviour (Labelling, ECO-DRIVING), an important field to get a grip on energy demand in transport is Mobility Management. If it works out to abridge this instrument with land use and spatial planning, this gives a real long-term perspective on reducing energy consumption in transport.

Subsequently, Austria started two programmes within its comprehensive climate protection programme: one for mobility management in companies and another one for mobility management in spatial planning.



**Figure 1.** Chosen transport mode for travel to work in Austria (working days) (Herry, Sammer, 1999).

## Mobility Management in companies

### LOOK INTO THE PAST – STARTING POINT AND POLICY MOTIVATION

Growing transport problems require innovative approaches to the issues of protecting the environment and the climate at Company level too. In Austria, employees continue to commute by car, while the share of public transport has declined. In 1995, the share of the car in all modes used for travel to work actually amounted to an average of 64 per cent (Figure 1), with the share in central and peripheral districts of Austria being around 70 per cent(!). In Vienna, the share of car journeys was 43 per cent, and in large towns (other than Vienna) 58 per cent.

The share of public transport in the modes used for travel to work amounted to an average of 18 per cent in 1995 (Figure 1). In central districts only one in seven, and in peripheral districts only one in ten(!) such journeys were made with public transport. The consequences of this are:

- Customers cannot find a parking space;
- Costly Company land is used for parking cars;
- Employees arrive at work late and in a state of stress;
- Delivery times cannot always be kept to;
- Annual travel costs continue to increase.

On the basis of these findings, it can be established through detailed analysis that, despite lavish investment in transport organisation, current transport developments are frequently in conflict with modern management goals. If appropriate measures are not taken, these problems will not simply remain unresolved, they will get worse. A great many surveys, such as the Austrian national environment plan (NUP), show that a further steep rise in private car transport can be expected over the next 10 to 20 years, assuming that the framework conditions remain the same.

The projected one-sided development in transport runs counter to the objectives of sustainable development. Damage to the environment and risks to health would increase further if the current trend were to continue and the positive

results of environmental policy - the reduction of exhaust fumes, for example - could be cancelled out.

Co-ordinated implementation of measures to promote sustainable transport is therefore required if the goals of environmental policy - such as that of reducing greenhouse gases in accordance with the Kyoto Protocol - are to be achieved. Not only do the authorities need to act, but also businesses and, particular, the individual transport user. It is precisely in travel to work and transport at Company level that the essential starting points for the promotion of environmentally-friendly transport are to be and. The Company management of staff's travel choices offers interesting ways of solving this problem.

In view of the positive experiences in many countries, such as the USA, the Netherlands and Italy, the Austrian National Environment Plan (NUP) also recommends this Instrument to organisations and companies. The objectives here are environmentally-friendly transport and the rationalisation of transport, in other words, less damage to the environment and, not least, cost benefits for companies and their employees.

### PILOT PROJECT "SANFTE MOBILITÄTS-PARTNERSCHAFT – COMPANY MANAGEMENT OF STAFF'S TRAVEL CHOICES"

#### Pilot project "Sanfte Mobilitäts-Partnerschaft" involving authorities and business

Based on a common initiative by the Federal Ministry for Agriculture and Forestry, Environment and Water Management (BMLFUW) and the Austrian Chamber of Commerce (WKÖ), the pilot project was started in 1997. Through a selection procedure, the following five companies or other establishments were chosen from among many others as models: BMLFUW, the Federal Office for the Environment (UBA GmbH), the AVL List GmbH (research Company), Tulln State Hospital and the Medienhaus Vorarlberg (newspaper publisher).

The partnership between business and the authorities was to give an impetus to the "promotion of environmentally-friendly staff travel choices at Company level ("soft" mobility) and the rationalisation of transport". In the course of the two-year pilot project, the Federal Ministry for Agriculture and Forestry, Environment and Water Management (BMLFUW), together with the Federal Office for the Environment (UBA GmbH), the AVL List GmbH (Graz), Tulln State Hospital and the Medienhaus Vorarlberg used Company management of staff's travel choices. The Federal Ministry supported the selected model establishments with expertise and funding.

