

TRANSNATIONAL SUMMARY REPORT ON PROBLEMS AND OPPORTUNITIES ON MOBILITY PLANNING IN CE REGIONS

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1. Executive summary

The following document summarizes a transnational report on problems and opportunities on mobility planning in Central Europe (CE) regions. For each region/city-region the report makes an investigation which follows an identical structure. First, a general description is provided by focusing on all problematic aspects which mainly affect the local transportation, the mobility behavior, and that are related to mobility planning process. Then, the needs related to the workplace mobility planning process are sum up. Knowledge gaps are also investigated as they reflect the problems about the missing tools and measures to create workplace mobility plans. Finally, the main opportunities are summarized which concern the near future of the workplace mobility plan. Mainly, one aims to find the potential user for workplace mobility plan, and enumerate the expected benefits from these plans.

The results of the report can be summarized briefly as follows:

- In case of a potential introduction of workplace mobility plan, it is important that the whole region together with important stakeholders should be involved.
- Strategic frameworks and vision are indispensable for determining adequate priorities and determining the required traffic measures to achieve the main objectives.
- Mobility plans also help achieving overall European goals meeting the needs of the CE region population (maintain or improve the quality of living).
- Knowledge gaps are important to be considered before designing a workplace mobility plan (needs, data, software, finance, legal background).
- The primer potential users of workplace mobility plans are institutions of public sector. Nevertheless, private companies can be also potential targets for workplace mobility plans.

2. Introduction

MOVECIT - Engaging employers from public bodies in establishing sustainable mobility and mobility planning - started in June 2016 and is a 36 months project supported by the INTERREG Central Europe programme.

MOVECIT aims to make transport more sustainable in times of increasing individual and motorised mobility in central Europe. City representatives, sustainable mobility specialists, environmental and regional agencies as well as NGOs cooperate in the project. City administrations will implement mobility plans for their institutions to change the commuting and business travel habits of their employees. Campaigns will be developed and launched to make cycling, walking, and the use of public transport more popular. At the same time measures like carsharing, bikesharing, e-mobility and improved carpools of city town halls will be introduced in selected cities.

The project seeks to reach a wide audience among municipalities across the Central Europe region, creating a large-scale impact, and in the longterm ongoing training on mobility plan development. In order to achieve this, MOVECIT creates and implements its training transferred to national environment and two Study visits and exploits its outputs for a long-term impact.

Through MOVECIT project selected cities will benefit from mobility plan created for city hall administration. Project partners appointed as know-how provider will work intensely with the municipalities appointed as know-how receiver. In the stakeholder involvement process several events will



be organized to reach the wider acceptance of the plans. The pilot actions and pilot investments will be implemented to test the commitment of the staff employed at the municipality administration.

Communication and promotion activities will target more or less the staff working at the municipality administration. Trendy campaign will influence on heart and mind of the target groups.

3. Synthesis of the regions report

The problems in case of a potential introduction of workplace mobility plan or general mobility plan are well summarized in this report. It is important that the whole region together with important stakeholders must be involved in such project. Still, collaboration can be hindered by different circumstances, typically due to the complicate administration processes. Another source of conflicts can be resulted by competitiveness between the involved stakeholders. Therefore, it is suggested to force regular exchange of ideas and good communication between the stakeholders involved in the mobility planning process. Another problem is the missing data concerning mobility in the region, i.e. traffic load, user frequencies, modal share, customer satisfaction, work load, etc. Moreover, strategic frameworks and comprehensive vision at all levels of transport planning are indispensable for determining adequate priorities, allocating resources and determining the required traffic measures to achieve the main objectives.

In conclusion, three main specific problems have been identified which obstacles the spread of mobility plans:

- lack of financial and/or human resources: the companies, municipalities, educational institutes/facilities will not afford the financial investments to workplace mobility plan;
- the company cannot recognize the necessity of the mobility changing due to cultural rutin;
- the company is not eco-conscious or simply does not know the notion of eco-consciousness;
- the car usage culture is caused by social preference of individual car usage augmented by the relative low quality service of public transportation (e.g. slower travel times judged by local passengers).

Regarding the needs for mobility plans one should differentiate between different levels, from the individual to municipalities or regions and even European levels. Mobility plans do not only support changing behavior towards a more environmentally friendly one but they also reduce the use of resources and energy and therefore contribute to achieving goals like EU 2020. For that reason, mobility plans also help achieving overall European goals. Therefore, they meet the needs of the CE region population as well by maintaining or even improving the quality of living.

Knowledge gaps are also important which must be considered before designing a workplace mobility plan. Knowledge gaps can often overlap with the needs of the region or municipality. For example, the cooperation between the stakeholders and the municipalities can cause problems. The municipalities sometimes lack the contacts with stakeholders who would like to participate in the process and they do not know how to get in touch with them or navigate them through the process. As a starting point, the following questions must be addressed adequately:

- knowledge on the needs, the habits, the working time and the expectation of the employers;
- data are needed and have to be organized to be functional to the trip planning;
- software applications to create a mobility and also a system for monitoring the results of the initiative;
- financial resources to support initiatives;
- clear legal background ;



- capability of civil servant to standardize their working time;
- ensure the safety of the itinerary to encourage sustainable trips, especially by bike.

Finally, the potential opportunities have been investigated related to working mobility plan. The potential users of workplace mobility plans are institutions which are trying to systematically develop their mobility planning. These institutions can be in a public, private or nonprofit sector such as public administration, companies, entrepreneurs, NGOs, citizens, organizations, associations, clubs etc. Other benefactors are those, who are concerned by the transport in the towns or cities - pedestrians, cyclists, public transportation users and carriers, freight transport and also serenity transport. The main benefits of any behavioral changes due to mobility plan are listed below:

- Increasing the use of sustainable transport modes;
- Reduce the use of resources and energy;
- Reduce CO₂ and other greenhouse gas emissions;
- Better health and environment;
- Improved quality of living;
- Increased public support;
- Increased awareness for changing mobility behavior towards a sustainable and environmentally friendly one
- Acting as role models for other municipalities.

Nevertheless, it must be emphasized that the results of the workplace mobility plan can be diverse. For example, for those who travel by bicycle it might take more time to get up in the morning in order to get on a company bus so they have to adapt to it or simply refuse it. Therefore, when introducing working mobility plan, the consideration of the current and the expectable new situation has to be carefully examined.

4. Industrieviertel (Austria)

4.1. Problems

Main problems might arise due to unsuitable management tools. They are probably not adapted to the complexity of mobility plans and cannot meet their requirements. Therefore, this project aims to meet and adapt mobility plans to this complexity.

Further problems that may arise in the course of the project can be identified by a SWOT analysis carried out by an expert panel. One risk could be that very often the cheapest measure will be implemented instead of the best or most suitable one.

What should not be neglected is the importance of various stakeholders in planning and implementing processes in early stages of development of the project. It is indispensable that the target group identifies with the vision and goals of the project in order to implement measures successfully. Therefore, it is vital to achieve a rethinking at first. Changing their minds is priority and after, it is their willingness to change their behavior. Therefore, employees of municipalities should be seen as the main stakeholders of the project as well. If their ideas and objections are incorporated, they will contribute to implement them more successful than by giving them mere orders how to behave.

Further problems could be avoided by being more precise in formulating measures and during implementation.



One of the major spheres of activity could be the spreading of information about different modes of transport and the different benefits of it. Both, the digital form and person-to-person should be improved. Communication should not be too complicated in nature. Communication lines should be kept clear and simple in order not to make the communication process more complex. Information should be spread and prepared easily and simple. Continuous feedback helps to incorporate it as early as possible.

4.2. Needs

Regarding the needs for mobility plans one should differentiate between different levels, from the individual to municipalities or regions and even European levels.

Mobility plans do not only support changing behavior towards a more environmentally friendly one but they also reduce the use of resources and energy and therefore contribute to achieving goals like EU 2020. For that reason, mobility plans can not only be reduced to meeting needs of single municipalities or regions and help them move towards a more sustainable life, but they help to achieve overall European goals.

Therefore they meet the needs of the current population by maintaining or even improving the quality of living and reducing toxic greenhouse gases and the use of energy and resources at the same time.

Mobility plans help municipalities to address mobility problems and find strategic solutions. Plans help to maintain an overview of problems they have addressed and were confronted with. The implementation of measures will be simplified by following a structured plan with inputs of various stakeholders. Moreover, costs can be saved significantly by mobilizing a change in behavior of transport mode use. In longer terms, the project aims to find not only acceptance in employees of municipalities but also in citizens generally.

