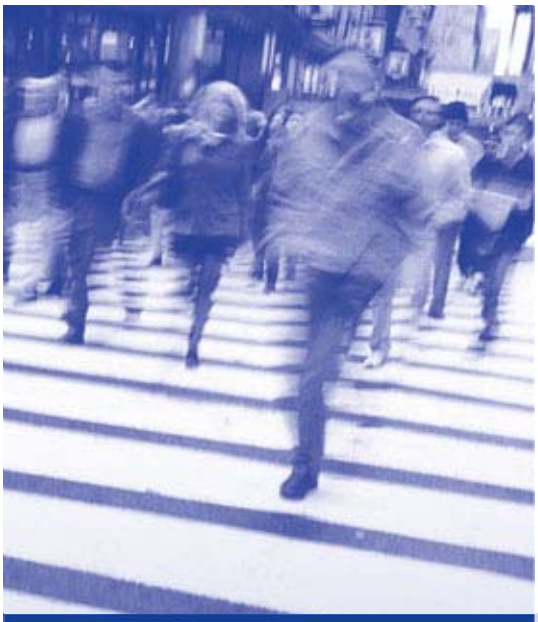

CIVITAS
Cleaner and better transport in cities

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Report on Policy Issues

based on the experiences of CIVITAS II

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THE CIVITAS INITIATIVE
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CONTENTS

1 Executive summary

The CIVITAS Initiative launched by the European Commission addresses ambitious cities that are introducing sustainable urban transport policy strategies. The aim is to achieve a significant change in the modal split towards sustainable transport modes thereby providing cleaner and better transport in cities. CIVITAS-GUARD is a Specific Support Action for CIVITAS II (2005 – 2009) designed to assist the European Commission in the monitoring of the CIVITAS II projects, the evaluation, the development of policy recommendations and the dissemination of the results at the European level.

One of the key elements of the CIVITAS Initiative is the exchange of experiences and results of the measures implemented. Useful and relevant policy recommendations should be developed based on the assessments made during the implementation process. The objective of the policy recommendations is to achieve a multiplier effect stimulating the implementation of sustainable transport in European cities. Transferability of successful measures has to give full consideration of the specific framework conditions of each city.

Based on the information collected by
(1) a data base tool during the implementation of measures within CIVITAS II,
(2) a survey among CIVITAS network members and
(3) by personal contacts with experts and stakeholders
a series of key messages relevant to policy makers in the areas of transport have been formulated.

Various measure groups have been identified forming the basis for the production of 12 Policy Advice Notes in different languages summarising the main elements of successful measure implementation. These leaflets will be distributed among members of the CIVITAS network as well as other European cities and will be available as downloads on the CIVITAS homepage (www.civitas.eu).

This deliverable provides an overview of the key elements of successful implementation of sustainable transport measures and is structured as follows:

- Overview of the current transport problems of European urban areas
- The role of sustainable transport measures to solve the transport problems in European urban areas
- Key elements of a successful implementation of sustainable transport measures and recommendations for politicians and stakeholders
- Recommendations for an EU-wide support of sustainable transport developments in European urban areas

Almost the same transport problems are identified in most of the European cities analysed. Congestion, pollution as well as road safety are identified as one of the main issues to be tackled in the near future. Economic growth fosters the trend towards a car-oriented society as can be seen from the increases in car ownership rates in the European Union, particularly in former Communist countries. The shapes of cities have been changed to sparse settlements on the outskirts and shopping malls along arterial roads, favouring private car use.

However, sustainable transport measures are considered to be a promising solution to convert this trend to more sustainable mobility. Although a wide range of different transport measures has been analysed within CIVITAS II, some common key elements have been identified:

- Ensuring financial means
- Strong political support
- Participation of relevant stakeholders at an early stage of the projects
- Information on and promotion of the measures and their benefits
- Continuity and long-term perspectives of sustainable transport plans

2 Abbreviations

NMS … New member states of the European Union (in this context: former communist countries which joined the European Union 2004 or later)

- Czech Republic (member since 2004)
- Estonia (member since 2004)
- Latvia (member since 2004)
- Lithuania (member since 2004)
- Hungary (member since 2004)
- Poland (member since 2004)
- Slovenia (member since 2004)
- Slovak Republic (member since 2004)
- Bulgaria (member since 2007)
- Rumania (member since 2007)

EU-15 … Member states of the European Union which joined the European Union before 2004

- Belgium (member since 1958)
- Germany (member since 1958)
- France (member since 1958)
- Italy (member since 1958)
- Luxembourg (member since 1958)
- The Netherlands (member since 1958)
- Denmark (member since 1973)
- United Kingdom (member since 1973)
- Ireland (member since 1973)
- Greece (member since 1981)
- Portugal (member since 1986)
- Spain (member since 1986)
- Austria (member since 1995)
- Finland (member since 1995)
- Sweden (member since 1995)

Remark. Although Cyprus and Malta joined the European Union in 2004, these countries are not counted as NMS in this context due to their political history which is similar to the EU-15 countries.

EU-27 … all member states of the European Union (in 2009)

PT … Public transport

EC … European Commission

EU … European Union

3 Data sources of this report

Statistics from Eurostat

In order to understand and to highlight the current transport situation and the problems caused by traffic in countries as well as cities of the European Union, current data of Eurostat have been collected and included in this report where appropriate. Eurostat is the Statistical Office of the European Communities based in Luxembourg with the task to provide the European Union with statistics at a European level that allow comparisons between countries and regions.

(http://epp.eurostat.ec.europa.eu)

CIVITAS-GUARD database

The GUARD project was a horizontal project of CIVITAS II charged with the evaluation and dissemination of measures implemented in CIVITAS II. In order to collect factors relevant for a successful implementation, a database was established; people responsible for the implementation were able to feed it with information about the objectives of activities, about strategies to overcome barriers, driving forces, and about individual phases of the implementation. This database was used to develop overall recommendations on key implementation steps, drawing particular attention to the political dimension.

Survey among CIVITAS member cities

In order to specify in more detail the real transport problems and the negative impacts of traffic in those cities which are part of the CIVITAS network, the Institute for Transport Studies of the University of Natural Resources and Applied Life Sciences Vienna launched a survey. This survey was meant to provide information about the significance of sustainable urban transport measures of the different urban areas for the solution of transport problems. Completed questionnaires have been received from 70 persons representing cities of 22 different countries, 1/3 of these cities are located in the New EU Member States (NMS).

Workshop on policy issues

On 7th July 2009 a workshop was organised with experts from 11 different European cities covering different regions and characteristics of the European Union in order to discuss the following topics:

- Main transport problems in European cities
- Experiences with sustainable transport measures
- Expectations of local politicians towards the European Commission.

Point of view and experience of an East European transport expert

Mr. Marcin Wolek[1] contributed to this report in his role as expert for transport development, particularly in former communist countries.

[1] Mr. Wolek is currently working as a tutor in the Department of Transportation Markets at the University of Gdansk (Ph. D. in 2005). Since 1998 he is a councillor of Gdynia city, taking practical actions especially in the area of mobility. Between 2005 and 2008 he was the chairman of the Commission on Transportation of the Union of Baltic Cities. Since 2009 he is also the plenipotentiary of the president of Gdynia, responsible for the issue "cycling" in the city. This involves the development of a suitable infrastructure and the promotion of cycling as a means of transport. He is also a member of the Policy Advisory Board of the LINK project.

4 The CIVITAS Initiative

Being aware that the transport sector is to blame for negative impacts on the environment, in 2000 the European Commission launched the CIVITAS initiative within the 5th EU Framework Research Programme. The CIVITAS initiative has the objective of initiating a decisive breakthrough in sustainable urban transport by supporting and evaluating the implementation of ambitious, integrated and sustainable urban transport strategies. Cities should be supported to achieve a more sustainable, clean and energy-efficient urban transport system by implementing, demonstrating and evaluating an ambitious integrated mix of technology and policy-based measures. Furthermore, a critical mass for technical solutions and innovations should be established. Since then, several CIVITAS programmes have been launched by the European Commission (Figure 1):

- CIVITAS I (2002-2006): 19 cities clustered in 4 demonstration projects were co-financed by the European Commission within the 5th EU Framework Research Programme.
- CIVITAS II (2005 – 2009) continued the approach within the 6th EU Framework Research Programme and was recently completed. 17 cities in 4 demonstration projects took part.
- CIVITAS plus (2009 – 2013) is the latest CIVITAS programme and supports 25 cities implementing sustainable transport measures in 5 demonstration projects within the 7th EU Framework Research Programme

In total, 51 cities[1] benefited or are currently benefiting from the CIVITAS programmes. About 370 measures have been co-financed (CIVITAS I & II) so far and 318 additional measure are currently being co-financed (CIVITAS plus) by the EC resulting in a contribution of about 180 million €. The overall budget (including national funds) available for the implementation is almost 3 times higher.

Moreover, the CIVITAS Forum Network provides a platform for the exchange of ideas and experiences for all the demonstration cities co-funded by the EC within the CIVITAS initiative as well as other cities that are committed to introducing ambitious and clean urban transport strategies. Every European city can be a member of the CIVITAS Forum Network which currently incorporates about 170 cities (at the end of 2009). Through workshops and training events, cities have the opportunity to inspire and support an active exchange of know-how, ideas, and experiences to facilitate change in the field of transport.

In order to achieve a common understanding of sustainable transport measures, eight categories of measures have been defined as the basic building blocks of an integrated strategy within the CIVITAS initiative. Each participating city chooses an appropriate set of measures and combines them to create integrated solutions for clean urban transport in cities:

- *Clean vehicles & fuels* for passenger or freight transport (including the necessary infrastructure)
- *Logistics and goods distribution:* new concepts for the distribution of goods by means of innovative freight logistics services and the use of clean and energy-efficient vehicle fleets
- *Alternative car use:* measures like car pooling and car sharing
- *Access and parking management:* demand management strategies for inner city areas and other sensitive zones (green zones)
- *Cycling & walking:* promotion, new services like city bikes and the integration/extension of the pedestrian and cycle route network
- *Traffic control systems:* use of innovative transport telematics systems for traffic management and traveller support, including solutions based upon satellite applications
- *Public transport:* measures enabling improved information for passengers, better reliability as well as higher speedsfor the public transport

[1] Some of these cities participated in the different CIVITAS programmes launched by the EC twice.

- *Mobility management*: measures influencing travel behaviour and modal choice through mobility management plans, marketing, communication, education, and information campaigns

Figure 1: CIVITAS cities co-financed by the EC since 2002

5 Basic conditions and impacts of the traffic situation in European urban areas

5.1 Settlement structure of European cities

A settlement can be defined as an urban area if it exceeds a threshold number of inhabitants. Moreover, the existence of a certain infrastructure or a fixed density of buildings can indicate such an area. Depending on the definition of urban areas, the percentage share of the population living in European cities can vary. Table 1 gives an overview of the distribution of the European population according to the size of the city they live in [European Union 1998].

Table 1: Distribution of European population living in urban areas

Number of inhabitants	% of the population
> 250.000	20%
50.000 – 250.000	20%
10.000 – 50.000	40%

Thus, if one uses 'more than 10.000 inhabitants' as definition of an urban area, almost 80% of the European population live in such areas. More recent sources confirm this data, stating that today the degree of urbanisation exceeds 80 % and seems to stabilise between 80 and 90 %. Although the population growth in these countries is generally decreasing, cities are still slightly growing, while the rural population is rapidly declining [Antrop 2003]. By 2025 between 80 and 85 % of the population in Europe will be urbanized [Paddison 2001].Not only the number of inhabitants but also the shapes of cities have changed dramatically over the past 50 years. Quarters with high population density and compact cities have been replaced by lower density housing with more than a doubling of the space used per inhabitant [Uhel 2008]. Moreover, due to the economic development the shapes of the cities have changed from a compact city architecture to sparse settlements mainly at the outskirts and big shopping malls on greenfield areas along arterial roads resulting in a more car-oriented society [Altrock 2006].