The results of the project in the model establishments have been encouraging and show that Company management of staff's travel choices leads to a clear reduction in CO<sub>2</sub> emissions and in damage to the environment and, at the same time, contributes to the rationalisation of transport and its associated cost benefits.

#### Company management of staffs travel choices: spheres of action and working methods

"Company management of staffs travel choices" involves the formulation and implementation of company-specific approaches to transport with the object of achieving envi-



**Figure 2.** VN Medienhaus: The directions from the station to the publishing house should help guests who come by train to find their way.



**Figure 3.** In front of the BMLFUW a covered cycle stand has been erected and will be put to good use.



**Figure 4.** Test days for electrical cycles in the Ministry of the environment and the Federal Office for the Environment enhance the image of the cyclist.

ronmentally-friendly, sustainable staff transport and rationalisation of transport. If these goals are to be achieved, such management should take account not only of:

- rush-hour traffic;
- transport behaviour of employees going to work; but also
- work trips;
- business traffic;
- transport behaviour of clients; as well as
- logistics (e.g. dispatching goods, supplying, etc.); and
- fleet management

In practice, Company management of staffs travel choices, tailored to each company's Situation, must be worked out and implemented case by case in close co-operation with management and staff representatives. The core elements here are:

- “Informing” (Motivation; Involvement of employees);
- “Analysing” (Review and analysis of current situation; Estimation of potential for transfer);
- “Planning” (Setting of targets; Working out of sets of measures);
- “Implementing” (Implementation of measures; Evaluation);
- “Taking charge” (Long-term implementation; Associated public relations work).

**OVERALL RESULTS FOR ALL FIVE MODEL ESTABLISHMENTS**

**Main results**

Many measures were implemented in the model establishments during the project and they yielded the following findings:

- It was possible to influence choice of transport mode for journeys to and from work in favour of environmentally-friendly travel;
- It was sometimes possible to achieve very substantial reductions in the share of the car in the modes chosen for travel to work as a whole and thus halt the trend to further growth in car traffic (share of car reduced by up to 15 per cent);

- It was possible to increase the share of public transport, cycling and walking in the modes chosen for travel to work;
- The positive changes in the ways in which employees travel to work also led to positive changes in the transport behaviour of members of their households (as in the case of the Vorarlberger Medienhaus);
- CO<sub>2</sub> emissions from travel to work were reduced by between 3 per cent and 30 per cent;
- Transport was rationalised;
- The model establishments improved their image (reports in newspapers, Federal Ministry's own home page, presentations at various functions, Conferences, etc.);
- Management of staff's travel choices will not only benefit the environment, it could also produce financial benefits for the Company (the Medienhaus Vorarlberg is now saving around 23 982 Euro per year);
- Employees gain financial benefits (by not using his/her car, the “average” employee at the Medienhaus Vorarlberg saves around 276 Euro per year);
- Positive assessment by staff (the pilot project and hence the commitment shown in each model establishment was judged to be “very good” or “good” by more than half the staff in the establishments as a whole);
- Increased awareness on the part of employees, including management and staff representatives, of traffic and environmental problems and possible ways of solving them.

**Measures implemented**

The following list gives an overview of some of the measures implemented in the different model establishments.

*Pedestrians and cyclists*

- Making footpaths more attractive (Figure 2 and Figure 5);
- Covered cycle Stands (Figure 3);
- Procurement of service cycles and two-wheel vehicles, including electric cycles and electric scooters (Figure 4);
- Bicycle servicing weeks;
- Provision of “cyclists’ breakfast” (Figure 6);
- Company-sponsored insurance against bicycle theft, etc.



**Figure 5.** VN Medienhaus: The new resurfaced path leading from the company to the station greatly improves accessibility.



**Figure 6.** AVL List GmbH: 220 employees took part in the “cyclists’ breakfast”.



**Figure 7.** VN Medienhaus: Minor repairs can now be made at the company – tools and pump facilities are available.



**Figure 8.** VN Medienhaus: Reserved parking places near the company entrance are made available to cars of ride-sharing groups.