4.3. Opportunities

For this project the potential users of a workplace mobility plan are the employees of the cities Baden and Mödling. In the wider field, citizens can be also seen as potential users as employees can act as role models and spread the willingness to change the behavior of transport use.

In Baden the main employers for a workplace mobility plan are the following departments [1]:

- General administration
- Financial department
- Construction and Infrastructure
- Education and culture
- Tourism
- Youth, sport, health & social department
- Nature & Environment
- Employee representation

In Mödling there are the following departments [2]:

- General administration
- Social, family, health, kindergarten and school department
- Chamber
- Building authority



- City administration (Stadtamtsdirektion)

There are various benefits of workplace mobility plans. This project aims to change employee's behavior and makes them shift from using primarily cars as means of transport to sustainable modes. Therefore, members of public institutions are becoming forerunners and act as role models by implementing mobility plans and make environmental friendly mobility more popular. Moreover, more and more municipalities can be attracted and a growing number of people can be addressed.

The main benefits can be summarized as follows:

- Increasing the use of sustainable transport modes
- Reduce the use of resources and energy
- Reduce CO₂ and other greenhouse gas emissions
- Better health and environment
- Improve quality of living
- Increasing public support
- Increasing awareness for changing behavior towards a more sustainable and environmentally friendly one
- Acting as role models for other municipalities

5. City region Bruck-Kapfenberg-Leoben (Austria)

5.1. Problems

The basis for an effective mobility planning process is the overall and complete consideration of mobility in the region. That means getting an overview over running projects, development plans and mobility concepts in the whole region as well as important stakeholders involved. This is the first challenge. First steps have been made to unite the cities in this respect in the so-called cityregion, still the collaboration is hindered by different circumstances, one of them the complex and complicate administration processes being different in each city [1] [2]. Another source of conflicts is the individual interests not always agreeing with each other. Still, working on a common objective can Workplace mobility plans produce jealousy and competitiveness also between the involved stakeholders [2]. That such problems may arise has to be taken into consideration by the planner.

Many conflicts may just be prevented by a regular exchange and a good communication between the stakeholders involved in the mobility planning process. Communication lines should be kept clear and simple in order not to make the communication process more complex. Information should be spread and prepared easily and simple for everyone involved in the planning process. Continuous feedback helps to incorporate it as early as possible.

Another problem is the missing data concerning mobility in the region, like user frequencies, modal share, customer satisfaction with the actual mobility offers, work load etc. In this context one of the cities in focus mentioned the courage to evaluate actual mobility offers [1]. A negative evaluation result may affect the mobility planning process in a positive way, reducing costs and shifting the concentration to other areas in question. A bus line with low utilization in one place may be cost effective in another place.

To a certain degree it is also important to integrate the population in the mobility planning process because finally the results should be suitable, adequate and attractive for the people. Here we identified



a lack of citizens' initiatives or similar unions of civil society in the sector mobility for the region in question. Appropriate representatives of the civil society may have to be found first. The key stakeholders in general have to be defined even before starting the mobility planning process to invite them to join the process. One of them, e.g. could be the Regionalmanagement Steiermark Ost [3], supporting a sustainable development of the region, where the topic mobility is totally missing at the moment -although it is an essential reason for the demographic change resulting in migration of the young people and has of course an influence on the degree of sustainability of the region (Bruck).

A crucial point when it comes to the end of mobility planning process is the communication of the results to public.

5.2. Needs

One central need is the awareness of the need to create workplace mobility plans. Mobility management processes may facilitate the integration of such plans. Referring to our region the development of such workplace mobility plans may have an essential influence on the commuter movements and the mode of commuting. As mentioned commuting is an important topic in the region associated with the car being the main transportation device - due to the high-ranking transport axes in contrary to the inadequate supply of regional public transportation.

Workplace mobility plans are important instruments to address mobility problems and find strategic solutions in the economic sector, which plays an essential role in Bruck as well as in Leoben. Also they serve as important input for the mobility planning process as a whole. Workplace mobility plans may support the main entrepreneurs in the region in their mobility management.

As mentioned before to create an affective workplace mobility plan it needs appropriate data. This must be collected and analyzed first to lay a basis for further planning. It may also be helpful to investigate which lines other national entrepreneurs of similar size have been taken realizing workplace mobility plans.

As already mentioned present mobility offers should be evaluated considering cost-benefit ratio. For these analyses adequate evaluation tools have to be applied to receive realistic and significant results. The outcomes have to be fed in the mobility planning process.

5.3. Opportunities

For this project the potential users of a workplace mobility plan are the entrepreneurs potentially saving costs e.g. in parking infrastructure or restructuring/adapting work schedule and the employees of the region. Further those employees may extend the mobility behavior connected to their working place to their daily life routines having a positive effect also on their personal environment.

Not only should the administrative sector of the cities be integrated into workplace mobility plans but especially the main entrepreneurs in the region being one of Austria's most important economical and industrial areas.

The most important entrepreneurs in the region are [4]:

- VOEST Schienen
- VOEST Stahl Donawitz
- AT&S Austria Technologie und Systemtechnik
- Norske Skog
- ÖSTU-STETTIN



The presumption for an increased sustainable transport mode is a change in people's behavior generating a reduced use of the private car in daily life mobility. Still, it may not be the only effect to reduce the use of private cars in general but to reduce the number of cars on the roads by active car pooling and/or car-sharing. This potential has not been considered by the cities yet. The benefits of any behavioral changes may include:

- Releasing roads and environment in the region
- Stress-reduced mobility
- Adaptation of work schedules
- Reduced costs for employees and entrepreneurs (mobility infrastructure, effective work schedules)
- Reduce CO₂ and other greenhouse gas emissions
- Increasing the use of sustainable transport modes
- Reduce health and environmental costs
- Improve quality of living
- Acting as role models for other municipalities

6. Banská Bystrica (Slovakia)

6.1. Problems

The main and principal problem related to mobility planning process in Slovakia lies in general **social preference of individual car transportation**. Owning and driving car(s) is taken as an indication of proper social position as well as a symbol of personal freedom and development. Public transportation, walking and cycling is considered by (still) majority as inferior means of transportation.

Thus, people prefer cars to other mean of transportation to show they are “modern”, “normal” and not poor. Of course, politicians on national, regional and local levels usually respect opinion of their voters and they do not act/decide against it very much. It results in solving of problems of car transportation, not problems of mobility. Parking and street/road capacity are considered as the most urgent problem to solve and as solution is considered not shift of mobility but enlarging of parking and road capacity.

The mental shift from individual car transportation to other means of transportation is very slow. It means that incorporating of aspects of sustainable mobility into transportation planning is very slow too.

The situation above is fully valid in the Banská Bystrica FUA. We can see some initial effort of local authorities to strengthen other than individual car transportation but still cars are in the main focus of local politicians and authorities. It is strengthened by the fact that the area of the Banská Bystrica FUA is not large so costs of petrol are low when commuting by car.

Of course, local population then presses on authorities to solve issues of double parking (home and workplace parking) and of increasing capacity of streets (what is virtually impossible, though) prior to solving of public transportation, walking and cycling and optimizing of car traffic. On the other hand it is necessary to say that authorities in the FUA pay some attention to public transportation and cycling in last years, though not sufficient.

The **lack of walking readiness** is connected with problem mentioned above. Too large part of the FUA population considers walking as unacceptable mean of transportation even on short distance. It is exhibited in two main ways: 1) park and walk approach is not accepted as standard way for a last mile transportation; 2) car are used even for very short routes (less than kilometer). It is closely connected



with general opinion that parking as close to the home and workplace is something what car owners have a right to. Parking in distance of hundred meters is considered by general population as failure of local authorities.

Another problem is **situation with public transportation**. Not depending on real situation a public transportation is considered by majority of public as slow, uncomfortable and with not sufficient intensity of connection. To some extent public transport system is really not sufficient for actual transportation needs, particularly for commuting and going to schools. The capacity is low and schedules are not optimized.

Then, **lack of experts** is one of the problems. Local authorities lack experts in mobility planning as well as in walking/cycling infrastructure development. The reason is not only underestimation of this topic by authorities but also real lack of expert in general. It results in very low enforcement of sustainable mobility against (mainly) car transportation as well as it hinders development of infrastructure and system.

6.2. Needs

First of all it is necessary to state that only a few authorities, managers and decision makers feel any need of mobility planning. As it was stated above, most of them think that the most important/critical issues of transportation are road capacity and car parking capacity, thus they urge on increasing both parameters.