However, the settlement patterns in the European states vary considerably. There are some truly cosmopolitan cities in Western Europe, with millions of inhabitants, such as Paris and London. In the New Member States (NMS), only Budapest, Warsaw, Prague, Bucarest and Sofia have more than a million inhabitants [Altrock 2006], however the biggest urban area is the conurbation of Upper Silesia in Poland, a concentration of almost 3.5 million inhabitants.

The transition in Eastern Europe from a communist society to a market economy remains the dominant theme, as consumption as well as production patterns have been fundamentally rearranged. However, because of a different approach to spatial planning in the NMS, cities were subordinated to ideology for a long time. Fundamental differences between east and west, which should be taken into account when planning solutions based on the experience of Western-European cities, are presented in Table 2.

Table 2: Fundamental differences between cities of Western and Central or Eastern Europe in the context of planning mobility measures

Characteristics of the city	Development of the characteristics in Western-European cities	Development characteristics in Central & Eastern European cities
Spatial structure	Well developed	In the middle of transformation, suburbanization with a parallel focus on revitalisation of central areas
Spatial change dynamics	Low or medium	Medium or high
Predominant development areas	Central (revitalisation)	Peripheral
Linear transport infrastructure	Well developed	Under construction, the development does not yet meet rapidly growing needs
Transport node infrastructure	Occurrence of bottlenecks, integration nodes	None or considerably underdeveloped
Degree of urban transport subsystem integration	Medium or high	None or low
Prevailing measures	Soft	Hard (requiring investment)

Source: M. Wolek (2009) Sustainable Urban Mobility: Integrated Perspective. "Innovative Perspective of Transport and Logistics". Ed. by J. Burnewicz. University of Gdansk Press, Gdansk.

Two opposing processes are currently taking place in many cities of the NMS. The first is the continuing suburbanisation resulting from extensive spatial development in which the number of suburban dwellers increases at the cost of areas in the city centre. The process has become known as internal deconcentration and it relies on the continuation of a number of essential contacts with the core city and its centre [Malisz 1966]. The traditional process of residential suburbanisation is accompanied by a retail suburbanisation, i.e. large-surface retail outlets are created at the peripheries of cities or in neighbouring administrative districts of a lower level of urban development. A growing demand for mobility of city "users" is the response to the process of "diluting" urban settlement structures and to inefficient spatial planning solutions. The use of private cars is the necessary factor which intensifies this process. As a result, urban transport intensity increases not only due to the growing area and population, but also due to substantial changes in the spatial structure. One of the effects of this process is the growing distance between traffic origins and destinations [Rozkwitalska 2002].

The phase of suburbanisation into which Western European cities entered after World War II proved especially harmful to urban transport networks. As an example one can mention the removal of tramways and trolleybuses from the streets of British cities - a direct effect of suburbanisation [Hibbs

2003]. Suddenly fixed costs were spread over a potentially smaller number of users and a larger area. This led to the overloading of the existing transport infrastructure, a deteriorating accessibility of city centres and decreasing advantages of suburban living. Today, attempts are made in many European cities to reinstate the proper role of environment-friendly urban transport.

The second process is connected with the phase of re-urbanisation. Traffic congestion which has a definite economic value ("time lost in traffic jams") is the reason why a growing number of city dwellers choose to live closer to their place of work. Structural economic changes make the location of business activities less of a disturbance than in the industrial era and do not cause additional costs for adjacent residential neighbourhoods. Therefore, attempts are under way to end the problems brought to city centres by suburbanisation and de-urbanisation. A stronger concentration of residential and commercial services takes place, leading to overburdened transport systems and environmental pressure on city centres. Therefore, strategies to revitalise city centres should prioritise measures aimed at supporting a sustainable mobility.

5.2 Interpretation of the main mobility data in Europe

The car ownership rate is often seen as an indicator of a prosperous economy and wealth in general. Figure 2 shows the development of the car ownership rate in some European Member States and illustrates that on average this rate is still significantly lower in New Member States than in Western Europe.

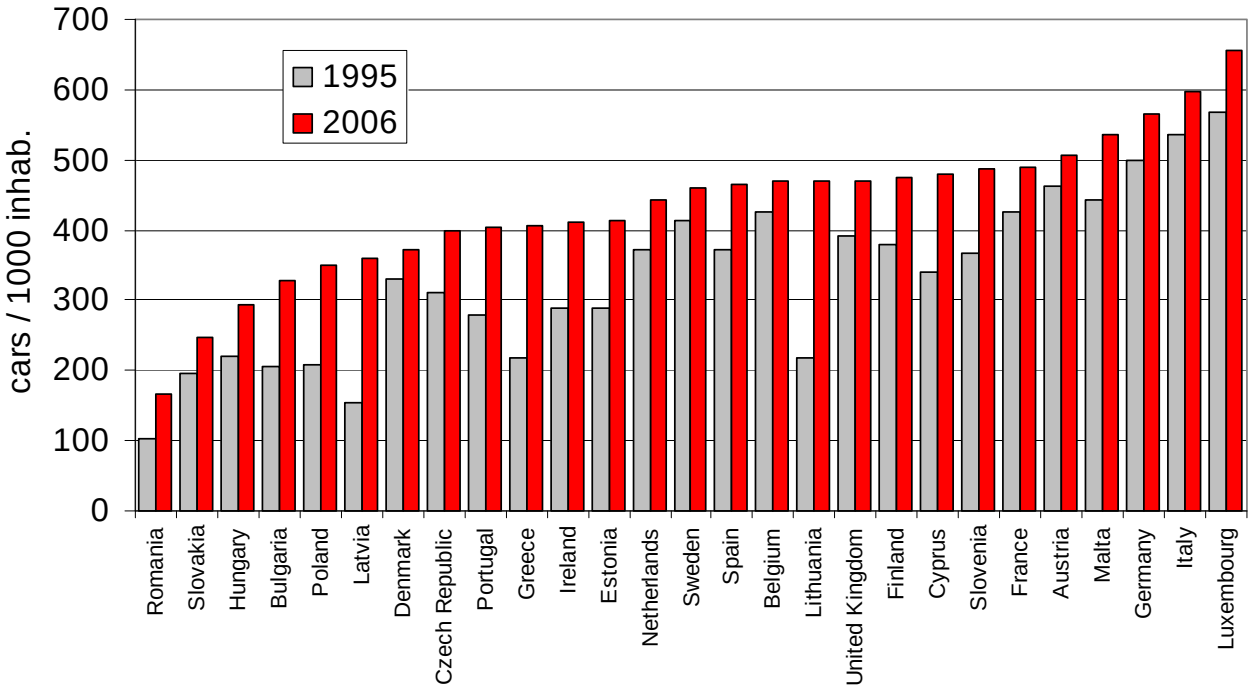

Figure 2: Comparison of the car ownership rate and its development in the EU-27 states [Eurostat 2009 (1)]

However, after 1989 car ownership exploded in the NMS whereas the use of public transport decreased considerably. Particularly the car ownership rate in more prosperous cities like Bratislava or Ljubljana is pushing this development, since in these cities the car ownership rate has nearly doubled from 1991 to 2004 (Figure 3).

A high car ownership rate is mainly a result of the high quality of life in European countries and cities. Especially in the NMS, people are assumed to seek the same quality of life as people in the EU-15 states which is the reason for the rapid increase of the car ownership rate and the excessive use of cars in the NMS in the last years. In addition, cars often symbolise freedom and success. This leads to an unsustainable mobility behaviour of many citizens which has drastic consequences for public transport and its cost-effectiveness. A low share of public transport in the overall transport system causes a decrease in its revenues and an increase of its costs (e.g., because disadvantaged persons have to be supported financially by low-price tickets).

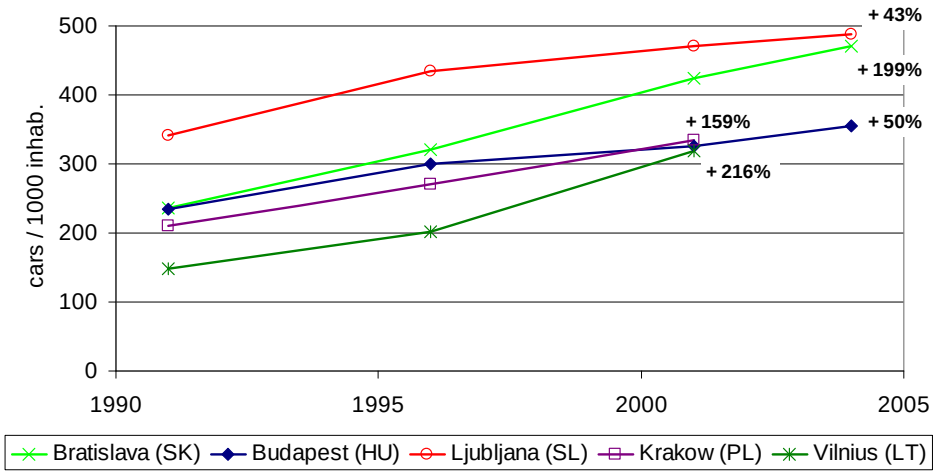

Figure 3 :Development of the car ownership rate in some cities in former Eastern bloc countries [Eurostat 2009 (1) and Mestna Občina Ljubljana 2007]

Most of the cities in Eastern and Central Europe had traditionally highly developed and effective public transport systems but since these countries focus on individual transport modes, the infrastructure of the public transport system and the equipment are in a poor condition [MVV 2007]. Those systems have not been properly maintained and developed during the last phase of the socialist era. In Poland, funding for the development of public transport in the nine biggest metropolitan areas are secured in the Operational Programme "Infrastructure and Environment" (2014 million € of EU funds which is approx. 7.2% of the total amount of this programme) [Ministry of Regional Development, Poland 2007]. The Czech Transport Operational Programme supported the improvement of the public transport system in Prague (underground and structures for the management of road systems) with an EU allocation of 330 million € (5.7% of the total amount available for this programme). In Hungary, approx. 25% of the allocation of the Operational Programme "Transport" is provided to improve urban and suburban public transport.

Nevertheless, in the east the proportion of passengers using public transport is still higher than in Western European cities [UITP 2004]. In summary it can be said that the increase in the total number of inhabitants combined with an increase of car ownership per 1.000 inhabitants and the connected changes in the modal split, the changing settlement structures as well as the changes in the ways of life of citizens (consumption patterns) and the economic development are the main reasons for the serious problems caused by traffic in many European cities.

There is a difference in modal split between cities of OMS and NMS. Cities of NMS are characterised by a higher share of public transport, a small share of cycling and dynamic growth of individual motorisation. The modal split of OMS cities features a higher share of cycling, a high and stabile share of car and a small (or medium) share of public transport.

All comparisons should be made with the awareness of different methodologies and definitions used (i.e. definition of walking trip with regard to its travel time and distance). That is why in many cases trips made only by mechanised modes of transport are taken into account (car, public transport and

bike). The table below presents the modal split of chosen cities which confirms the considerations above.