**Figure 9.** AVL List GmbH: Information packages for all employees.



**Figure 10.** Employees at the Ministry of the Environment and the Federal Office for the Environment have been able to obtain information on transport provision on the Viennese lines.

#### Public transport

- Free annual travel passes for public transport users;
- Subsidised travel for public transport users;
- “Trial months“ for those who switch to public transport;
- Direct access to public transport from the Company;
- Information packages for all employees (Figure 9);
- Personalised timetables for employees (Figure 10), etc.

For those who think the main barrier using public transport are the costs the free annual travel pass for public transport is helping. If this is not possible subsidised travel for public transport users is another way.

Many people do not know how are the travel conditions in the public transport really. A “Trial months“ for these people gives the opportunity to get in touch with the real circumstances and atmosphere.

An important issue to improve the public transport ridership is to increase the direct access to the public transport from the company. So, the VN Medienhaus in Vorarlberg was successful to build a stop of the appropriate bus line at the company.

There is well known that many people do not use the public transport because they have not enough information about this transport mean. So, information packages do help in this manner. Still better are personalised timetables for employees.

#### Motorised individual transport

- Management of parking space;
- No increase in parking space despite the increase in the size of the establishment;
- Preferential parking treatment for ride-sharing groups (Figure 8);
- Car-sharing and ride sharing;
- Financial incentives (public transport costs assumed by the establishment), etc.

#### Vehicle fleet procurement | Company logistics | work trips

- Procurement of low-consumption, low-emission vehicles;
- Co-ordination of errands;
- Standardization of delivery dates of individual suppliers;
- Optimisation of supply logistics and warehousing;
- Replacement of private cars through service vehicle logistics and reduction of journeys to a minimum; Special train offers, improved booking facilities for work trips by train;
- New ruling by collective agreement in the Federal Office for the Environment: from now on travel time for work trips will be repaid “financially or in free time in a ratio of 1:0.5”;



**Figure 11.** LKH Tulln: Employees' and visitors' attention is drawn to the "Mobility Day" right at the entrance to the building.



**Figure 12.** LKH Tulln: Even the youngest have been included in "Mobility Day" activities.



**Figure 13.** AVL List GmbH: The employees were able to learn the results of the projects from displays.

- Initiation of a discussion process on giving an ecological dimension to the decree on transport charges and the possibilities of reducing fiscal barriers.

*Information and advice*

- Organisation of "mobility days" (Figure 11 to Figure 13);
- Travel Information enclosed with pay slip;
- Travel information by Intranet and Internet;
- Appointment of transport representative to Company.

In addition, a great many measures designed to raise awareness have been implemented in all the model establishments.

**Results in detail**

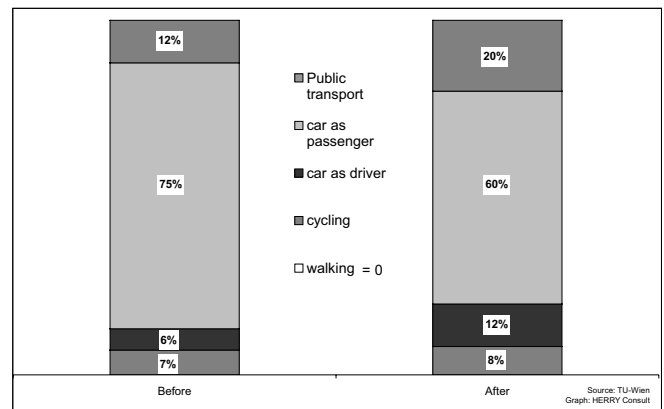
*Car share down, Public Transport and cycle share up*

- As a result of the measures implemented, it has sometimes been possible to achieve distinct reductions in the share of the car among the modes chosen for travel to work and thus halt the trend to further growth in car traffic.
- It was thus possible to reduce the proportion of those driving to work by between 2 per cent (AVL List) and as much as 15 per cent(!) (Medienhaus Vorarlberg) (Figure 14).
- Management of staffs travel choices was even successful in the Ministry of the Environment, where it was possible to increase the 82 per cent share of public transport before the Start of the project - already very high - by another 6 percentage points to 88 per cent(!) (Figure 15).
- As to the share of cycling, it was possible to achieve the greatest reductions in the UBA GmbH (+8 percentage points), in the LKH Tulln (+7 percentage points) and in the Federal Ministry for Agriculture and Forestry, Environment and Water Management (+6 percentage points) (Figure 16).