However, it is clear that mobility plans are and will be needed, mostly by organizations and enterprises with large amount of employees. More employees mean higher demands on their transportation to/from work and it is very apparent in the FUA Banská Bystrica. Regular traffic congestions are present on working days at morning and afternoon before and after working time. Mobility plans should be implemented not only by institutions which are directly impacted by lack of road and parking capacity nearby, but also any other large employers (not depending on road and parking capacity nearby) as far they still induce high flow of individual cars in the FUA.

It is specific for the FUA Banská Bystrica that those institutions are mainly administrative and service institutions, not so many industrial ones.

Typical example is morning access to the F. D. Roosevelt Hospital around 7AM when access roads are congested by cars of employees (2100+ persons) and patients (450.000 visits per year). The street is congested again at 15.30 PM when working time ends and employees are leaving. The waiting time on nearby intersection is often up to 10 minutes and what is even worse buses are also affected due absence of dedicated bus lanes.

Specific kind of institutions in need of workplace mobility plans are companies and institutions located in the city center (not depending on their size). The city center is accessible by only a few streets so every morning and afternoon peaks hour they are congested. Though it would be a task of the urban mobility plan first, it is clear that workplace mobility plan might help too. Thanks to traffic congestions and lack of parking places in the city center employees have to adjust their transport habits (earlier departure to work, later arrival home) or employers have to accept later arrival to and earlier departure from workplace. Thus, workplace mobility plan could improve situation of both - employees and employers.

Frequency of elaborating/updating of workplace mobility plans depends on many factors. Generally it is necessary to make a set of indicators and monitor them. In case, that critical amount of indicators' values would be reached then it may indicate time to update or change the workplace mobility plan.

6.3. Knowledge gaps

Knowledge:



- methodology for creating of workplace mobility plans - no methodology available not only in the Banská Bystrica FUA but also in Slovakia.
- general expertise on urban mobility, its measuring, evaluation, modelling and planning.

Data is a crucial problem. We do not have almost any relevant data needed for mobility planning:

- number of cars, pedestrians, cyclists (broken down by main directions of commuting), modal split,
- number of passengers,
- dynamics of traffic modes in a time and space;
- motivation of travel, social status of commuters, etc.
- GIS data about infrastructure

Some of data exist probably (numbers of cars on some main roads, overall number of passengers of public transportation, some GIS data) but are hardly even not publicly accessible.

Equipment missing:

- automatic counters of cars, bicycles and pedestrians, both stabile and mobile;
- ITS;
- suitable GIS-based software for planning and modelling.

Financial resources:

- it is obvious lack, that is why it is necessary to incorporate sustainable mobility (in its different forms) in public (inevitable) and private (recommended) budgets

Human resources:

- experts in sustainable urban mobility;
- experts in sustainable workplace mobility (it is not the same as the urban one);
- mobility managers in institutions and companies (internal or contracted);
- sustainable mobility sensitive persons in public administration (police, construction departments, transportation departments, etc.)
- public relations experts

Legal background:

- supportive regulations of sustainable workspace mobility (e.g. in labor code, technical standards, etc.)
- increase support of sustainable mobility in transportation regulations (e.g. shared bus&cycle lanes, better respect of non-motorized transportation).

6.4. Opportunities

It is indicated above that potential users of the workspace mobility plans are mainly institutions/localities with high number of employees. Precise information about number of FUA located employees of individual employers, however coming from publicly accessible data we can anticipate following institutions (estimation of number of employees in BB in brackets)

- Slovak Post HQ (hundreds)
- Financial Administration HQ (about 1500)



- F.D.Roosevelt Hospital (2.100 + thousands of patients daily)
- Matej Bel University(1200 employees + thss of students in three locations)
- Cenral Slovakian Water Management Company (hundreds)
- Banská Bystrica Municipality office (850 in the City Hall)
- SHP Harmanec (paper mills, 571)
- industrial park Vlkanová (hundreds)
- industrial park Banská Bystrica (220, potential of 2000)

The workspace mobility plan elaborated within this project will be the very first one not only in the Banská Bystrica FUA but even in Slovakia. It means it will be a precedent which may be used as an example and motivation for many other institutions. There are many workplaces in the Banská Bystrica FUA and in Slovakia where mobility plans could significantly improve quality of working environment and habits. Particularly we believe that local public institutions in the most progressive regions/towns will be interested as well as large factory plants owned and managed by people from countries where sustainable mobility is respected and they want to bring the ideas here.

We will set and test the methodology tailored on Slovak circumstances as well as we will compile first ever expert team in the country. So, we suppose further our activity in this area.

The expected benefits of the Banská Bystrica City hall are obvious. The number of cars used for individual transportation will decrease as well as need of parking lots. However, the most significant benefit is good example and motivation for another institution in Banská Bystrica and its citizens. The Municipal Office intent to implement some measures to support a sustainable mobility so it is the best way how to start - to take care about own institutional mobility.

7. Békéscsaba (Hungary)

7.1. Problems

In the micro-region and concentrating on the city of Békéscsaba it can be stated that no serious transport problems can be revealed. There are no traffic jams on the roads. Therefore, while planning a car travel one need not to consider any delay.

Actually, the city does not seem to have any critical transport problem. Automobile drivers are not discontent. At the same time the current situation can always be optimized, made more effective and comfortable, the quality of the service can always be improved. The continuous improvement of the system leads to the sustenance of satisfaction and to the introduction of innovations.

Public transport is primarily used by students and pensioners. The timetable is in accordance with the beginning of the school day and the end of it in the afternoon. The main travel destinations of pensioners are the doctor's offices and the market such that the current timetable meets their demands. The current urban bus transport is not characterized by capacity overload. Unfortunately there is no further information regarding the residents as no assessment has been performed concerning the residential needs. This is partly because there have not been incoming complaints which would lead for the review of the system.

Cycling, which is present in the region in a high rate is popular among the locals too. The necessary network infrastructure is continuously expanded although it already has a good service level. Besides, the local people are socialized in a way that automobile drivers pay attention to cyclist and vice versa. Consequently, conflicts between people using one of these transport methods are not common.



There are two problems to be mentioned in urban transport with similar types. One is the question of storing the cars. The most challenging in urban life is creating an adequate number of parking spots. Principally there is a shortage of parking spots in the center. Even though a parking garage was built in the city it is not used by anyone due to the extra costs (residents can park on the street for a reduced price). During working time, rush hours and weekends it is almost impossible to find free parking spots in the city.

The other problem is the storage of bicycles. Along with the advanced network infrastructure there is a lack of effective storages where many bicycles can be stored. This causes a problem mostly in the center. Besides, there are “new wave” bicycle storages that are nice and look good but considering their function they are less effective. It is difficult to lock the bicycles to them and there is space only for few bicycles. It can often be seen that these types of storages are empty while bicycles are locked to the near electric pylon or fence.

Besides, the development of auxiliary infrastructure might be needed. As the number of people using bicycle is very high even in bad weather (in rain and in winter) it might be necessary to create covered storages while increasing their number as well.

As the infrastructure is given and cycling is popular it is possible to foresee that a bike-sharing system might be needed. The establishment of such system would be necessary even in Békéscsaba. This would be a step forward in the direction of sustainability and innovation too.

Pedestrian traffic has the entire necessary infrastructure too. Moreover in the downtown a pedestrian zone was created where several walking streets can be found. Here, people can calmly walk while they are looking around, shopping, eating in restaurants or visiting events. In this field there are not problems either and the pedestrian traffic works undisturbed.

7.2. Needs

At the moment the city has no workplace mobility plan and currently there is not an ongoing project to create it either. For the time being none of the bigger enterprises in the region has indicated towards the local government that it would like to create such plan, participate in it or might participate in an existing plan or apply it.

Primarily bigger companies near the city's border or in the industrial parts of the city would need such plan but workers haven't indicated towards the companies how they would be able to solve the question of going to work. They solve it with the several available methods such as public transport, road transport or cycle transport. It is peculiar that the majority of workers choose bicycle (primarily it has financial reasons, while secondly, because of the appropriate infrastructure it takes only slightly longer time to travel by bicycle than using an automobile on the same route).

In the region a part of the companies is seated in the downtown so they do not need such plan, only those companies that are seated outside the city's populated areas should have it. First the local government should make such plan to show an example for the companies. If they see that there is such plan they might apply it too.

The most obvious solution in these types of cases the transport of workers by bus before and after shift. This service can be provided by own buses or by outsourcing. In both cases there are extra costs. It is not sure that the companies would undertake the extra costs, it depends on their company policy. Such extra costs would presumably not be undertaken by the city authorities either and it would be difficult to decide which company would undertake and which wouldn't.