Table 3 Modal split data of various European cities

city	country	year	walk	bike	car	PT	source
Warsaw *	Poland	2005	21,0%	0,9%	23,4%	54,2%	Warsaw traffic measurement 2005
Poznan **	Poland	2000	18,4%	2,0%	45,7%	33,8%	complex traffic measurement 2000
Brno	Czech Republic	2003	34,0%	2,5%	25,0%	39,0%	Spicycles project database, january 2010
Prague	Czech Republic	2007	23,0%	1,0%	33,0%	43,0%	Rocenka Dopravy Yearbook of Transport), Praha 2007
Bucarest	Romania	2008	22,0%	1,0%	23,0%	54,0%	Bucarest Transport Master Plan, Spicycles project database confirmed data from BTMP
Szeged	Hungary		22,0%	9,0%	22,0%	47,0%	directly from deputy mayor
Budapeszt ***	Hungary	2004	22,8%	1,3%	26,6%	49,3% [1)]	Household survey in 2004
Odense	Denmark	2008	25,0%	29,0%	40,0%	6,0%	Spicycles project database, january 2010
Copenhagen	Denmark	2006	5,0%	35,0%	27,0%	33,0%	H. Sjoholt - presentation in Turku on seminar "Moving Sustainably" (BUSTRIP final conference) 2007
Gothenburg*	Sweden	2009	14,0%	10,0%	47,0%	28,0%	information provided by T&PTA Gothenburg, 2009
Berlin	Germany	2008	28,6%	12,6%	32,3%	26,5% [2)]	Mobilität in Städten – SrV 2008
Schwerin	Germany	2008	29,9%	9,3%	44,1%	16,7%	Mobilität in Städten – SrV 2008
Leipzig	Germany	2008	27,3%	14,4%	39,6%	18,8%	Mobilität in Städten – SrV 2008
Düsseldorf	Germany	2008	27,1%	11,1%	39,5%	22,3%	Mobilität in Städten – SrV 2008
Bremen	Germany	2008	20,7%	24,8%	40,4%	14,4%	Mobilität in Städten – SrV 2008
Wiener-Neustadt	Austria	2003	20,0%	12,0%	55,0%	13,0%	Mobilität mit Qualität, Salzburger Landesmobilitätskonzept 2006-2015, Kurzfassung. Land Salzburg
Salzburg (stadt)	Austria	2004	22,0%	16,0%	46,0%	16,0%	Mobilität mit Qualität, Salzburger Landesmobilitätskonzept 2006-2015, Kurzfassung. Land Salzburg
St. Pölten (stadt)	Austria	2003	18,0%	8,0%	58,0%	16,0%	Mobilität mit Qualität, Salzburger Landesmobilitätskonzept 2006-2015, Kurzfassung. Land Salzburg
Krems a.d. Donau	Austria	2003	23,0%	7,0%	61,0%	9,0%	Mobilität mit Qualität, Salzburger Landesmobilitätskonzept 2006-2015, Kurzfassung. Land Salzburg
* working day						[1)] PT alone: 48,2% + combined or company collector bus 1,15%	
** own recalculations						[2)] including also long distance public transport	
*** inner trips							

The data presented are consistent with the motorisation status observed in NMS and OMS. In 2007 54% of Romanian households (38% in Hungary, 35% in Slovakia, 32% in Poland, 22% in Czech Republic) have not possessed a private car (EU27 average was 19%) [European Commission 2007 (2), p.8].

The individual motorised mode of transport (car, motorbike) was dominant for average 53% of EU27 households [European Commission 2007 (2), p.11]. All of the NMS (apart of Slovenia), Sweden, Greece, Spain and Netherlands were below that value.

5.3 Problems and negative impacts of motorised car traffic

Based on the results of the survey among CIVITAS member cities and of the workshop with policy experts, problems with congestion, pollution and a low quality of public transport have been identified as the most important challenges to be tackled in European urban areas (see Figure 4). The dimensions of the problems vary within the different countries. In particular, differences can be observed between

cities of NMS and EU-15 states, due to the different historical and political development within the last years.

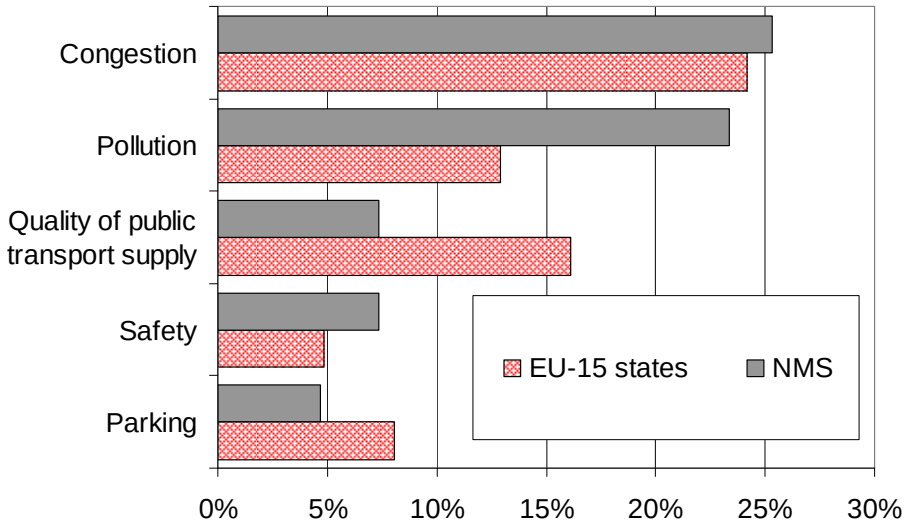

Figure 4: Main urban transport problems identified in a survey among CIVITAS member cities

(1) Congestion caused by too many vehicles for urban areas

Congestion is seen as the biggest problem in cities all over Europe, caused by an excessive car use due to a high percentage of car availability (car ownership rate), limited space and an inadequate infrastructure available for all transport modes. Many cities in Europe face the dilemma between economic prosperity and traffic growth but limited resources of (road) space. At first glance there seems to be a vicious circle: more traffic than systems can cope with might lead to a congested road network which might hamper economic growth, lead to an increase of business costs, environmental damage and a reduction of the quality of life.

The problem is aggravated by the fact that especially during an economic downturn as we are faced with at the moment, the car industry is heavily supported by governments aiming at the implementation of new and more sustainable technologies. Such measures are important for the economy of a country as a whole, but they do not take local objectives and policies into account which try to avoid increasing the car ownership rate and the traffic volume.

Traffic congestion causes external costs because drivers and goods are delayed, pollution levels rise and the risk of accidents increases. Estimates of congestion costs have been provided in various studies, e.g. it was calculated that about 100 billion € caused by pollution and delays due to congestion are lost every year for the European economy - this is about 1% of the GDP in Europe [Commission of the European Communities, 2007]. Considering that the New Member states of the EC are on their way to a similar development as in Western European countries in the past, one can image the negative future impact on the economy.

(2) Air pollution and green house gas emissions caused by road transport

According to the results of the survey among CIVITAS member cities, pollution caused by transport is more often seen as a serious problem in Eastern and Central European cities than in Western European cities. This might be due to the fact that technically less advanced car engines worsen the air quality in these cities.

Air pollution in European cities affects the quality of life as well as the health of the citizens. The CO_2 and the ozone pollution as well as the content of particulate matter in the air are mainly caused by traffic. Between 1996 and 2005, 13 % to 60 % of the European citizens were exposed to ozone concentrations which exceeded the target value set by the EU [EEA 2008 (1)]. Compared to other sectors, traffic is responsible for almost 1/3 of the CO_2 emissions (Figure 5).

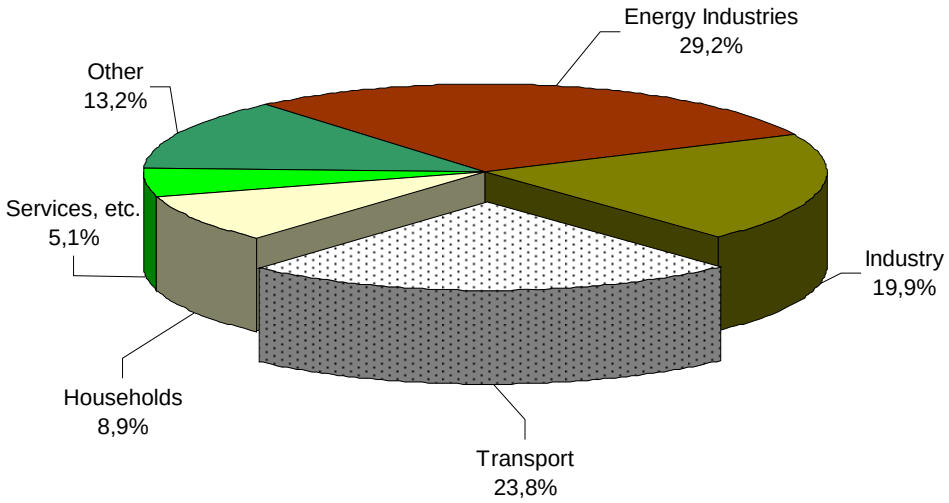

Figure 5: CO_2 emissions by sectors in 2006, EU27 [EEA 2]

Moreover, since 1990 the CO_2 emissions caused by traffic have increased by about 1/3 in the 27 EU countries considered in figure 5, whereas all other CO_2 emitting sectors show decreasing emission values. One might expect that the increase of CO_2 emissions is particularly high in NMS due to the growing car-availability for the population and the increase of mileage driven, but the statistics show another picture: surprisingly, Bulgaria, Estonia and Lithuania achieved a reduction of 21 to 25 % from 1990 to 2006. However, it can be assumed that this is more an effect of the replacement of the private old car-fleet by cars equipped with higher technical engine standards which results in less pollution, than of a reduction of the mileage driven by car. In all other countries, the CO_2 emissions caused by traffic are increasing.

The concentration of particulate matter in the air (PM10) frequently exceeded the EU limit in the time span from 1997 to 2005 [EEA 2008 (1)]. About 16 % to 45 % of the European urban population were potentially exposed to concentrations of particulate matter which endanger human health (Figure 6).