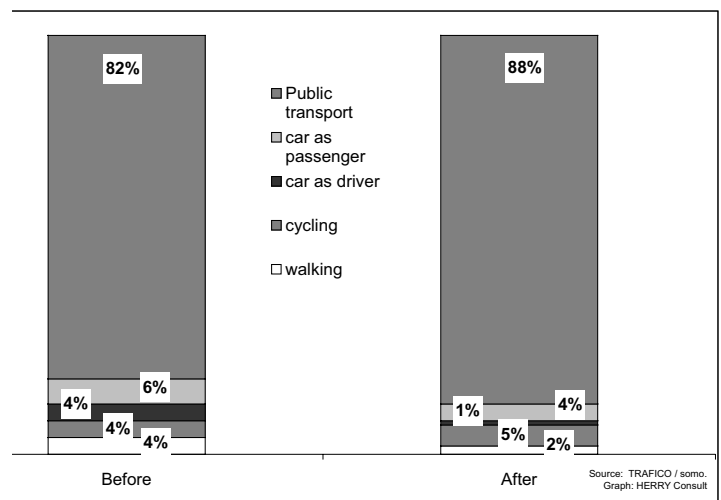
*Clear reduction in CO<sub>2</sub>*

The changes in transport choices have brought about CO<sub>2</sub> reductions as follows:

- At the AVL List it was possible to achieve a reduction of around 31 tonnes of CO<sub>2</sub> per year (about 5 per cent). With the implementation of the parking space manage-



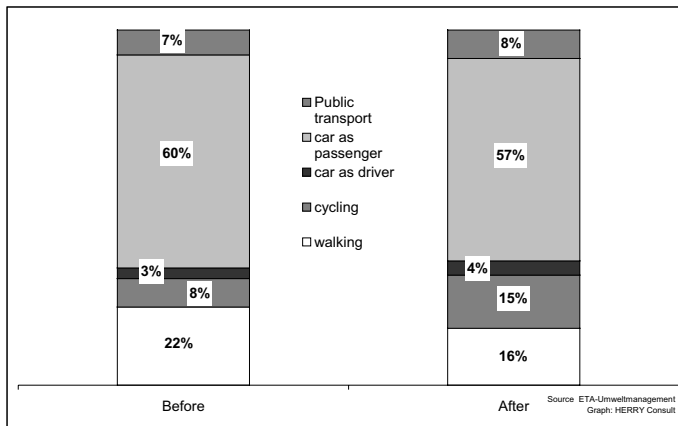
**Figure 14.** VN Medienhaus: Choice of transport for travel to work – before and after project.



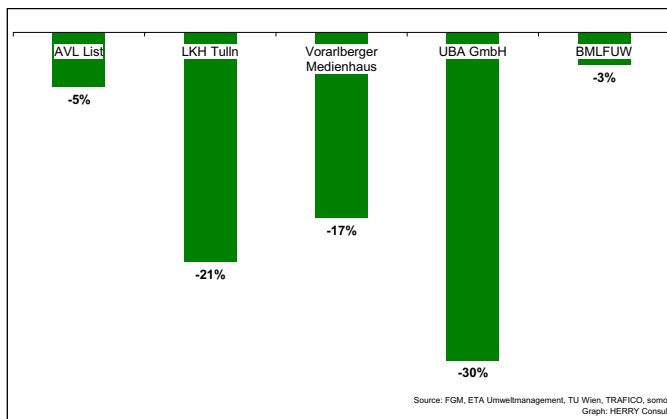
**Figure 15.** Federal Ministry for Agriculture and Forestry, Environment and Water Management: Choice of transport for travel to work – before and after project.

ment System, a reduction of around 200 tonnes of CO<sub>2</sub> per year is expected;

- With the implementation of measures on work trips and supply logistics, it was possible to achieve a 21 per cent reduction, i.e. around 118 tonnes in CO<sub>2</sub> emissions at