Currently the DAKK cPlc. (that supplies the local transport) provides on certain lines a longer route before and after working time which means that they are open to such solutions. If there was more attention to this field (if there was a policy) even this service provider **would** be able to carry out this task. This is



merely a question of cooperation and agreement where the crucial question is undertaking the extra costs.

One or two companies in the downtown realized that inside the city it is more effective to travel by bicycle therefore they invested in buying 5-6 bicycles so when a worker has to leave in case of administration they can do it by using bicycle which has no extra costs (parking fee, petrol) and the time of travel is more or less the same as they would use automobile (no need of searching a parking spot).

Although it is not interconnected but shows the conception of a company that the local Lidl supermarket recognized the problem that big number of its customers arrive by bicycle and there is no place where to lock the bicycles. In order to solve this problem they eliminated 10 parking spots where 30 bicycle storages were put with a space for 60 bicycles. This example shows that if we recognize our workers' or customers' needs we can easily find a solution.

So if companies will not initiate the creation of the workplace mobility plan the city authorities have to be leaders in it and have to bring in the companies as partners.

Another type of example is that when the cycle route network infrastructure was being expanded the Linamar Hungary Ltd. indicated towards the local government that their factory would built a cycle path too that their workers would be able to use for going to work and back home. So the company spared extra costs and on the other hand improved the travel circumstances and comfort of its workers. This is a way of cooperation too.

As the city has no workplace mobility plan solving the ad hoc problems is primary instead of processes after a concept. Such mobility plan should be created once and that would be a part of the general transport policy and then to review it regularly, preferably yearly with the questioning of workers and company leaders. It might be performed with questionnaires, web devices or providing proposal possibilities.

With the yearly feedbacks it would be possible to follow the changes of needs, the measurement of the current infrastructure's and new solutions' effectiveness and popularity. With it the city authorities would indicate towards the companies the importance of their presence and the workers would feel appreciated.

7.3. Knowledge gaps

In the local government the Strategic and Development Department is responsible for the urban and transport development strategies and for the relating tasks. In the region the lack of experts is peculiar which can be seen even on the field of transport. In the city authorities and in the local government there is not an expert who has the experience to create such concepts and strategies and their use in practice. Even if the city orders a comprehensive examination they can't realize its results and proposals in some cases not even understanding the causes and effects due to the lack of experts. So the lack of experts and decision making based on a professional point of view are fundamental problems.

The consequences are that in the city there is not a regular residential survey in any form so the decision makers do not have relevant data. The last survey of this kind was performed in 2010 with household surveys for the creation of the transport policy currently being in effect. Other than this the city has no regular transport survey data. Even if automobile transport is trouble free the change in the numbers of traffic should be followed in order to see how capacity utilization changes year by year. This was measured in 2010 too with intersection and cross section counting.

Along with the collection of data a continuous needs assessment would be important. This could be up-to-dated with questionnaires, household surveys or residential forums too. Today it is easier to perform it and it is more cost-effective due to the web devices for example with a questionnaire sent by e-mail or uploaded to the city's website. Nevertheless, there is no residential needs assessment being performed which might be the foundation of decent development.



This is also true in the case of big companies. From the city authorities there are no own initiatives either towards the companies or the workers (in an indirect way through the companies). The local government is usually concerned with the ad hoc problems so they do not deal with development, optimization, only if there is demand from the other party. This is a mistake. The appointed responsible have to be proactive in order to the continuous development of the system.

In connection with these it may be possible that in the local government, in the Strategic Development Department there might not be enough manpower, there is a lot of work for few people. This is a general problem in every department of the local governments.

One of the biggest problems is the lack of money that results in the postponement of the projects, the allocation of its priorities or even its failure. The existence or lack of financial background is the main influencing factor in every project.

The legal background doesn't block any development and concept. This has the least influential power. It has to be considered during the planning process so later there won't be a problem with it.

The mentioned problems are interrelated. Their effect can be examined separately but the current system can be perceived as the result of their connection. The city of Békéscsaba wouldn't be able to create a transport policy on its own. It doesn't have the assets, primarily the experts, the data, human resources and the approach (lack of needs assessment).

If these parameters changed, it would have a positive effect on the mobility processes.

7.4. Opportunities

In the region some big companies can be found where a relatively big number of workers are employed. Furthermore these companies are the biggest tax-payers of the city meaning one of the biggest sources of income for the city. These companies are the Linamar Hungary cPlc., the Budapest Bank cPlc., the Bonduelle Central Europe Ltd., the Mondi Békéscsaba Ltd., the Csaba Metál cPlc., the Hirschmann Car Communication Ltd., the Marzek Kner Packaging Ltd. and the Tondach Hungary cPlc. They could be the primary users of the mobility plan because there is no traffic to workplaces there, i.e. there is no bus that transports the workers (transporting them before and after shift to the factory or back).

In the case of introducing such service the consideration of the current and the new situation has to be examined. For example for those who travel by bicycle it might take more time to get up in the morning in order to get on a company bus so they have to adapt to it and if being among the first ones getting on the bus that might pick up more workers it might take more time for them to get to the workplace than going there by their own bicycle. In the latter case they do not have to adapt to others so it might be an adequate solution concerning comfort. However along with altering influential factors (for example rain, winter) they might choose the bus solution. The assessment of these needs is very important in order to work out appropriate solutions.

City authorities have to find good examples and solutions in order that a demand would arise in them, they would have one and see what kind of development possibilities it has, how it is possible to improve the current circumstances. This might result the arrival of more investors in the region in the long term.

The results of the workplace mobility plan can be diverse. For the workers the aspects and improvement of the comfort while getting to their workplaces are relevant and the fact that they do not have to finance their work-related travels on their own. For the employers their workers' satisfaction is important on a certain level and the consideration of PR shouldn't be forgotten either. This means positive advertisement. It has significance even for the local government as it provides the residents the possibilities to choose which would give the local government a positive image. On the other hand they are opening towards big companies creating the possibility of a stronger cooperation so even new companies could show up.



Such concept has not created so far because there has not been a demand for it among workers. Everybody found an alternative how to get to their workplaces. However the circumstances, the level of service and the comfort can always be improved. For this the frame of a mobility plan and the interested parties' cooperation and involvement are necessary.

8. Budapest (Hungary)

8.1. Problems

Primary problems:

- Lack of budget/resources: the companies, municipalities, educational institutes/facilities cannot afford the serious investments based on the Workplace Travel Plan (WTP)
- The company cannot recognize the necessity of the mobility changing:
 - the management company has different priorities,
 - the WTP does not reach its goal because of cultural differences,
- The company is not eco-conscious.

Secondary problems:

- Although the company recognizes the necessity of improvement of the mobility changing, but it would take strict and prohibitive measure against the employees to implement them - which the company does not want to. Furthermore, the travel allowance could be the decisive factor for a candidate looking for job at this company.

Tertiary problems:

- The company recognizes the mobility of the employees could be more eco-conscious, but takes only half-measures. Recognizes the needs but not sufficiently careful when creating the traffic plan - as a consequence, the desired results will not come. Because the company does not admit or recognize the fact that changing the mobility habits also requires the introduction of other non-traffic related measures, which are only indirectly related to transportation. For example: after riding a bicycle to the workplace, the possibility to take a shower, and have a locker room - many companies have dress code which is not suitable for cycling and vice versa.

8.2. Needs/Requirements

WTP is a provision package of the mobility plan made by or made for the company. This plan aims to rationalize the mobility habits of the employees.

So companies have WTP prepare for themselves when they recognize its necessity or by any other reason.

Other mobility plans also exist which based on the structure of the WTP. These are:

- Area based mobility plans,
- Event based mobility plans.



Based on the EU programme CO2Merce in 2012, a few WTPs were introduced in Budapest, although these were only pilots. In majority these WTPs were prepared as a result of EU projects or within an autonomous framework contract. WTP is required for example in case of a high traffic-generating investment, a sport or cultural event like a world championship, the Olympic Games or a concert.

Usually after major changes in the internal structure of a company, creating a new mobility plan is necessary. During the lifecycle of a company, in about 3-5 years it could be so many changes that could have an impact on the travel habits of the employees. A major headcount decrease or increase, an opening of a new site, displacement of a department requires a kind of mobility change. That is the reason to create a new WTP after the structure was changed.

8.3. Knowledge gaps

Knowledge:

- The WTP is a package of measures that rationalize the travel habits of the employees of the company or municipality. The implementation depends on the elaboration of the WTP.