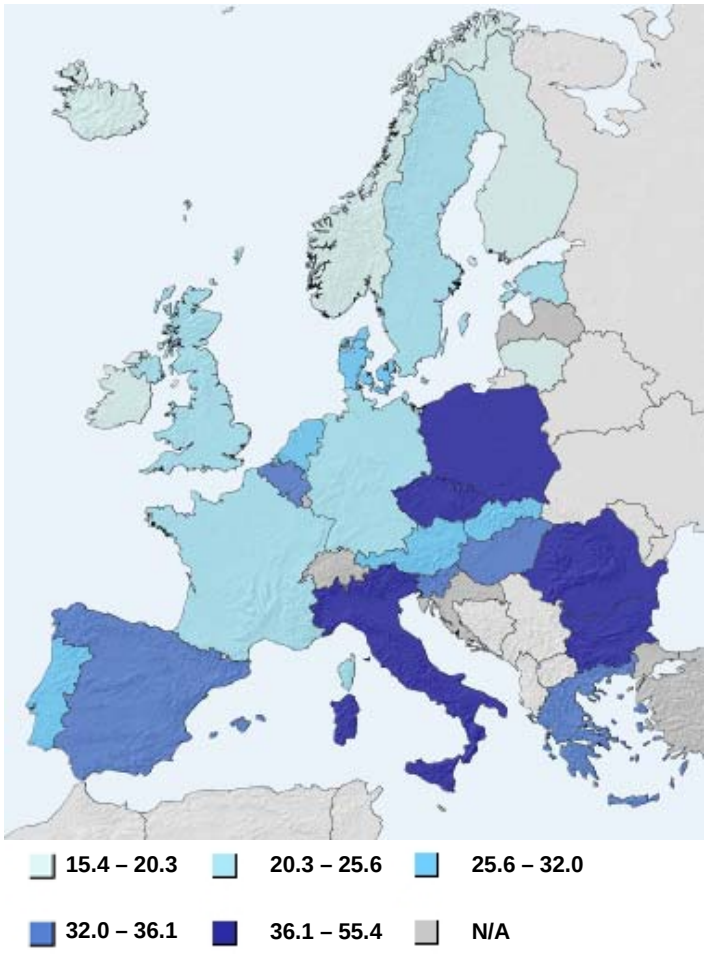

Figure 6: Exposure of the urban population to air pollution by particulate matter (PM10) in 2006 (annual mean of PM10 in µg/m³ weighted according to the population), [Eurostat 2009 (2)]

(3) The quality of public transport supply

The inadequate quality of public transport is a problem which was predominantly mentioned in the cities of NMS, where this mode was the main means of transport for many years. However, the quality of public transport is mainly poor because nowadays it is expensive to develop as an adequate alternative to rapidly developing individual motorised traffic. This problem is particularly pronounced as far as very popular electric-traction modes of public transport like trolleys and trams are concerned (e.g. over 35 % of the tram rolling stock in Poland is more than 25 years old). Since private motorised traffic was no competitor to public transport in the past, cities in these countries did not see the need to invest in quality and comfort of public transport.

After the fall of the Iron Curtain the situation changed: more people had the chance to own a car and public transport less attractive to use. The public transport operators could not react as fast as the car ownership rate rose and so they lost a large number of their customers. Due to a lack of funds, they could only slowly adapt their services to user needs. Nevertheless, in many Eastern European cities the share of public transport is high and the public transport networks are serviceable.

Frequently public transport is only supported by investments in big infrastructure projects which improve the image of a city, but the development of area-wide public transport networks has been neglected. This results in a low public transport supply especially in the suburbs of cities, which is also a consequence of urban sprawl. In many cities (more often in NMS) the lack of integration of transport planning in the development plan of the whole city was mentioned as a problem.

(4) Road safety

In 2006 almost 43.000 people were killed on the roads in the 27 countries of the European Union [Eurostat 2009 (3)]. However, the number of deaths per million inhabitants from road traffic injuries is up to 5 times higher in the countries with the highest death rates compared to those with the lowest (Figure 7).

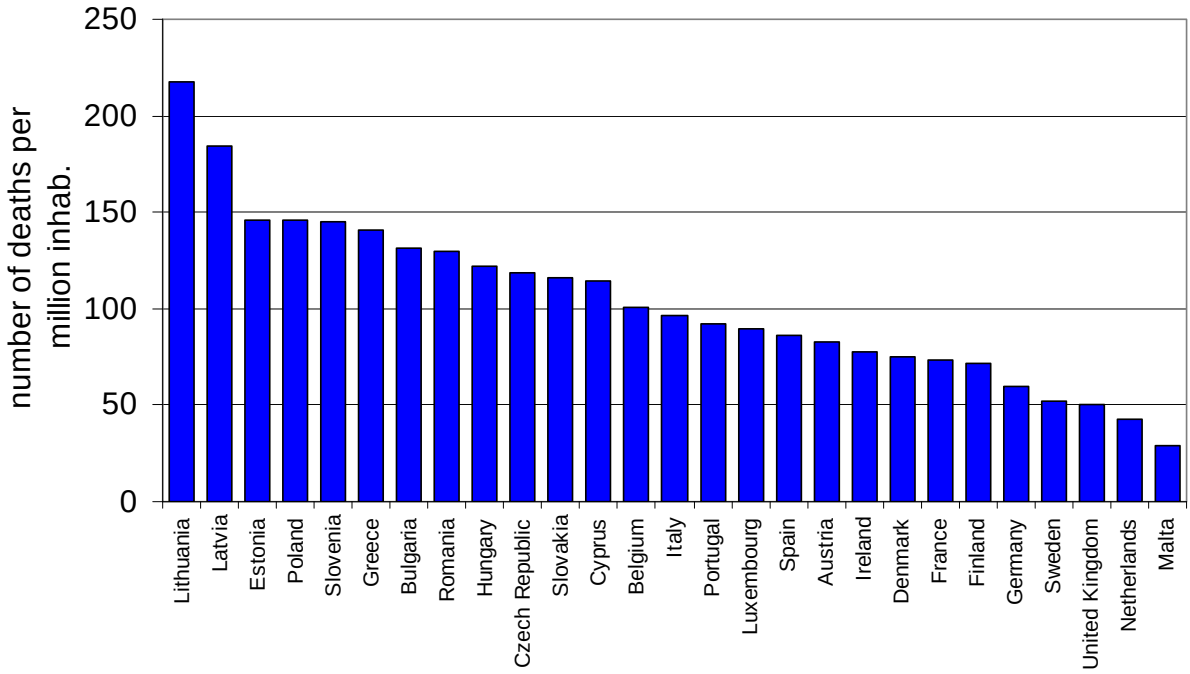

Figure 7: Number of people killed in road accidents per million inhabitants (2006), [Eurostat 2009 (3)]

Almost one third of all traffic accidents with fatalities occur on urban roads. Although the total number of fatalities has decreased by one third since 1997, the proportion between urban and non-urban areas stays almost the same. In particular the percentage share of persons younger than 14 or older than 60 killed in road accidents is much higher inside than outside urban areas, since their trips are mainly short and done on foot, and pedestrians are among the most vunerable road users [Erso 2008].

5.4 The economic crisis and its influence on the mobility sector

The economic crisis has a major impact upon the road transport industry, which - in today's globalised economy - means no longer just a mode of transport turned into a vital production, distribution and mobility tool which drives economic as well as a social and environmental progress throughout the world.

Due to the financial crisis and the resulting economic crisis, the demand for vital road freight transport services has decreased. The International Road Transport Union (IRU) therefore proposed several steps to all competent authorities to overcome this crisis and to support goods and passenger transport [IRU 2009]. Among them are the following suggestions:

- ensure open markets

- reassess and reduce current taxes and stop creating new taxes and charges notably through the revision of the Eurovignette Directive
- induce financial institutions to provide adequate credit lines for transport operators to finance their investments and operations
- induce financial institutions - through national central banks - to introduce a moratorium on interest on debts and leasing contracts
- provide business incentives to allow transport operators to keep investing in innovative and clean vehicles
- invest in road infrastructures to remove bottlenecks and unnecessary related costs
- recognise buses, coaches and taxis as economically and environmentally friendly transport modes and vital parts of the overall sustainable mobility chain.

In general, the demand for transport products is shrinking, the access to capital is increasingly difficult, skilled workers are made redundant and companies are struggling to survive [CORDIS 2009]. Therefore, the focus lies on short term measures with very little incentive to innovate. But investments in innovation and research have proved to be useful in enduring and overcoming timesof crisis.

5.5 Further reflection on the situation in cities of New EU-Member States (NMS)

The opinion that soft modes like cycling and walking are only modes for "poor people" are wide-spread, especially in the cities of NMS. These modes are often not considered as alternatives to individual motorised traffic. But in the last years the situation has changed and two different trends can be observed:

1st Trend: The share of individual motorised traffic is still rising and therefore the use of public transport decreases.

2nd Trend: The fashion of going by bike or walking on foot is rising, especially among young people.

In cities of the EU-15 states these two trends occurred one after another, in the NMS these two developments are overlapping. Differences between the cities of EU-15 states and NMS exist also because frameworks are different in which similar problems have to be solved. For example, a huge part of the transport infrastructure in the EU-15 states was built in times without strict regulations which had to be considered, e.g., Natura 2000 regulations. When nowadays the infrastructure is built in cities of NMS, the new directives have to be observed. This can be an advantage, because some mistakes which were made in the EU-15 states can be avoided (e.g., damaging the environment). But this can also be a disadvantage if an infrastructure for public transport cannot be built (or its development is slowed down) due to these regulations.

In addition to the points already mentioned, the following particularities concerning urban mobility trends in NMS were pointed out by local policy experts of the NMS:

(1) Cities of NMS still have a relatively high share of public transport in the urban modal split.

(2) In cities of NMS public transport is reducing in importance because of the dynamic development of individual motorisation.

(3) There is still a strong position of electric traction, such as trams and trolleys, within the public transport market of NMS cities. In the EU, two third of cities with a trolley systems are located in NMS. For example, in the Czech Republic, trams and trolleys account for 41.5 % of the total volume of public transport in cities [Operational Programme Transport, Czech Republic 2007]. In many cases they would need to be improved considerably to be able to

compete against buses (higher costs of rolling stock and need of an additional infrastructure) and individual motorisation.

(4) There is very little cycling in most of the cities in NMS but it has a high potential of growth.

(5) There is a strong potential for the integration of different transport sub-systems (Park&Ride, Bike&Ride).

(6) There are no car sharing initiatives in NMS cities due to relatively low taxi fares and the developing individual motorisation.

(7) Cities of NMS develop rapidly and improve their technical infrastructure which was underdeveloped for many years and suffered from low investments. Thus, there is a very strong concentration on "hard" measures, but in the very near future there might be a shift towards soft measures which optimise and improve the efficiency of existing systems.

As a result of the decreasing quality of public transport and the increasing usage of private cars, the modal split is changing in an unfavourable direction. This change of the modal split in the cities of New Member States recalls similar tendencies in Western-European cities in the 70's and 80's; there is a danger that transport policy may make similar mistakes, for example offer too much support of road construction [MVV 2007].

Furthermore, trends in cities of NMS created a difficult situation for sustainable mobility solutions due to various aspects:

- *Social*: people want to have their own car, even if this puts a strain on their budget
- *Financial*: a lower number of public transport passengers and their changing composition (more pensioners, less commuters) make higher subsidies necessary to sustain or increase the quality of urban transport which for many years suffered from low investments (infrastructure and rolling stock)
- *Spatial*: for many years after the political changes public space was subordinated to the needs of individual car users.

6 The role of sustainable transport measures as a way to solve traffic problems in European cities

6.1 Effectiveness of sustainable transport measures as a way to solve traffic problems

Stakeholders in CIVITAS member cites were asked to rank sustainable urban transport measures according to their appropriateness to solve transport problems in European cities. Completed questionnaires have been received from 70 persons representing cities of 22 different countries, 1/3 of these cities are located in the New EU Member States (NMS).

The types of measures were predefined and grouped into the following clusters:

- Supportive Measures (e.g., providing incentives for walking and cycling, information campaigns, improving the public transport supply)
- Technical measures (e.g., traffic control)
- Car restrictive measures (e.g., access control, parking management)

Interviewees were asked to rank the appropriateness on a scale from 1 (not appropriate) to 4 (very appropriate). It showed that all types of sustainable urban transport measures which were funded within the CIVITAS II Initiative are assessed positively, reaching values between 2.60 and 3.84 (Figure 8). Evaluating the results of the survey according to the clusters mentioned above it turned out that restrictive measures are seen as most effective for the solution of transport problems in European cities. Furthermore, they seem to be necessary for future sustainable developments, regardless of the location of the cities in Europe. Supportive measures come second in Western European cities, whereas cities in NMS believe more in technical solutions. However, the difference between the rankings of these two clusters is insignificant.