**Figure 16:** LKH Tulln: Choice of transport for travel to work – before and after project



**Figure 17:** CO<sub>2</sub> reduction in the model establishments

LKH Tulln (taking account of work trips and visiting traffic);

- At the Vorarlberger Medienhaus the environmental benefits were most marked in the field of travel to work, where an average reduction of 17 per cent in CO<sub>2</sub> emissions was noted; With the changes in transport choices, it was possible to reduce the CO<sub>2</sub> Output per employee by 3 per cent at the BMLFUW and by 30 per cent at the UBA GmbH over the period 1997-99. It is worth noting here that, in view of the initial Situation of the BMLFUW, where the public share was 82 per cent at the Start of the pilot project, there was very little potential for reducing CO<sub>2</sub> emissions. It was nevertheless possible to increase the public transport share and thus reduce CO<sub>2</sub> emissions further.

#### *Positive assessment of the Pilot Project*

The fact that the activities put in place by the individual companies were also appreciated by their respective employees and that the measures met with a high degree of acceptance shows what the employees think of the pilot

project. Thus, in the companies as a whole, more than half the staff rated the project as “very good” or “good”.

#### *Improved image*

The improvement in the image of all the companies cited as a result of the pilot project can be rated as a very positive outcome. In the course of the OECD's environmentally sustainable transport project, the two model establishments LKH Tulln and the Vorarlberger Medienhaus were singled out as representing “best practice”.

#### *Costsavings for the companies*

Apart from improving their Image, companies were also able to make cost savings by implementing environmentally-friendly transport measures.

#### *Public relations work within the establishment*

On the one hand, the public relations work associated with the pilot project involved providing employees of model establishments with information in house, with a view to making them aware of progress in the work and, at the same time, encouraging them to participate.

#### *External public relations work*

On the other hand, the effects of the example set by the five model establishments and their experience of management of transport choice has been documented in various media: fact sheets, homepages, Conference literature, handbook, etc.

## CONCLUSIONS AND OUTLOOK

So that the findings of the model establishments might benefit other enterprises and encourage the implementation of travel choice management, a handbook (Figure 18) has been drafted on the subject of Company management of staff's travel choices, showing the results achieved and measures adopted by the model establishments, together with tips and advice on devising and implementing approaches to managing staff's travel choices.

#### **Benefits to establishments**

To sum up, it would appear that the chief benefits to the establishments that implement management of staff's travel choices are as follows:

- Costs can be reduced (e.g. through rationalisation of transport) (for Company and employee);
- The Company image can be improved;
- The atmosphere in a Company can be improved;
- Conflict with neighbours can be prevented;
- The enterprise can be made more accessible and the effect on location factors may be positive;
- Environmental and health conditions can be improved and emissions of harmful substances, noise and land use reduced;
- Modal choice can be altered;
- Road safety can be improved.

Thus, from the experiences gained from the pilot project, the following conclusions can be drawn:

1. The Company management of staff's travel choices provides a very useful instrument achieving environmental goals, such as a reduction in CO<sub>2</sub> emissions and economic goals, such as the rationalisation of transport, in the field of Company transport.
2. The two-year pilot project has shown that it is possible to achieve a high degree of support for the measures and distinct changes in transport behaviour on the part of employees and Company.
3. The co-operation and support of management and staff representatives, active involvement of employees and co-operation with local authorities and transport undertakings are essential preconditions for success.
4. In view of the positive outcome of the pilot project Sanfte Mobilitäts-Partnerschaft, the Company management of staff's travel choices can be recommended for more widespread use in Austria.

**Follow-up**

In view of the great success of the pilot project, the Federal Ministry for Agriculture and Forestry, Environment and Water Management (BMLFUW) and the Austrian Chamber of Commerce (WKÖ) have agreed to extend the Sanfte Mobilitäts-Partnerschaft further and have launched a focused initiative with the aim of promoting the Company management of staff's travel choices more widely:

**1. Main support for the Company management of staff's travel choices consists in support for the environment at Company level**

Following a change in the law on environmental support, it is now (since 2002) possible to obtain support for initiatives and measures to reduce damage to the environment, notably CO<sub>2</sub> emissions, due to Company transport and mobility.