IT knowledge:

- Nowadays to prepare a WTP without any computer support is inconceivable. The entire planning process of the WTP is supported by software: these are gathering information, storing and processing data, performing assessment, doing investment planning based on the processed data.

Economical knowledge:

- The company that makes WTP usually expects some economic return or a kind of social benefits. To calculate these returns and benefits we usually need complex economical methodology and calculi.

Knowledge of transport sciences:

- To complete the technical part of the WTP complex encyclopaedic and practical knowledge of transportation sciences are required. The available modalities, the vehicles, the types and categorization of the trajectories, the infrastructure elements, the storage opportunities, and the advantages and disadvantages both physiologically and environmentally of the vehicular traffic must be known.

Design practice and knowledge of regulations:

- If it is necessary the design practice could provide a solid foundation for an investment. During an early implementation „traps” could be revealed which were not taken into account during the initial planning. The technical requirements, regulations, design specifications are also important and necessary, as well as UME, OTÉK etc.

Data:

- The raw data are available for the company, the other, information about the transport habits could be founded out via questionnaires. At the initial stage of the WTP should be mapped the depth of the demands of the company. Firstly have to be defined is the headcount of the active employees. After that have to be questioned, classified and evaluated the information related to the travel habits.

Individual level, corporate level and equipment must be evaluated.

Individual level:

- travel habits,
 - individual travel by car, by bicycle, by motorcycle or walking,



- using complex/multi-modal travel chain

- time demand of the travel
- travel cost,
- health impact of the travel,
- reason of the mode choices: pressure or optional,
- willingness or necessity of the changes of travel habits.

Corporate level:

- availability of vehicles to perform a work or to go to work
 - company car
 - DRT buses
- ensuring the conditions of going to work
 - available supports (e.g. support for public transport)
 - available supports for alternative modes of transport (e.g.: shower, dressing room),
- infrastructural conditions of going to work
 - number of available parking places

Equipment:

- The required equipment for preparing the WTP is given at all company. There are not appeared a special SW or HW demand beyond the devices which used for the daily work.
- Planning process of the simple WTP can be started with a paper-based questionnaire. It can be completed with computer-aided technologies or with a SW that was made specially for this. It depends on the complexity of the WTP. Beyond the classic questionnaire survey technique exists a SW with which the mapping and the data collection processes can be done. Furthermore the SW is able to generate automatically a mobility action plan based on the answers. Based on this it gives suggestions about the investments are needed.

Financial resources

- The costs of the WTP are lower in the beginning, then the implementations are more costly. The design costs compared to the implementation costs are only 10-20%. The result of the WTP is an intellectual product (documentation). The price of the WTP can be calculated based on engineering time and additionally can be displayed a license fee of a software.
- The costs of the WTP depend on the necessities. In the best case the company needs only approach shift that can be carried out with an attention. However there can be suggestions that are very expensive like investment, construction or vehicle purchase cost.

Human resources

- Basically making a WTP is very complex work with many participants. The human work in a WTP can be very different. At a small site where works 50-60 person, 2-3 persons are enough to solve the design tasks of the WTP. The team has to contain engineers, economists and IT specialists. In case of large companies (with 1000 employees or more), wider scale of human work or automation is needed.

Legal background

- Actually the demands for making a WTP are in-house raised demands. These was born because the company, municipality hopes an economic recovery through using actions of the plan.



- In Hungary no regulation ratified regarding to the WTP like in the EU. Several conference materials can be found references, mentions although these are rather recommendations, not directives.

8.4. Opportunities

Potential user of the WTP every institution (private companies, municipalities, educational or sports institutions) which wants to rationalize the mobility demands of workers, inhabitants, students, club members, customers and others.

The primary winners of the WTP are the employees of the company:

- leaders/managers - the main thing is the message to the employees, such as: the interests of the workers are important,
- Employees - they get a complex mobility range, the cost of the traveling to the work is increased and travel chain become more simplify
- Families - via the WTP they can save time that they can spend with loved ones or the travel to work become more economic.
- Students - the biggest ballast during the studies is the cost of transport, because they have not individual incomes. That's why they are the most sensitive with the leading in the alternative modes of transport.
- Guest of an event - for them the first priority to reach and to leave the place of the event.
- Everyone else, who has direct or indirect effect of the WTP of the company.

Based on the professional literature the company with more than 250 employees falls into the category of large company. We deal with the companies where this number more than 1000. To gain information about the headcount of the company by sites is very complicated. The chart below contains 15 companies with headcount more than 1000 persons.

We do not differentiate between profit-oriented and public service companies.

The listed companies are located near to the town center, but with good transport facilities, and support, and with high capacity roads. Some of them have parking places, or garage for the employees' vehicles.

In perspective of availability of alternative transport system (bike sharing) the companies located exactly in the downtown are leaded. Although the net of the MOL-BUBI bicycle sharing system is growing continuously.

Table 1 Company list

Companies by number of headcount (person)		
MÁV Magyar Államvasutak Zrt.	18195	1087 Budapest, Könyves Kálmán krt. 54-60.
GE Hungary Kft.	9182	1044 Budapest, Váci út 77.
Magyar Telekom Távközlési Nyrt.*	7132	1013 Budapest, Krisztina krt. 55.
Mol Nyrt.	5372	1117 Budapest, Október huszonharmadika



		u. 18,
Richter Gedeon Nyrt.	5279	1103 Budapest, Gyömrői út 19-21.
BRFK	3121	1139 Budapest, Teve u. 4-6.
Egis Gyógyszergyár Zrt.	2946	1106 Budapest, Keresztúri u. 30-38.
IBM Hungary International Shared Service Center Kft.	2517	1092 Budapest, Köztelek u. 6.
Ericsson Magyarország Kft.	1916	1097 Budapest, Könyves Kálmán körút 11.
Vodafone Magyarország zrt.	1912	1096 Budapest, Lechner Ödön fasor 6.
Nokia	1878	1092 Budapest, Köztelek utca 6.
Szerencsejáték Zrt.	1690	1015 Budapest, Csalogány u. 30-32.
VSSB Zrt.	1673	1087 Budapest, Hungária krt. 40-44.
DIAGEO Kft.	1319	1132 Budapest, Váci út 20-26.

Mobility plans created in this project for further exploitation:

- can be presented for instance what can reach the potential WTP user;
- could be exist a solution when the company does not making a WTP for the company but it selects from the classical WTP solutions. For instance one of the listed companies wanted to install an own bike sharing station.

Expected benefits from the workplace mobility plans:

- Health promotion:
 - Direct health promotion: Promotion of alternative transport such as a bicycle transport is one of the basic items of the WTP. Cycling has a positive effect on the health of employees.
 - Indirect health promotion: The eco-friendly vehicles have a positive external effect on the C2O emission, on the noise pollution etc.
- Economic interests:
 - Direct effect: Positive economic effect comes from the changed transport habits of the employees.
 - Indirect effect: Long term return of the eco-friendly measures.
- Social benefits: the measurement of the Social Responsibility can be seen in the eco-friendly thinking.



- Advertisement: the eco-friendly measures of the WTP can be an advertisement.
- Directive, pressure: at some areas the measurement of the air pollution such high that required restrictive measures. WTP may be forced by these cases.

9. Modena (Italy)

9.1. Problems

In Modena, considering the mobility plan process, the main problems that can be identified are the following:

- difficulty in changing citizens' habits;
- fragmentation of the bicycle network, a problem that concerns especially the missing part of path lanes on the main axis. On the other hand, the reconnection of the bicycle network is one of the asset planned in the Cycling Mobility Plan;
- lack of safe deposits for bicycles near workplaces. On the other hand, for what concerns two of the main City Council buildings, one deposit is planned to be installed in the next 1-2 years.
- the absence of a specific Smartphone application for navigation for cyclist, to guide both the commuters and the tourists trough the city;
- civil servants have doubts about coming by bike since, when arriving at work place, the do not have the spaces and possibility of changing clothes or refresh themselves
- the culture of private cars is still too deep-rooted in medium cities like Modena and the more sustainable way of transport are still not competitive with private traffic.

9.2. Needs

A Mobility Plan should be very useful for companies or public administration with at least 800 employees. The Emilia-Romagna Region encourages the adoption of these plans, in order to reduce the number of vehicles in the city centers.

The effectiveness of mobility plans often depends on the level of organization of working time and on the distribution of the working places throughout the territory.

Referring to the specific situation of Modena, while the Sustainable Urban Mobility Plan (SUMP) of the City of Modena - that will be adopted by the end of 2017 - will have a perspective of 10 years, the Mobility Plan for employees shall be update every 2/3 years, considering the rotation of public employees and the average of job turnover (for example, people who retires or new employees).