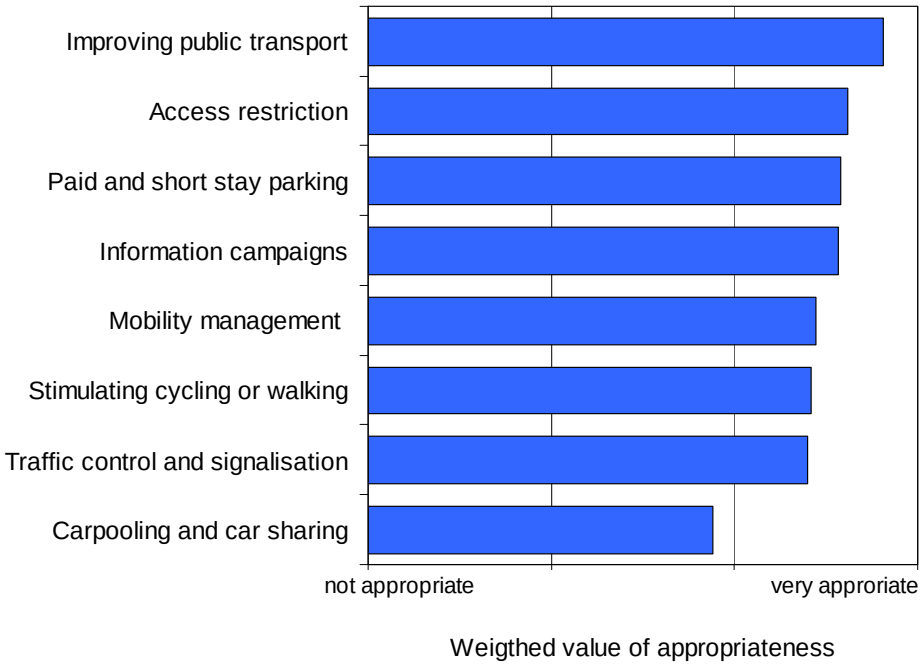

Figure 8: Appropriateness of sustainable transport measures for the solution of transport problems in European cities (based on a survey among CIVITAS member cities)

(1) Public transport improvement

The results of the survey among CIVITAS member cities show that any support for a **high quality public transport system** is very appropriate to solve traffic problems in cities. The **prioritisation** of public transport vehicles is seen as the most effective measure, followed by the **improvement of public transport supply** in general (higher frequencies, better reliability, adequate infrastructure and rolling stock, etc.) and innovative **information strategies** for public transport users. New and innovative ticketing systems are seen as less important for the solution of transport problems in a city.

Figure 9: CIVITAS II information leaflet about innovative information systems for public transport

Many cities in NMS are defining public transport as one of the leading "urban products" which are vital for the development of cities and the improvement of an urban image. Characteristic of these cities is the high popularity of electric traction, such as trams and trolleys; however, as described above, public transport is hampered by old rolling stock and a deteriorated infrastructure. It is of paramount importance to create attractive incentives for the NMS to preserve, cherish and develop their public transport heritage [MVV 2007] before it is diminished even further or put out of use.

The dynamic growth of individual motorisation in cities in NMS may reinforce the dominant position of cars for many years to come and may lead to unbalanced growth and environmental losses. The improvement of public transport may slow down the currently dynamic growth of individual motorisation in cities of the NMS by creating attractive alternatives for car users. If public transport could offer high quality it might be considered as mode of transport for the "last urban mile" by people who use their cars for commuting purposes should some barriers for cars be introduced in city centres.

(2) Access and parking management

Transport planners consider measures which **regulate the access to parking spaces** in city centres or other urban areas as efficient. However, for them to be successful it is essential that they get political support, which is currently missing in many European cities. Many politicians do not support restrictive measures, because car drivers as well as business associations often step up resistance against the implementation of such measures and initiate negative public campaigns.

Access restrictions and parking management are not politically "attractive" measures, but a growing number of cities introduce at least parking fees in central zones in order to reduce the traffic volume. Such measures should be implemented in combination with other solutions such as public transport improvements to make them more effective. These actions should be taken in combination with other

solutions like the improvement of public transport, to make them more effective (car users should have an attractive transport alternative).

Figure 10: Access management of a city centre (automatic charging system and video control of the license number)

(3) Promotion and information

Measures to **inform** about impacts of individual motorised traffic and to **promote** sustainable urban transport modes are seen as adequate to influence the mobility behaviour of citizens and to foster a sustainable mobility culture. Obviously soft measures, such as marketing and information campaigns, become increasingly popular in cities of NMS. A very good opportunity for the launch of a campaign is the completion of an investment project or the acquisition of rolling stock for public transport systems. Many cities participate in the European Car Free Day and the European Sustainable Mobility Week. EU soft projects create an additional opportunity to attract the audience with messages corresponding to sustainable mobility measures.

The one target group which should be specifically addressed by the promotion of sustainable mobility are pupils and students, whose transport behaviour might be influenced before they change their motorisation status. A growing number of cities try to undertake precisely targeted campaigns in combination with “hard” measures like e.g. rolling stock acquisition or renewal.

(4) Mobility management

Mobility management measures (e.g., personalised travel planning) are widely accepted, as they are supportive measures, easy to implement and very cost-effective. However, their benefits are often underestimated; therefore they should be accompanied by an intensive information campaign.

(5) Walking and cycling

The sustainable transport modes **walking and cycling** need to be supported by promotional measures but also by the development and offer of a safer and more comfortable infrastructure. Most of the experts interviewed in the survey and in the workshop are aware of the importance of such measures and know that citizens should be encouraged to walk or cycle by the provision of the adequate infrastructure. In the workshop it was mentioned that in some cities the decision-makers do not want to promote soft transport modes, because they are afraid of safety problems linked to these activities. More data on this issue is needed.

Figure 11: Rent a bike station

Apart from the development of the technical infrastructure in cities in NMS, a broader perspective should be developed, including the decrease of car traffic, especially in city centres, a calming down of traffic in urbanised areas (i.e. in the vicinity of schools), a cycling-friendly traffic management system (i.e. "green wave" for cyclists), and solutions on crossings to successfully implement and integrate a cycling network into the overall transport system of the city.

Another solution with interesting perspectives for cities in NMS is public bikes. Their effectiveness depends to a large degree on the scale of the development of cycling networks as well as on the introduction of some access and parking restrictions in the most attractive areas of the city.

(6) Traffic controls

Traffic control measures and signalisation are considered to be useful for the solution of traffic problems in cities. These measures can enhance the traffic flow, moreover, problems and accidents can be identified very fast and traffic streams can be redirected and managed to make the transport network operate in the most efficient way. Technical support and the introduction of standards are needed to help cities implement such measures more often. They support the optimisation of the existing transport infrastructure and thus provide a better allocation of public funding.

Figure 12: Traffic control centre

(7) Car pooling and car-sharing

The creation of **car-pooling or car-sharing services** is generally considered as less successful than other measures. Reasons for this opinion might be the impression that people are unwilling to share a ride in their own car (car-sharing) and/or to get rid of their own car to participate in a car-pooling scheme.

The expectations regarding the future development of urban traffic and the development of sustainable mobility behaviour of the citizens are positive and optimistic. But the population and particularly politicians should be induced to think in more sustainable terms and politicians have to be more objective in their decisions. It is recommended that local politicians should develop a strategy of intensive support for public transport (e.g., by investing the revenues from parking into the public transport infrastructure, rolling stock and innovative technologies to enhance travel safety). In the long run, urban sprawl has to be avoided and a higher density in the city centres should be fostered. Both the EC and national states should provide sound basic conditions and standards to support cities in their management of the traffic situation in the best possible way.

If one takes into account that normally an individual car is used on average just 1 hour per day and that almost 95% of its time is spent parking, there seems to be a chance for this action to become popular in NMS cities. But in NMS cities it is still seen as "a measure of the future" because the number of individual cars is still rising considerably. Increasing problems with road capacities may force people to think about new roles for cars, for example car-sharing systems (the first NMS city engaged in a car-sharing project is Prague, involved in the MOMO Project).

Figure 13: Carpooling parking place

6.2 Thoughts about local politics in cities of New EU Member States regarding sustainable urban transport measures

In general it can be said that local politicians of NMS pay more and more attention to the transport problems of those cities they represent. In big cities and metropolitan areas transport problems are most common and they are aggravated by rapid economic growth and insufficient space; for many years these cities were utterly "unprepared" for new opportunities and threats. The CIVITAS survey showed this very clearly: congestion and pollution were stressed as the most important issues. In the preparation of strategic documents needed for urban planning and development, transportation problems currently play a crucial role; but there is also a lot to do regarding the integration into long-term spatial planning and transport development

However, one should be aware that not all the solutions implemented in the cities of Western Europe will bring similar effects in the cities of Central and Eastern Europe. This is due to the fact that in the '70s West-European cities were already affected by the "vicious circle of urban transport" [Menke 1972] and since then have taken a number of steps aimed at returning to a more balanced modal split.

Cities of NMS are only at the beginning of such a “vicious circle”, but in many cases there is almost no time left to intervene with a combination of hard and soft measures. To stop the decline of public transport in NMS a specific set of measures has to be developed with respect to local and national frameworks and conditions.

Hence, it has to be taken into account that some measures are more likely to be implemented in NMS cities; others will not be as successful as in the cities of Western European States, such as car restrictive measures.

7 Successful implementation of sustainable transport measures

7.1 Dealing with political issues during the implementation process

When looking at the implementation of sustainable transport measures from a political point of view it is helpful to consider the different positions of political stakeholders. They are either members of the ruling party or of the opposition, each trying to convince voters of its political programme. Political stakeholders are therefore very careful in giving active support to projects dealing with sensitive issues which involve public funding.

At the same time one has to ask to what degree a specific measure needs political involvement at all. Political stakeholders are able to support a measure by contributing e.g. experience, insight knowledge, a manifold cooperation network (other authorities, companies, and media) or financial subsidies, but most of all: the power to influence the existing administrative, legal and planning framework for transport measures. Political stakeholders are able to market, enforce and intensify the project. The messages given through interventions by political stakeholders like laws or incentives can be very powerful and show practical consequences in real life for the population.
The following list shows degrees of political involvement:

- Passive participation / information
- Active participation (possibility of giving comments and making recommendations)
- Providing supportive basic conditions (possibility of supporting the project indirectly by influencing the existing administrative, legal and planning framework)

In any case local politicians have to be informed about projects and measures concerning their administrative field and area of responsibility. In addition, political stakeholders may be invited to meetings as an audience or to participate in discussions. Finally, political involvement may be considered in the decision making process about the legal framework necessary for the implementation of sustainable transport measures.

Given the context described above, the following political barriers were identified within CIVITAS II:

- Local elections and policy changes
- Strong lobbying
- Politicisation of the discussion
- Sensitivity of certain issues
- Low publicity of certain topics

The following section explains the political barriers, tries to describe the possible impact of the barrier and provides general recommendations to overcome or respectively handle it in the best possible way within the given framework.

(1) (Local) elections and policy changes

Political stakeholders tend to avoid radical and profound decisions about sensitive topics during election times, since they assume that such decisions might influence their chances of being (re-) elected or because these decisions simply do not fit their current political programme. While the times for new elections are fairly predictable, their consequences for projects requiring political support or approval are not. In times of elections two extremes could be observed during the CIVITAS II projects: either a full support of the measure or a complete refusal to support it or participate in it.