*Objects to be supported:*

- CO<sub>2</sub>-related changes of transportation systems and vehicle fleets
- Investment measures at company level to promote public transport as well as pedestrian and bicycle traffic
- Mobility services and mobility consultation, traffic information systems and logistic systems
- Transportation-/mobility concepts provided that the measure applied to be supported can be derived from the specific concept, maximum however up to the extent of 50% of the support basis
- Additional expenses (software etc.) up to the extent of 20% of the support basis.

*Standard support rate:*

- "De-minimis" – projects: max. 30% of the total environment-related investment costs
- Projects over "De-minimis": max. 30% of the environment-related extra investment costs (plus possible fees),

though max. 30% of the total environment-related investment costs.

*Prerequisites for support:*

- The application has to be handed in at the Kommunalkredit Public Consulting GmbH before project start.
- The total environment-related investment costs have to amount at least 10 000 Euro.
- A transportation-/mobility concept including the measures to be supported has to be presented. The mobility concept should cover four modules (employees, logistics, vehicle fleet, work trips). In justified cases the focus can be laid on two of the modules. When working on the concept the handbook on "Management of Staff Travel Choices at Company Level" published by the Federal Ministry for Agriculture and Forestry, Environment and Water Management (BMLFUW) and the Austrian Chamber of Commerce (WKÖ) should be used as checklist and guideline.
- The sustainability of investment measures to promote public transport has to be ensured (f.i. by lectures).
- In the case that changes of the vehicle fleet, that is not property of the support applicant, are conducted, appropriate contracts have to safeguard the permanent ecological success.

**2. Services packages**

Services packages sent to companies and an information campaign launched with the object of encouraging as many companies as possible manage their staff's travel choices and take advantage of the new support schemes available. The handbook with the practical experience gained from the pilot project has accordingly been made available to all companies with more than 50 employees. An information and Services package, containing advice and network plans, is being put together and is to be made available to the companies.



**Figure 18:** Handbook for companies  
The handbook on "Management of Staff Travel Choices at Company Level" is free of charge and can be ordered at the Federal Ministry for Agriculture and Forestry, Environment and Water Management (BMLFUW), the Austrian Chamber of Commerce (WKÖ) and WIFI Austria.

### 3. Klima:aktiv programme “Mobility management in Companies” (Climate protection programme)

The now planned amplified information and motivation campaign should accompany and complementing:

- for the already started supporting-emphasis within the framework of the main support for the Company management of staff's travel choices consists in support for the environment at Company level (handling through the Kommunalkredit Public Consulting GmbH)
- for the already started services of the WIFI and
- the existing steering committee.

With the management of the klima:aktiv programme “Mobility management in Companies” the team HERRY – Klimabündnis Österreich (Climate Alliance Austria) – ROSINAK was instructed.

Further information under:

[www.mobilitaetsmanagement.at](http://www.mobilitaetsmanagement.at) (only in German).

This action should be accompanied by an invitation to the public administrations (Federal, Land and District) to include management of travel choice in their sphere of responsibility. The pilot project has shown that just a few legal framework conditions (e.g. fiscal matters) are currently proving to be a hindrance to the individual measures (e.g. Job tickets) employed in the Company management of staff's travel choices, and this Situation should be rectified in the medium term. Broader support for the implementation of Company management of staff's travel choices is an essential component of Austria's strategy for meeting the targets for climate protection (Kyoto undertaking). This initiative should also prompt others involved in transport to adopt the Instruments of travel choice management (e.g. at municipal level, in leisure and tourist travel, in the school sector).

### Mobility Management in spatial planning

Too often new developments, shopping centres or residential areas are established “in the open country side”. Sustainable transport infrastructure mostly is last on the list. Aim of the programme is to set framework conditions (fiscal, legal, subsidies, training) which make it more attractive to implement sustainable mobility concepts, already in the planning phase. Car-free settlements, ideal public transport connections, parking space management etc. shall guarantee at least equal opportunities for public transport, cycling and walking.