9.3. Knowledge gaps

- knowledge: to create a mobility plan it is necessary to know the needs, the habits, the working time and the expectation of the employers, as well as level of consciousness and commitment of participants;
- data: the data collected have to be organized to be functional to the trips planning, and to be used in a specific software;



- equipment: software applications are needed, to match different home-work trips, in order to create a mobility plan for the major number of civil servants. Also a system for measuring and monitoring the results of the initiative could be very useful;
- financial resources to support initiatives, equipment and new infrastructural asset to increase the amount of sustainable trips. It has been demonstrated that also direct economic incentives to employees could increase the transition to different transport models;
- human resources to be dedicate to data collection and analysis and to the Mobility Plan development;
- legal background is missing;
- capability of civil servants to standardize their working time: in case of medium-long homework journeys by car, the flexibility of working time for civil servants can be an obstacle to the elaboration of car pooling trips;
- safety: to encourage sustainable trips, especially by bike, the Mobility Plan needs to demonstrate and prosecute the safety of the itinerary, but also the safety and security of the recovery points for bikes.

9.4. Opportunities

The potential users of workplace mobility plan are mainly the employees living in the urban area, covered by public transport and cycling networks.

Some employees live out of the old town center, in the hamlets or in little town scattered within the province of Modena: for these people the Mobility Plan has to focus on car pooling solutions or extra-urban public transport connections.

The employees of the Municipality of Modena that can be involved in the project are in total 1637, of which 85 are teachers in the municipal pre-schools

Mobility Plans created within this project can be a model, to be disseminated towards other EU and national context, in order to share experiences and lessons, but also in order to compare a learn about other positive and successful measures implemented within other Mobility Plans.

The benefits expected are:

- a change in mobility behavior of Modena's civil servants towards more sustainable habits;

therefore:

- potentially, the reduction of private vehicles traffic and of pollution within the urban area;
- an indirect positive impact in promoting the change in mobility habits of relatives and people living with the civil servants employed in the Municipality of Modena;
- an indirect positive impact on Modenese citizens, in general, who will have a "model" of sustainable and environmental friendly behaviors implemented by the employees of the Municipality of Modena;
- the activities developed and results obtained within the project and thanks to the Mobility Plan elaboration process can be useful to learn what is the best or most effective way for encouraging changes in mobility behaviors towards more sustainable habits.



10. Ljtommer (Slovenia)

10.1. Problems

In Slovenia we have already gained some practice and experience in strategic planning traffic but not sufficiently. Strategic national and local documents (spatial, environmental and development) have otherwise uniform intent of achieving sustainable transport, but this led to a lower hierarchical level documents and actions as a rule lose. Without strategic frameworks and comprehensive vision at all levels of transport planning there are no mechanisms for determining priorities for the allocation of adequate resources and a comprehensive assessment of the contribution of certain traffic measures to achieve these objectives.

The majority of the strategic transport decisions in Slovenia are formed within the spatial planning documents. They mainly focus on transport infrastructure. Transport system and its controls are not treated comprehensively in spatial planning documents and are absent of strategies for individual elements of the transport system, such as public transport, cycling, walking, parking, etc... Just as the individual parts of the transport system are presented diffuse, also financial resources are scattered, which are mainly intended for the construction of infrastructure for road motor traffic, although this hierarchy of sustainable transport modes has not the leading role.

For measures we decide without a comprehensive assessment. We are focused on increasing the capacity of road infrastructure, resulting in motorized transport further increases, decreases quality of life, great use of budget funds in the state that does not significantly improve: people are traveling more, spend more money on mobility and lose more time in traffic jams.

Decision-making process is often not transparent, in some areas there is a marked lack of qualified personnel.

Source:

<http://www.trajnostnamobilnost.si/en-gb/celostnoprometnona%C4%8Drtovanje/stanjevsloveniji.aspx>

Another problem is also no legal obligation of the mobility planning process when planning for sustainable mobility. There is no legal definition of SUMP though. We follow the European guidelines.

When doing so, we are faced with the irrational use of land, loss of quality agricultural land and land critical to the protection of natural values and natural resources, high costs for infrastructure and utilities, moving core urban activity in the suburbs, environmental pollution and the loss of regional identity.

The Government of the Republic shall establish appropriate legal and financial basis for the development of sustainable mobility planning. The problem is presented because at the local level has not yet been adopted provisions that would contribute to better planning of urban transport. The Government of the Republic of Slovenia for the time being has not been responsive so far.

Another point of view is the insufficient integration of the sustainable mobility planning in the all relevant political initiatives and defining the key indicators for sustainable mobility planning by government, the state should also establish the state base with the cities' data. There are the lack of the financial initiatives and lack of knowledge among the representatives responsible for sustainable mobility planning. The general public is not enough involved into the planning process and there is a lack of different methods how to work with them and recruit and activate them.



Source: Dr. Aljaž Plevnik, Dr. Matej Gabrovec, Dr. Werner Gobiet, Dr. Marjan Lep, Trajnostno urejanje prometa na lokalni ravni, Ljubljana, 2008.

Furthermore, below are listed additional problems when planning the mobility in Slovenia:

- Unused potential of mobility management in planning and design, there is no legal bases.
- Neglect accessibility in practice planning and architectural design.
- Strategic planning provides sustainable solutions that are lost with detailed planning.
- Unawareness of the importance of access by public transport to major traffic generators.
- A large proportion of public investment in the provision of parking facilities.
- Loss of awareness of the impact of the parking supply on the traffic situation in the cities.
- Type of foreign manuals for making mobility plan, which are not adapted to our conditions.
- Legislation does not provide such plans.
- Small businesses' motivation to participate.
- Not ready for real change in Slovenia.

Source: dr. Aljaž Plevnik, Mobilnostni načrti za podjetja in ustanove: izkušnje iz Slovenije, Ljubljana, 2016

10.2. Needs

Transport plans or actually mobility plans for larger businesses and institutions are in developed countries for years an integral part of planning policy. Also in Slovenia we need as soon as possible to introduce a mandatory mobility plans for larger companies, institutes and centers that people visit frequently (shopping malls, universities, campuses, factories, places of public events, sport halls ...).

Source: Teze za trajnostno prometno politiko Slovenije, Ljubljana, 2010

In Slovenia, according to Directive 2008/50 / EC there are seven areas with poor air quality (more than 35 days of exceedances per year). These areas are: City Municipality of Murska Sobota, Maribor Celje, Kranj, and Ljubljana, Novo Mesto and some smaller municipalities of region Zasavje). Main sources of poor air quality are transport and small combustion plants, and also industry. These areas were recommended to launch the institutional mobility plans since the air quality could be the right reason for doing it. The targets have also been the bigger regional companies.

Source: official letter from Ministry of environment and spatial planning to all companies' directors on the area of Chambers commerce with low quality of air (taking by Directive 2008/50/ES), Ljubljana 2015.

The most important need when planning is the political commitment for developing and implementation after the approval. The special focus goes to mobility experts employed at the institution which is the most important person to boost the implementation. Therefore the need is increase knowledge and improved capabilities of the people responsible for mobility field at the municipality.

The workplace mobility plan should be amendment at least every 4-5 years as it is the same recommendation for SUMP. 5 years is the period which can reflects any potential revision and updates. The institution is very dynamic entity and the changes are always happening. The new trends are coming and priorities as well.



10.3. Knowledge gaps

The most problematic point of view is a lack of adjusted methodologies which could take into consideration different sizes of the cities. In Slovenia, there are typical small city sizes and only two cities are having more than 100.000 inhabitants.

The second most problematic issues are lack of knowledge of staff working at the different intuitions. They are not aware of the sustainable mobility, even of unconventional traffic planning. Mostly only one person is working and taking care for traffic and mobility matters at the municipality administration. They are too occupied with the general daily work (street reparation work, maintenance work, etc.) and are not able to be responsible for sustainable mobility beside they regular work.

10.4. Opportunities

Mobility Plan may be particularly suitable for large traffic generators - office buildings, sports facilities, hospitals, schools, shopping centers, etc. However, this list does not exclude any other possible institutions which might face with the mobility issues. In Slovenia 11 city municipalities could be potential user of the plans. These are the biggest municipality administrative institution in Slovenia, although they are still less numbered than in any other city hall across the EU countries. Nevertheless, as a pilot municipality we choose Ljutomer municipality with only 35 employees. This is not much but they can be forerunner municipality for other Slovenian cities.