Between these two extremes various project delays occurred, as support was postponed for the time after the elections. But, as already mentioned, limited support or a complete denial of support depends on the kind of planned measure and the degree of involvement of the political stakeholder.

If a project is being supported by political stakeholders or even a whole municipality, there is still the possibility of losing this support within the next legislation period since the stakeholders and their policy might change and the (more or less new) team has to be convinced of the project once again.

Recommendations

Despite all the possible problems arising from political changes and elections it is advisable to use these times wisely and – with the right timing – even profit from them as special windows of opportunity. The involvement of political stakeholders should always be seen as a possibility to promote the measure.

(2) Sensitivity of issues

Topics addressed within the CIVITAS II Initiative such as the restriction of car use or parking, the adoption of stricter standards for vehicles e.g. by establishing low emission zones, restricting the access to certain areas or by the reorganisation of ticket price schemes were sometimes found to be too tricky to put them on the political agenda. These topics can be too risky for political stakeholders to support them actively, even if they do not have to face an impending election. However that may be, it does not mean that politicians refuse any support in general, but they might just opt for passive participation and agree to attend internal meetings.

Recommendations

When dealing with sensitive issues it is advisable to show the benefits of the measure for the city as a whole. If they get a chance to understand all the implications stakeholders can be more easily convinced of an overall positive strategy, even if some of its aspects are sensitive.

(3) Strong lobbying

Lobbies such as shopkeepers, car users, hotel keepers, etc. tend to put pressure on political stakeholders as they have a certain influence on the local economy and represent an important part of the voters, thus politicians are in a quandary. Strong lobbying has lead to biased media reporting in some projects of the CIVITAS II Initiative and distorted the original goal of the project when the discussion turned emotional.

Recommendations

Therefore it is important to get in contact with lobbies and media from the very beginning and try to find an appropriate method of communication and information. Many negative perceptions and misunderstandings can be avoided by an open process and dialogue.

(4) Politicisation

As mentioned before, political stakeholders are willing to vouch for their programme and defend it against their political opponents. Once the measure is on the political agenda, it might therefore happen that it is politicised and used in the arguments of one politician against another. In consequence one can no longer expect people to have an unbiased and objective view of the measure and its objectives and to report about it accordingly. The involvement of politicians in general might make the cooperation with certain other stakeholders rather difficult.

Recommendations

Therefore it is advisable to keep a good balance between political and non-political stakeholders within the steering or working group, both in terms of numbers and speaking time. Political support does not automatically lead to the measure's success but has to be steered and applied very thoughtfully.

(5) Low publicity of certain topics

Some topics within the CIVITAS II Initiative relating to sustainable transport measures did not seem interesting enough to put them on the political agenda. This fact might depend on the measure not concerning a large group of people or just is not popular enough to be used for the political campaign. Therefore political stakeholders deny their active support. Sometimes they do not understand why they should get active in regard to some specific subject, or they might not feel responsible, since they consider a project as a task for the private sector.

Recommendations

When the measure depends on political support it is vital to get in direct contact with the relevant stakeholders and communicate the goal and importance of the measure individually instead of relying on positive reactions to general invitations to meetings or workshops. A working group could be set up, so the political stakeholder has a forum to bring in his point of view and gets immediate feedback and information if needed.

7.2 Key implementation tools

As measures implemented within the CIVITAS II initiative were very diverse, general statements about strategies for a successful implementation process are difficult to make. However, the following implementation steps seem to be an essential base and provide a useful framework.

(1) Participation and stakeholder involvement

Active participation and involvement of the stakeholders are essential in order to convince the inhabitants and other persons effected. A social dialogue with the citizens and stakeholders during the entire implementation process results in a better acceptance of the measure by the public and in a higher quality of the transport system as a whole. It is important to leave room for compromises during the negotiations.

(2) Information and promotion

In addition to the previously mentioned aspect it is evident that a well coordinated information process offers manifold chances to support the process – either in terms of additional active support or in terms of avoiding misunderstandings and negative perceptions. The information should be well adjusted to the target group – as different groups have different interests. Promotion activities go one step further than mere information, as they try to convince different target groups to either participate in or approve of the measure. If one has the objective to change people's actual behaviour, then schools, universities, companies etc. might also be approached with the help of education and training activities.

(3) Continuity

CIVITAS cities experienced essential benefits from the organisation of fairly regular internal as well as public meetings, since they allow a regular exchange of information and keep everyone up to date and interested.

(4) Existing basic conditions

Knowing the existing legal, financial, and responsibility framework is an essential part of the process; therefore efforts are necessary to ensure a stable but still responsive working environment e.g. by installing a budget control group or setting up stringent contractual conditions regarding quality and deadlines.

(5) Evaluation

The evaluation of measures starts already at the very beginning of the process by gathering existing data as well as analysing and documenting the current situation. An exchange of experiences assists cities to ask structured queries throughout the process; thus comparisons become possible, not only during the lifetime of a single project but for an overall evaluation of a CIVITAS II Initiative.

A continuous evaluation of the steps taken makes a better coordination and adjustment of the work plan and financial means possible. It has also proved a good tool to show other stakeholders and the public in general success and results on a regular basis.

7.3 Principles for stakeholders

(1) Clear objectives and strategies

It is vital to have clear objectives to be able to define strategies and goals. To prove that the measure will be successful, it is important to define prior to its implementation who will use the new service, who will pay for it and how many people will pay for it. Measures should be implemented one step after another, following a systematic approach.

(2) Involvement and communication with politicians

A sustainable development should be the goal of every city in Europe. The provision and the continuity of political, policy and regulative support is crucial for the success of any sustainable mobility measure. Policies are successful if they are endorsed by all political parties and integrated in all local political concepts. The backing of a political frontrunner can be crucial for the success of a measure. However, it is always a challenge for local administrations to cooperate effectively considering different interests and responsibilities. The creation of task forces for the implementation of innovative mobility measures which bring together all competent authorities has proved to deliver tangible results.

(3) Ensure that financial means are available and make economic sense

The integration of a chapter about finances in a sustainable urban mobility plan which covers both infrastructure as well as soft measures should be based on a cost-benefit analysis and can shape favourable financial conditions for a new mobility culture. When developing alternative mobility options, the economic benefits for the participating stakeholders should be demonstrated as well as potential savings for both the private and the public sector. It is important to strive for a win-win-situation. Problems should be approached with the determination to find solutions (congestion to be reduced, air quality to be improved …) in order to achieve a better transport system for all inhabitants.

When sustainable urban transport measures should be initiated it is important to follow a predefined business plan in order to ensure appropriate funding. The following points have to be considered in the plan:

Convincing planning materials

Strong and sophisticated planning and policy documents have to be created, making clear the objectives of the measure, how they can be achieved and how the activities are embedded within the integrated urban transport plan. It has to be pointed out that the measure will contribute to the overall goals of the cities, e.g., to achieve the targets set by the EC in the air quality and noise directives. Good written planning materials are the crucial base for making sources for financing available and to compete with other measures for funding.

Funding on local level

First of all, it has to be checked if the measure can be implemented as part of the day-to-day business of the urban transport development plans. This is the most cost effective and fastest funding strategy for introducing sustainable urban transport measures.

Another strategy for financing the activities is to group smaller measures to one project or together with an existing project in order to make them more cost effective. For example, planning and building bike lanes and sidewalks as part of a road project, which would have been implemented anyway, is usually cheaper than constructing them separately [Pedestrian and Bicycle Information Centre 2010]. Furthermore, negative impacts on traffic, businesses and residents can be reduced.

Furthermore, creative partnerships with private companies (e.g., Public Private Partnerships PPP) can be built up in order to initiate and implement urban transport measures.

Regional, national or private funding sources

If no or no sufficient local funding sources are available the next step is to apply for regional, national or private funds. Furthermore, a wide range of foundations can offer financial resources for sustainable transport measures. These funds are multisided in the different European countries and can be dedicated to different topics, such as environmental protection, development of technological solutions, to counteract climate change or to enhance traffic safety.

Integration of sustainable urban transport measures on all policy levels

In order to ensure the availability of all these different funding sources it is crucial to integrate urban transport topics in policies and processes of entities on state, regional and local level [Pedestrian and Bicycle Information Centre 2010]. To achieve this goal a sophisticated plan is required and it has to be considered that the process will take a long time.

EC Funding

There are different EC programmes which support and co-finance the sustainable development in urban areas in Europe. If innovative measures should be implemented in cities, the initiators of the activities should also apply for these funding sources. The funds available are listed in chapter 8.3.

(4) Allow and enforce user participation and awareness

In general, a high level of user consultation is a prerequisite for proper implementation. A high visibility of project-related advancements needs to be assured. A measure which is well communicated has a better chance to succeed; it is not enough to generate new knowledge – one needs to diffuse it.

(5) Continuity

Every investment in transportation has a positive effect on the labour market. However, many projects within the CIVITAS II Initiative faced serious problems, because (supporting) political stakeholders or the political programme changed. It is essential to ensure continuity to have a long-term measure implemented and have it fulfil its objectives. This is particularly important for guaranteed funding for small and medium-sized cities. Politicians should be convinced of the long term-benefits of the measures and should therefore not just think of the time of their mandate, but think in long term programmes. Continuity is necessary and greatly supports the measure's acceptance and success.

(6) "You should never let a crisis go to waste"

An economic crisis should be seen more as a challenge than a threat, and the transport sector should become more inventive by using the existing infrastructure efficiently. Such a crisis is an opportunity to change behaviours and not invest money in new infrastructure but to promote a more efficient use of the current system (e.g. fostering intermodality). It should be a priority to invest the available money in the evaluation of the effects and impacts of measures in order to achieve an effective use of the current system and to find out what is working and what is not.

8 The European dimension of solving transport problems in urban areas

8.1 The principle of subsidiarity

The principle of subsidiarity is defined in Article 5 of the Treaty establishing the European Community and ensures that the decision is taken on the right place. It is intended to ensure that decisions are taken in the interest of the citizens and to provide for constant checks whether an action at Community level is justified given the possibilities available at a national, regional or local level. Specifically, this is the principle whereby the Union does not take action (except in the areas which fall within its exclusive competence), unless it is more effective than action taken at a national, regional or local level. It is closely linked to the principles of proportionality and necessity which require that any action taken by the Union should not go beyond what is necessary to achieve the objectives of the Treaty.

The Edinburgh European Council of December 1992 issued a declaration on the principle of subsidiarity, which lays down the rules for its application. The Treaty of Amsterdam took up the approach that follows from this declaration in a protocol on the application of the principles of subsidiarity and proportionality annexed to the EC Treaty. Two of the aspects this Protocol introduces are the systematic analysis of the impact of legislative proposals on the principle of subsidiarity and the use, where possible, of less binding Community measures. *Source: http://europa.eu/scadplus/glossary/subsidiarity_en.htm*

As the following sections partly deal with support strategies and recommendations on a European level it seems important to keep the principle of subsidiarity in mind as it provides an organisational framework for competencies and should assure decisions are taken at the appropriate level.

8.2 Strategy documents of the European Commission on sustainable mobility for urban areas

(1) EU - GREEN PAPER - "Towards a new culture for urban mobility"

Being aware of the problems caused by traffic in European cities as described previously, the European Commission declared sustainable urban transport as one of its strategic priorities. After the publication of the Transport White Paper in 2006, the EC launched a broad public consultation in order to receive valuable input for drafting a Green Paper on Urban Mobility with the intention of initiating a public debate about the role of European policy at a local level of urban mobility.