#### 1. Some basics

Due to Steininger, Niederl (2004) the location decisions of different actors in an economy largely determine the transport distances generated. They also strongly influence modal split. Furthermore, the location decision affects the activity pattern of economic agents; e.g. residents of urban areas have leisure requirements that differ greatly from those living in the periphery. Thus, the location decision also has a direct impact on transport demand.

Spatial structure of production is characterised by market integration on a global scale (Rosenthal and Strange 2004). Considering mass products, the production depth at each production plant is typically low and is tending to decrease,

resulting in complex production chains over long distances Metron (2000). Increasing division of labour is responsible for rising transport demand *ceteris paribus*. Increasing requirements of flexibility, reliability, and speed, which result from changes in production methods, such as the introduction of like just-in-time production, higher utilisation ratios, etc., favour flexible transport modes like road transport or fast transport modes like air transport. Production is increasingly being located on the outskirts of urban regions or in the urban hinterland owing to the typically low land rent. As these areas are mostly well-connected to the road infrastructure this trend favours road transport. Transport demand arising from production organised in regional production clusters depends on the spatial extent of the market for the industry's output. If a global market is served by a single regional production cluster, resulting transport demand will be much higher than when a local market is served (Schleicher-Tappeser et al. 1998, 9).

Motorised road passenger transport demand per capita tends to be lower in regions characterised by high population densities. Rural regions exhibit a considerably higher motorisation rate than urban areas. In 2000, the motorisation rate in Burgenland, the most peripheral federal province of Austria, was 68.0% higher than that in the federal province of Vienna, which is a single urban agglomeration (ÖROK 2002, 45). This high motorisation rate reflects the degree of car dependency in rural regions. Low population densities do not allow for profitable public transport within an acceptable time schedule. The lack of job opportunities in rural areas, which is partly a result of the structural change of the economy, leads to increasing commuter traffic.

Although transport demand seems to be lower in urban areas than in the periphery, there seems to be evidence that transport demand rises again when agglomerations become too large since the distances that have to be overcome within the agglomeration are disproportionately high and the resulting disadvantages increasingly offset the possible advantage arising from the spatial proximity of different functions within one agglomerated area. This is particularly the case when different functions are separated spatially. Large agglomerations in their current form also cause considerable leisure transport because in modern urban areas many people still feel the urge to leave agglomerations in order to relax in the countryside (Duscher et al. 1997).

In general, urban sprawl increases transport. It not only increases car dependency in the outskirts of urban areas but also within city centres since here the population density is decreasing, thus making public transport less feasible.

#### 2. Action in Austria

Austria is starting a programme “Mobility Management in the Spatial Planning” within its comprehensive climate protection programme “klima:aktiv”.

This programme for the Mobility Management in the Spatial Planning aims at a CO<sub>2</sub>-saving traffic planning respectively a sustainable spatial and transport structure for settlements and industrial development.

The main focus is to create:

- the realisation of mobility and development concepts,
- car-free habitation,



- perfect access to the public transport,
- perfect conditions for pedestrians and bicyclists,
- and to make possible equal opportunities between the public transport and the car traffic by targeted parking management.

The goal of this programme is to cope with the pre-requisites for a possible environmentally friendly behaviour of mobility incorporating early enough planning activities in the planning process.

In order to take into account an environmentally friendly development of new residential areas and enterprises we have to advise competently builder, investors, settlement cooperatives, planner, municipalities, development and operating agencies during the planning process (Prettenthaler et al. 2002). Furthermore, incentives have to be created by respective stimulation.

A free choice of transport means should be allowed for the users of the new structures; equal opportunities equal opportunities between the public transport and the car traffic are to ensure as a minimal request.

In the line of this programme, all links to other support programmes are to be defined in order to connect this instruments, in case it is useful:

- sustainable spatial and transport structure for settlements and enterprises
- to reach a environmentally friendly mobility behaviour by respective planning activities – equal opportunities of the public transport in comparison to the car traffic
- implementation of mobility and development concepts, marketing and information measures with the objective of the reduction of emissions, as for instance care-free habitation, perfect access to the public transport, perfect conditions for pedestrians and bicyclists and parking management

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