In Slovenia, especially not in Pomurje region where we are located, there are no trends for mobility planning, although we are facing with the lower air quality, suburbanization process, car accidents, etc. Still there are some possibilities for small changes made step by step. Ljutomer as a key referential institution could influence on many other organization and companies in Pomurje region such as:

- regional hospital;
- profit companies: ROTO, GMT, ARCONT, REFLEX, CARTHAGO, PANVITA, POMGRAD, WOLFORD, FARMTECH;
- Travel planning makes sound business sense - no matter what kind of activity your organization is engaged in. Even small organizations and small companies can reduce costs and improve productivity by shifting to more sustainable transport options. Here are just a few of the ways in which organizations of all sizes can benefit from travel planning:
 - Reduced transport costs
 - Increased productivity
 - Reduced need for parking facilities
 - Reduced absenteeism
 - Demonstration of corporate social responsibility
 - Environmental Accreditation
 - Meeting planning obligations

Source: Ljutomer, personal information of municipality's representative responsible for mobility Mitja Kolbl, Katja Karba the interviewer (22. 11 2016).

- Financing and expertise coming from the EU project.
- Parking facilities for new construction are promising subject for the future.



Source: dr. Aljaž Plevnik, Mobilnostni načrti za podjetja in ustanove: izkušnje iz Slovenije, Ljubljana, 2016

Workplace mobility plan could be a good measure for the SUMP action plan. In that way municipality can boost the mobility planning development in its municipality and influence on bigger institution to develop the institutional mobility plan. The municipality could have a right to order a mobility plan before releasing the building permit for newcomers in order to reduce the traffic jam on the city street around the companies' facilities (with the reduction of the parking spaces), etc.

11. Ústecký Region (Czech Republic)

11.1. Problems

The mobility planning process is very complex. There are many components which can cause problems or be problematic in any way. This text shows only some problems which are already knowledgeable at regional and local level.

Plan of Transport services of Ústecký Region 2017-2021 states that one of the problems concerning long-distance transportation is its range which was reduced in last few years (for example the route from Kolín to Rumburk). The Region's Office had to take over the reduced connections to maintain the quality standard which was already set. The causes of these changes are usually financial.

Another problem is related to the opening of the market of long-distance transportation. The main issue is the delay of the real actions in comparison to the published schedule. This delay is reflected not only in conceptual form timetables (because of diverse planned and real time capacity range). It also influences the carriers. They do not further invest in existing fleet, because they still have tender ahead of them. This strongly reflects the quality of the fleet and services in general. The Region's Office has to compensate the missing transport capacity needs by the financial support and ordering the connections. This problem concerns two most important long-distance train lines in the region - R 5 Praha - Ústí n. L. - Cheb and R 20 Praha - Děčín.

According to national census the strongest linkage between Ústecký region and other cities is between Prague, Plzeň and Brno. The non-transfer train connection between Ústí nad Labem and Brno was currently split. Due to that, the passengers need to change trains in Prague which is influencing the function of the connection in a negative way. Another problem is tariff which has even now some reserve, especially in terms of international transportation.

Problems in mobility planning can also include the mentality of the offices, representatives and individuals. There is usually an emphasis on infrastructural problems in a planning process. There are many plans on national, regional and local level. Many of them deal mostly with the planning of routes, new roads, modernization of existing structures etc. The soft measures which are also very important are often overlooked. For example the soft measures solutions are promoted as a successful only for a last couple of years so certain gap in knowledge or skeptical attitude towards them prevails. There is an insufficient political representative's support of change in travel behavior and proposed measures.

Providing the public bodies with staff that are truly professional in transport and mobility is problematic as well. There is usually very small amount of positions created only for transport coordination and mobility management. Commonly, these duties are only a part of someone's job description. Another issue is given by institutional barriers and finding the solution to the mobility related problems everyone agrees on. There is a huge number of stakeholders, public bodies and individuals on local, regional and national level. Communication can be problematic and conformity of the stakeholders is crucial in order for measure to be successful and accepted. Legislative problems hamper the progress as well.



Even though the main focus probably shouldn't be on the infrastructure, there are some issues in local level which has to be solved. For example in municipality of Litoměřice, there is a problem with transit of freight traffic through the city and missing infrastructure in general. For example the separate cycling lanes within the town would strongly influence local biking experience in a positive way. The biking network is also incomplete in the whole Ústecký Region. Although the situation is getting better every year, the network of cycling routes is still not fully connected. The combination of several means of transportation and finding the balance in the transportation system is also a real struggle in Litoměřice.

Finances are also problem of the municipalities when it comes to mobility management. When the offices already have a list of measures or some kind of action plan, there is usually problem to find money to fund these investments. Mobility planning and creation of the mobility plans can be then ineffective when it has only a small financial support.

11.2. Needs

In order to create a high-quality workplace mobility plan, municipality of Litoměřice expresses several needs. Political support is quite crucial for successful elaboration and implementation of the mobility plan (MP). Although municipality of Litoměřice is in comparison with other municipalities forward thinking and the mobility plan has its support among administrative staff and politicians, there are reserves and other requirements in this field. The support of mobility planning processes needs to be longstanding and persistent to have a proper impact.

The financial support usually goes hand in hand with political support, but it is not the same thing. There need to be enough resources to implement or the measures and some investments. Building an infrastructure can help the soft provisions and together create the change of the mindset which leads to the change in travel behavior of the municipality staff.

Quality mobility plan needs to be elaborated well which leads to the need of choosing the right person to execute it. In the municipality of Litoměřice this leads also to another need - choosing somebody appropriate for the position of mobility manager. This person will partially deal with the creation of MP in the municipality of Litoměřice and afterwards oversees the process of measure implementation, takes care of promotion of sustainable mobility behavior in the municipality and follows up with new problems that can appear during the time.

The promotion of sustainable travel behavior is also strongly influenced by facilitation with those who are concerned (staff in case of workplace MP, inhabitants in case of SUMP). Creating solutions to mobility problems with the group concerned is easier in the creation process. There are certain needs which can be easily met by facilitation, and people also cooperate better in the process of implementation when they were part of the creation of the plan. The facilitation also helps to find the optimal solution accepted by the general and professional public. The finding the optimal solutions also closely relate with finding the stakeholders concerned and connecting them to the whole process of creation and realization of the mobility plan.

Municipality of Litoměřice states that the mobility plan is needed by institutions which are trying to systematically develop their mobility planning. These institutions can be in public, private or nonprofit sectors such as public administration, companies, entrepreneurs, NGOs, citizens, organizations, associations, clubs etc. The frequency of need of creation of MP depends on dynamics of the municipality. For example in Litoměřice MPs should be created every 5-10 years with a yearly update and creation of action plans. MPs should also set appropriate indicators and goals which are daring but achievable.



11.3. Knowledge gaps

Knowledge gaps could be one of the biggest problems which are necessary to overcome during the process of mobility planning and creation of workplace mobility plan. These gaps can often overlap with the needs of the region or municipality since these two aspects complement each other (see also chapter 4.2).

For example, the cooperation with and between the groups concerned, stakeholders and the municipalities can cause problems. The municipalities sometimes lack the contacts with stakeholders who would like to participate in the process and they do not know how to get in touch with them or navigate them through the process. This cooperation can be the deal breaker and can determine whether the action is going to be successful.

Financial resources must be allocated from the city budget or the city must find another source of funding (e. g. subsidies). This means it can also be a problem to find the money for the whole process.

Another gap is connected with the professional knowledge of mobility. It could be a problem to: find capable mobility manager and working group; balance in data collecting; realize what equipment is needed and also if there is a necessity to hire someone external who can contribute to the final product or if it is better to do the work alone. All these knowledge gaps can lead to mistakes being made during the making of workplace mobility plan. There are also no systematic data about daily mobility. The only survey on national level is national census which gathers information about the mean of transportation used for commuting to work or school (bus, train, public urban transportation, car - as a driver, car - as a passenger, motorbike, bicycle, walking, other), the length of the journey (less than 14 min., 15-29 min., 30-44 min., 45-59 min., 60-89 min., more than 90 min.) and its frequency (daily, weekly, once or twice in a month, other). This information is very limited and usually out of date since the census is done once in a ten years. Other travel surveys can be done by public institutions (universities or municipalities) but these surveys will always be only partial in regards to timeframe or the area. The municipality of Litoměřice has already tried to fill this gap by organizing a survey called Mobility and Local Transportation in 2011. Unfortunately, this is rather an exception than common attitude in the Ústecký Region.