Results of this consultation process confirmed the existence of strong expectations regarding the formulation of a genuine European urban mobility policy and the request for coordinated activities on a European level. Finally, the Green Paper was published in September 2007 providing a set of policy options and 25 open questions addressed to stakeholders on an urban level. The answers to these questions shall lead to the formulation of an Action Plan which identifies a series of concrete actions and initiatives to create a better and sustainable urban mobility in line with the principle of subsidiarity.

Key issues

The European added value may take various forms: promoting the exchange of good practice at all levels (local, regional or national); underpinning the establishment of common standards and the harmonisation of standards if necessary; offering financial support to those who are in greatest need of such support; encouraging research for applications which will bring about improvements in mobility,

safety and environmental impact; simplifying or repealing existing legislation or adopting new legislation. Finally, the Green Paper addresses the main challenges related to urban mobility by 5 themes [Commission of the European Communities 2007]

- Free-flowing towns and cities
- Greener towns and cities
- Smarter urban transport
- Accessible urban transport and
- Safe and secure urban transport.

In addition, the creation of a new culture for urban mobility (including knowledge development and data collection) and addressing the issue of financing are being considered.

(2) The Action Plan on Urban Mobility

The Action Plan was released in September 2009 and is not intended to provide unique solutions, but rather a set of tools for cities so that they can decide at a local level, in order to fully respect the principle of subsidiary. Short- and medium-term practical actions are proposed to be launched progressively from now until 2012. The Commission for their part wishes to work together with local, regional and national authorities. Therefore a very strong initiative is raised to increase the awareness of the available funding.

8.3 EU Funding for mobility measures

The following section provides an overview on European funds aimed to support a sustainable development in European cities:

- Seventh Framework Programme for Research, Technological Development and Demonstration (2007-2013) – 50 to 100 % funding

4 principal programmes: (1) *cooperation* (subdivided in 10 themes e.g. transport, energy and information and communication technologies), (2) *ideas* (competition and excellence in research), (3) *people* (fellowships for research training) and (4) *capacities* (scientific and technological capacity building).

- Competitiveness & Innovation Programme (2007-2013)

2 operational programmes: (1) *Intelligent Energy for Europe II* – 75 % funding with the goal to secure sustainable and competitively priced energy and to promote new and renewable energy sources as well as energy efficiency and (2) *ICT Policy Support Programme* – 50 to 100 % funding aimed at stimulating innovation and competitiveness through a wider uptake and best use of ICT by citizens, governments and businesses

- LIFE+ (2007-2013) - 50 % funding

The LIFE+ programme has different components, among others the theme of Environment Policy and Governance, whose principal objectives are for example to contribute to improving the environmental performance of Europe's urban areas or to promote the effective implementation and enforcement of Community environmental legislation and improve the knowledge base for environmental policy.

- Structural and cohesion funds as funds of the European cohesion policy

The main objectives of the cohesion policy are (1) the convergence of the regions with GDP below 75% of the Community average, (2) the regional competitiveness and employment in all the other regions and (3) the European territorial cooperation (cross-border, transnational and interregional cooperation).

- STEER programme

The aim of the STEER programme is to strengthen the knowledge of local management agencies in the transport field as energy saving in transport has not been a priority field for agencies in the past. The Target areas to be addressed in STEER are:

(1) Training and education of local agencies in alternative fuels and energy use in transport and
(2) Supporting local actors to collaborate in programme and project participation

Three financial instruments are available to reach these goals. In accordance with the principle of subsidiarity, the management of these funds falls within the responsibility of the Member States. Partly, these funds can be used to implement sustainable urban transport measures.

One financial instrument is the **European Regional Development Fund ERDF** (structural fund). Amongst others, transport measures, including the development of integrated strategies for clean transport are funded in Objective 1 and 2 regions of the EU. Also the promotion of clean and sustainable public transport particularly in urban areas is supported.

The second financial instrument, the **Cohesion Fund,** applies to Member States with gross national income (GNI) below 90% of the Community average (new Member States plus Greece and Portugal) and offers assistance in transport infrastructure (especially the trans-European networks) and environment projects. In the current program period (2007 – 2013) especially clean urban transport is an investment priority.

Both, the ERDF and the cohesion fund supply the **European territorial cooperation**, which is the former INTERREG Initiative. Interregional cooperation is meant to improve the effectiveness of regional development policies and to contribute to an economic modernisation and overall competitiveness. The initiative has two thematic priorities: innovation and knowledge economy and secondly environment and risk prevention, including energy and sustainable transport.

8.4 Support of sustainable transport measures on a European level

Based on the results of the survey among CIVITAS member cities, on the results of the workshop organised among stakeholders on 7th July 2009 in Brussels and on personal dialogues in CIVITAS meetings, requests and expectations of local stakeholders have been collected and are summarised in the following section. In summary, in addition to funding, the exchange of information (CIVITAS platform) and the creation of clear and supportive legal frameworks are very important actions which should be implemented by the EC to help cities accomplish sustainable urban transport measures. Furthermore, the introduction of standards concerning different measures (especially technical measures) is important.

8.4.1 Clean vehicles and fuels

(1) Exchange of information

Each member state should have the opportunity to participate in pilot and demonstration projects. One or two mega projects led by the EC might be initiated offering participation to all member states. Information should be in the form of presentations and demonstrations of good practice examples.

(2) Legal frameworks & standardisation

Unique legal frameworks or directives are essential to introduce clean vehicles in public fleets (e.g., municipality and governmental fleets), as the differences between national laws are often severe barriers for their introduction.

Clear definitions and standards of clean vehicles are useful, as they provide an incentive for the car industry and fuel producers to invest in the development of the products required. Thus, the EC is influencing the market positively by generating a harmonised demand.

8.4.2 Car-restrictive measures, establishing green zones

(1) Exchange of information

Information has to be provided regarding the suitable implementation of car-restricted or green zones, as these measures are not suitable for every urban area. Initially, information has to be provided in order to help cities to determine "if" the measure should be implemented and "how". Case studies should be published to inform about achievable benefits in order to convince politicians and to raise the acceptance among citizens. In particular the exchange of information on political issues and strategies to overcome barriers (e.g., legal barriers) is helpful.

(2) Legal frameworks & standardisation

A European legislative framework is required to be applied in all European cities. For example, the introduction of a higher environmental standard would be helpful to ensure that people cannot take actions against the introduction of car-restrictive measures.

Regulations might be established forcing cities to meet defined air quality levels. Standards for labelling vehicles according to emission levels are required and are also in line with the principle of subsidiarity. The definition of standards helps to harmonise different national rules and to increase the understanding of the measure on a European level.

8.4.3 Public transport improvement

(1) Exchange of information

Information is mainly required concerning technical equipment and strategies to decide the best solution. More dissemination of good practice examples is required as well as evaluations and transferability studies of specific measures. Guidelines are needed for best practice examples on how to distribute revenues, especially in the case of multiple public transport operators.

(2) Legal frameworks & standardisation

Standardised legal conditions should be created to guarantee the interoperability of new systems with the old ones and they should support the integration of different transport modes, such as train, bus, tram, bicycle, car-pooling etc. Standardisation is required not only for vehicle technologies (e.g. certain emission standards for buses) but also for the development and integration of a new ticketing system (e.g. contact-free ticketing systems) to guarantee the interoperability of different systems.

On the one hand the cities are aware of the fact that it is difficult to develop a standard for ticketing systems (even in one country), on the other hand they know that especially in a multimodal environment there is a great need for an interoperable system. For example, for data models and API (Application Programming Interface) standards should be defined to allow the interoperability of systems. Those standards could be made mandatory to receive EC funding in future.

8.4.4 Car-pooling and car-sharing

(1) Exchange of information

Information about the effects and impacts of measures to support car-pooling and car-sharing are less common. Therefore the provision of relevant figures seems to be crucial. In particular guidelines for the implementation are required, as well as suggestions as to how to raise the awareness and promote campaigns. Best practise examples should be documented in order to demonstrate which results can be achieved.

(2) Legal frameworks & standardisation

Appropriate, uniform and clear legal frameworks for car-sharing and car-pooling have to be established on a European level, e.g., for:

- A European street sign for car-sharing or car-pooling parking slots or for reserved lanes on the road
- The permission of preferential treatment of on-street car-sharing stations or car parks on public ground
- Clear tax regulations for drivers' fees when people share a private car (of the driver) as well as clear insurance regulations in case of an accident with non-related passengers on board.

Standards should be established, particularly for the interoperability of the system among different cities and the provision of parking space.

8.4.5 Freight concepts for urban areas

(1) Exchange of information

Support and information is particularly needed about joint procurements of rolling stock to reduce the costs of acquisition. Especially cities of the NMS seem to require a clear guidance for urban freight concept models, which can be adopted according to the specific geographic conditions, the spatial urban design and other characteristics of a city, including historical issues. In order to assist local politicians, more information should be published on good practice examples as well as on barriers and how to overcome them.

However, supporting urban freight concepts by exchanging experiences seems to be quite difficult since frequently solutions for a city depend on its specific characteristics and basic conditions which leads to tailor-made solutions developed by individual cities for themselves (including the involvement of several stakeholder and lobbying groups). Moreover, the topic is very sensitive since the industry affected is a highly competitive one.

(2) Legal frameworks & standardisation

The definition of legal frameworks and standardisation goes hand-in-hand with the definition of car-restricted zones based on the definition of clean areas (see previous sections). However, equal emission standards for heavy goods vehicles influence the market and make the concept interesting for vehicle manufacturers.

8.5 Improving road safety

One of the biggest problems in European cities caused by traffic seems to be road safety (see chapter 5.3). Therefore stakeholders of CIVITAS network cities have been asked about possible solutions to improve road safety in urban areas. Most respondents demanded adequate legal frameworks.

Especially representatives of cities of the NMS seem to consider this the most crucial aspect for the EC to deal with, whereas in the cities of the EU-15 states the support for education and information about safety issues is more important. Moreover, it is interesting to see that European funding does not play an important role in this context (Figure 14)

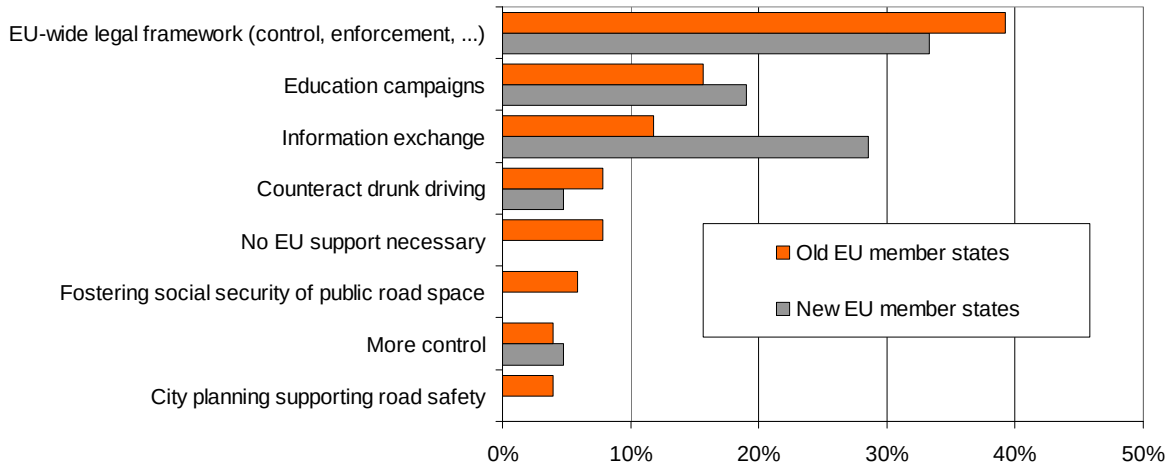

Figure 14: Requirements to improve road safety in European cities

The following sections give an overview of the main activities on a European level which are considered promising strategies to improve the road safety in European urban areas.