11.4. Opportunities

Ústecký Region is focusing on the environmental behavior of its citizens and companies as well. The lignite mining history has led to damaging the nature of the area. This makes the environmental emphasis even stronger. Since the inhabitants are aware of the environmental situation in the region, they are more willing to do their best in making the situation better. The mobility topic is though unexplored, so there are still reserves, which leaves the room for many things to be done. As mentioned above, the infrastructural side of the mobility is still more promoted than the soft measures which are very effective as well. The introduction of these methods can have a bigger impact on the municipalities' staff, inhabitants, stakeholders and also public spaces itself.

This environmental focus also leads to huge support of electromobility. For example, the municipality of Litoměřice takes no parking fees from e-cars no matter which parking zone they park in. The new biketower will be equipped with a charging station for e-bikes. The municipality also has e-car for its employees for business trips purposes. The town also held the first Festival of Electromobility last year.

The potential users of workplace mobility plans are institutions which are trying to systematically develop their mobility planning. These institutions can be in a public, private or nonprofit sector such as public administration, companies, entrepreneurs, NGOs, citizens, organizations, associations, clubs etc. Other benefactors are those, who are concerned by the transport in the towns or cities - pedestrians, cyclists, public transportation users and carriers, freight transport and also serenity transport.



There are many employers in the region, which can be considered possible users and clients of workplace mobility plans. In Ústecký Region it can be for example these: Masarykova hospital in Ústí nad Labem, Association for Chemical and Metallurgical Production a. s., Czech railways a. s., Black and Decker s. r. o., Metal Ústí n.L. a. s., University of J. E. Purkyně, Setuza a. s. or Statutory city of Ústí nad Labem.

In the district of Litoměřice there are following employers who are also potential users of workplace mobility plans: Town Hospital (Městská nemocnice), Chládek a Tintěra a. s., Hennlich s. r. o., Lovochemie, Johnson controls automobile parts, k.s, Lovochemie a.s., CZ, TRCZ, s.r.o. a TRIS Czech, s.r.o., dále Glanzstoff Bohemia, s.r.o., Opavia -LU, Mondi Bags Štětí a. s., Schoeller Křešice s. r. o. or CS-BETON s. r. o.

The municipality of Litoměřice claims, that there are many opportunities and benefits which can be achieved by workplace mobility plans. The system of capacity improvement could be set. We hope for a change of travel behavior of administrative staff especially during their daily commuting to work. These changes could be taken as role model examples by public and this could lead to a change of the mindset of the inhabitants afterwards. Another opportunity lies in a change of the modal split and promotion of those modes of transportation which are more environmentally friendly. This change can lower the level of CO2 emissions and other negative effects of the traffic.

Municipality of Litoměřice also believes that the change in the travel behavior of their employees and better understanding of mobility and transportation processes could lead to the improvement in planning of the sustainable mobility in the whole area of the town; to provide superior transportation services and help the town to orient towards the smarter travel choices (e. g. traffic which is not oriented only towards the car usage, lowering the need for movement etc.).

The workplace mobility plan can be used also as an inspiration for (or be accepted as a part of) the SUMP of the whole municipality of Litoměřice. The main advantage in the municipality of Litoměřice is the setting the mobility vision. This vision will form the next steps and processes how to modify, change or rethink defined areas and individual goals for the municipality of Litoměřice itself.

12. City and urban hinterland of Leipzig

12.1. Problems

As shown in D.T.1.1.1 - 1.3.1 the processes of planning are highly organized in legal frames as also by using informal instruments to involve stakeholders into urban planning processes. City of Leipzig has already installed urban planning processes and concepts which include involving strategies (e.g. INSEK, STEP traffic and urban public space) for the whole city area as also for certain districts by using an integrated approach which works interdisciplinary.

The defined aims are operationalized by different single measures which are or will be implemented step by step year by year as there are available finances and as a consensus is reached between the involved departments and stakeholders. Because of the integrated approach it is not anymore a problem to define aims but quite an obstacle to weigh all different demands (technical, finances, traffic, environment, social) and involvement of the public [1].

Nevertheless, there are some problems which hinder the development basically. Available **finances** as first aspect which has to be mentioned here. Of course there exist a lot of possibilities by subsidy sources for several investment measures for instance. But for each subsidy project the city has to bring by proportionately own capital resources. This is often a reason why measures are not possible to implement or just slowly. Another aspect in the field of finances is the fact of missing financial resources especially for attendant or soft measures as e.g. communication campaigns or software installations.



Another problem which has a big impact on the efficiency of implementation of planning measures is the aspect of **human resources**. Although the administration of Leipzig counts more than 7.000 employees some sections of single departments are overloaded with tasks, especially planning departments have several concepts to advance and realize measures. Additionally there are problems about responsibilities.

Last but not least there is still the **culture of using the own car** for inner city trips or commuting a big topic although the trend is slightly regressive and so many other approaches as car and bike sharing or offers in tariff or infrastructure are existing. Even within the administration of Leipzig differences exist concerning the use of eco-friendly transport means for business trips.

12.2. Needs

Leipzig is one of the most growing cities in Germany currently. Such intense increasing number of inhabitants (average net migration gain within 2011-2015 about 13.000 people, [2]) has a crucial impact on the development of a city in all fields, also in traffic planning and mobility behavior. Nevertheless the aims for spatial planning are fixed in the development plan of traffic and urban public space. The aims of the development plan of traffic are as follows:

- dealing with the grow of the city in a way that all mobility needs should be addressed without increasing traffic, noise and air pollution, and allowing simple change of transport mode as standard and including the principle of “using instead of owning”;
- follow the trend of decreasing car use towards environmentally friendly transport;
- increasing proportion in modal split from MIT to environmentally friendly transport from ratio 60:40 to 70:30 in the year 2025;
- decrease of CO₂ emission from 1,48 t per inhabitant in 2008 to 0,85 t per inhabitant in 2025;
- realization of actions to influence mobility behavior and choice of transport mode through operational mobility concepts, marketing for mobility and mobility management [1].

The gathered strategies and measures are mostly approaches which try to influence more by an extrinsic way due to infrastructural offers i.e. Park&Ride system.

Because of the multiple aspects which influence the choice of transportation mean for single trips there should be established also an intrinsic way to influence mobility behaviour. Next to hard facts e.g. costs of transport often soft and personal reasons (e.g. feeling of convenience with a certain mean of transport) are important for a certain choice. So the measures should reach a re-think about mobility choices and lower barriers to simplify mobility choices.

This is already recognized by the City of Leipzig and hence named as one aim in the development plan for traffic and urban public space and underlines the need of such workplace mobility plan for local administration as pilot stakeholder respectively the 1st role model. As follower we see the Central Germany Metropolitan Region and its partner companies and institutions (47 members) who should prepare such plan for their employees. In a third level all the big employers in Leipzig and its connected region (commuting relations) could adapt this as imitators.

The cycle of renew or evaluation should be oriented on the SrV-survey (System of representative survey of traffic aspects) which is done each 5 years. The term should be realistic because of the fact that such evaluation is a lot of work. To hold this effort low the workspace mobility plans should include easy indicators to monitor.



12.3. Knowledge gaps

- **Data:**

There are many statistics about the city, also about traffic by the SrV survey each 5 years. Nevertheless there is a lack of certain data which inform about individual traffic patterns of the employees of single departments in the administration of City of Leipzig or of big employers. Additionally there are no data known about the operating grade e.g. of the float of the single means of transport for business trips of the employees of the administration.

- **Equipment:**

As mentioned above there is already a float of several means of transport (e.g. bikes, e-cars) for inner city business trips. To improve to percentage of using eco-friendly means of transport it is still to less. Additionally special kinds of bikes as e-bikes for longer distances or cargo bikes to transport e.g. material for campaigns are not enough for that big number of employees of the administration. Next to that it is to mention that controlling of the float is currently on the level of each department and not holistically for the whole administration. Hence there is missing a holistic float management system for.

12.4. Opportunities

Potential user for the workplace mobility plans are at first the administration of the City of Leipzig (especially department of traffic planning) and road construction and the partners of Central German Metropolitan Region as second. Afterwards the experiences can be presented to other big employer in and around Leipzig. These are e.g. Leipziger Versorgungs- und Verkehrsgesellschaft (about 4.300 employees), Mittledeutscher Rundfunk (about 2000 employees), PC-Ware Information Technologies AG- Leipzig (about 1600 employees), Porsche Leipzig GmbH (about 420 employees), data from 2007 [3].

Expected benefits of such workplace mobility plans are to support the hard measures by soft measures and improve the target achievement of the development plan of traffic and urban public space.

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