(1) Legal frameworks & standardisation

Uniform and consistent legal frameworks for the improvement of safety conditions are requested covering the following topics:

- A Europe-wide enforcement of regulations and checks of persons who do not respect the regulations, e.g., speed limits, minimum distances (Europe-wide fine processing); there should also be a Europe-wide enforcement of fees and penalties.
- Standardized and stricter regulations for driving tests and the disqualification from driving (especially for professional drivers)
- The mandatory use of seat-belts in all European countries
- The increase of the number of mandatory safety devices in vehicles
- A uniform legal framework for low-speed areas as well as traffic signs
- A definition of minimum requirements for the protection of pedestrians and cyclists
- Recommendations for certain speed limits based on infrastructure characteristics, density indicators and other local circumstances.

Not only legal frameworks but other standards concerning similar topics should be aligned, for example standards for new vehicles and road signs, and recommendations regarding road quality standards should be issued. Standards for automatic traffic control instruments should be implemented and the same equipment introduced to facilitate a Europe-wide penalty system.

(2) Education & information campaigns

EU-wide campaigns for road-safety should be initiated, especially addressed to young people. In this context, more awareness-raising campaigns should be held which also foster soft modes like cycling and walking, since road safety can be improved by achieving the "critical mass" of cyclists and pedestrians in urban areas.

The development of adequate software which provides realistic and serious driving simulation, signalisation and traffic rules in attractive graphics should be supported. This software should be available free of charge on the internet and should be addressed in particular to young people.

(3) Exchange of information

Best practise examples should be documented covering in particular the following topics:

- Road safety programs and projects which have already been successfully implemented
- Establishment of a European Road Safety Charter
- Promotion and education material appropriate to raise awareness among transport users.

A "European Week" on road safety and personal security as well as further road safety initiatives are recommended to support more projects. Furthermore, it is suggested to create a new EC Agency with tasks related to road safety and personal security. This agency could provide independent and comprehensive scientific information on all issues concerning road safety.

(4) Fighting against drunk drivers

Initiatives at a European level can support cities in reducing drunk-driving or driving while intoxicated by introducing legal frameworks which impose strict penalties for this offence and which are enforced in the same way in each member state of the European Union.

Research on the development of "alcolocks" which prevent drunk people from driving a motorised vehicle should be supported. It is recommended to use such technical tools at least in buses and trucks.

8.6 City networks

Every city can benefit from information and knowledge of other cities and should in turn share its own experiences with others. The formation of city networks is seen as one of the most useful platforms to exchange experiences gained in the implementation of innovative sustainable transport policies. The number of existing city networks seems to be sufficient, as more of those platforms would rather confuse people or even weaken the current city networks already established. Available platforms need to be promoted intensively as they are sometimes not very well known. Therefore, it is recommended to build on what already exists and to improve existing networks, e.g., by fostering regular updates of the information available on the internet or by organising more workshops which offer room for personal discussions.

Experiments and research on issues of urban mobility, which are accomplished during projects and programmes of city networks, often seem fragmented and insufficiently interrelated, since no long-term perspective or documentation of long-term benefits of the projects exist. The implementation of measures within CIVITAS lasts only a couple of years, but the positive impacts of the projects are often still visible after decades.

The results of the measures implemented within the CIVITAS Initiative should be documented in a proper way and widely disseminated. The brand of a city-network like CIVITAS has to evoke associations with highly desirable cities to live in. Information on promising new solutions and training should be offered and should be available in different European languages.

8.7 Overall recommendations for support on a European level

(1) Funding

The GDP of the different countries could be taken as a rough guideline for the allocation of funds. However, it seems important not only to fund big infrastructure projects but also to focus on little steps which cities can take towards a more sustainable mobility culture. Here, some re-allocation could be encouraged, to provide more funds for projects which take the needs of soft modes in an urban environment more into account, for example by setting standards for sustainability in the structural funds. Financial and administrative issues should be simplified for those cities which are willing to take part in initiatives like CIVITAS in order to enhance the efficiency of the implementation of sustainable urban transport measures.

In many of those cases which have been analysed, public urban transport in NMS is only financed at a local level. Without external (European) support there is a danger that the dominant position of individual motorisation will be strengthened and the use of public transport in cities will continue to decrease. As stated above, very effective actions are those which concentrate on the improvement of public transport. Spatially well developed systems of electric energy traction which have still a strong position in the market are a unique advantage for the development of a competitive and effective public transport system which might be supplemented by individual cars via park & ride systems and bike & ride systems for cycling networks.

(2) Exchange of experiences – learning from each other

Information about the support of sustainable transport should be made available at a central location, rather than on numerous European websites and in other locations which currently have to be searched. The CIVITAS homepage seems to be a good platform, but it should integrate further information about funding schemes offered by the European commission.

It would be better to suggest whole packages of measures with indications of their benefits and effects instead of individual measures which cannot produce broad-scale changes of the urban transport culture. Moreover, the exchange of knowledge about sustainable mobility should be fostered by conferences, workshops and site visits.

Best practices including achievements of NMS cities should be available with a focus on success factors and a broader perspective (i.e. including political and budgetary issues, dynamics of the development of motorisation). The transferability of the solutions described should be strengthened by the provision of direct contacts to the people responsible for the implementation and development of measures.

(3) EC cooperation

Different projects created an additional knowledge and information space and politicians and decision-makers at different levels of the public administration must at least be aware of them. A particularly valuable form of cooperation is the one between particular cities with comparable financial, political and social conditions (in particular cities of NMS). The EC should continue to play a vital role in the provision of a framework for cooperation and pay more attention to the strengthening of the exchange between the public administration and the science sector.

A wider perspective of cooperation should also include cities of countries outside the EU which might benefit from good examples and practices developed in projects supported by the EC (Ukraine, Russia, etc.)

(4) Technologies

The EC should agree on priorities for certain technologies. At the moment, important funds are used for too many technologies, and not all of them promise success. Funds should be focused on one or two technologies to speed up market penetration. A core group of technical experts from each member state which can assist the EC with new policies relating to transport, should be established. Furthermore, research in the field of innovative technologies should be supported; cities have to be involved in this in order to guarantee the usability of the research results.

(5) International labelling

It is advisable for the EC to develop a uniform label or branding for specific measures in order to ensure that transport services in urban areas can be immediately identified and recognised by all citizens and visitors. For example, consistent signing could be developed to indicate car-sharing and bicycle renting services. This helps people to use sustainable transport modes not only in their own city but also in other cities and to be more independent from their own cars.

Uniform international labels might also be used to set standards; one might, for example label vehicles according to emission levels. This fits the principle of subsidiarity, as such definitions of standards could help to harmonise national regulations.

(6) Standardisation and legal framework conditions

To build up a critical mass and to support the development of markets ready for innovations the EC should develop standards for different sustainable urban transport measures and services. Especially technical equipment standards are needed (e.g., clean vehicles) in order to influence the development of prices. The introduction of standards also supports the implementation of joint procurements.

Standardisation is important to achieve comparable results with implemented measures but in some cases one should start with the creation of a proper and credible database. Thus, standardised marketing research (sampling, questionnaire, etc.) developed for the gathering of information is crucial.

Basic legal and administrative conditions may vary from country to country; however NMS cities have a lot in common as far as sustainable mobility is concerned. It is crucial to continue the support for the improvement of public transport which should be accompanied by other individually chosen measures.

(7) Influence on local politicians

Every project which deals with mobility problems should involve local politicians. However, politicians strongly depend on elections; therefore continuous education and a promotion of solutions to improve sustainable mobility matters are very important. Mid and long-term strategic documents on transport and mobility (i.e. transport policy, mobility plan) should be developed and provide a base for the continuation of proper actions regardless of political changes.

(8) Benchmarking

It is recommended to the EC to establish a common evaluation method for sustainable urban transport measures on EU level by providing clear definitions of indicators and ways of measuring them, by suggesting survey methods, time periods necessary for the evaluation etc. With the help of such a framework the results of the measures become comparable in all countries which again simplifies the identification of basic conditions for success or failure of the measures. To make measures comparable in similar cities it is also recommended to the EC to develop a uniform database for data on city characteristics (inhabitants, modal split, etc.) measured and prepared with the same methodologies. The EC has to explain to the cities that their commitment to the evaluation of the results of the

measures is urgently needed. It would be helpful if the EC could make the cities meet certain evaluation standards if measures in these cities are funded by the EC.

8.8 Recommendations for future CIVITAS programmes

There is a change among the European people towards an increasing number of one-person households (due to ageing and other demographic changes), which could lead to more inefficient use of energy resources in households. Transport and energy service providers will focus on new products for specific customer groups to respond to changing needs. Migration and ageing causes regional disparities which result in asymmetric needs for and provision of energy services and infrastructure.

What can the EC do, how can the EC stimulate behaviour change?

The EC has the important role of marketing desired actions and steering the development of the changes towards sustainable mobility. The EC can stimulate people to change their behaviour, encourage them and reward them. The EC is able to focus their actions on the legislation and enforcement of mobility actions, economic interventions and financial incentives like the CIVITAS Initiative and its funding programme, education, advertising campaigns, social marketing and provision of information or on approaches seeking to combine all these instruments.

As the analysis and evaluation of the CIVITAS Initiative showed, motivation for change towards sustainable mobility already exists, but is held back by different barriers associated with a new behaviour or the process of change. For example when someone is thinking about using public transport instead of the car for their daily trip to work there are some unknown factors such as the possible future costs, the unknown timetable and the reliability of the public transport mode that have to be cleared out first. Changing mobility behaviours takes time, especially when habit is involved. Thus it is important to identify ways in which people can be supported through the process of change. The EC can provide the basis for behaviour change by

- providing infrastructure
- providing information
- providing financial incentives
- creating new connections and groups

and is tackled best by a mix of these interventions, delivered over a long period of time and adjusted to the specific measures and projects.

Where should the focus of attention be in the future?

Before asking how to promote behaviour change it needs to be clear, who should be approached best. The EC needs to act as a sales force for mobility behaviour enabling and providing direct contact with citizens as well as the right contact points and adequate financing. The local authorities, agencies, enterprises, organisations and citizens are then the ones promoting the mobility change to a further extend.

Future CIVITAS initiatives should try to put more effort in enabling participation of commercial enterprises and third sector organisations, such as freight companies. As the analysis and evaluation of the CIVITAS II Initiative showed, these companies were explicitly hard to involve and convince of the programme's goals. The reason might be the missing motivation to participate or insufficient

approaches to make them engage in the project. As logistic and goods distribution companies are working with (high) technology, projects dealing with ITS and its practical use in everyday business contain a lot of potential to evoke freight companies' interest. Special areas of interests (such as ITS) and support measures should be established to ensure participation and motivation for these organisations that play a vital part in the field of sustainable mobility.

As the analysis showed, measures dealing with road safety were particularly successful. Thus it is advised to put even more attention on projects supporting road safety work – whether they are directly dealing with road safety measures or indirectly dealing with measures that have a positive effect on road safety. The field of road safety also offers a good argument for political and financial support and has been discussed in more detail in chapter 8.5 of this report.

9 Conclusions

Considering the negative influence of traffic on the quality of life in European cities, a shift in the mobility culture of the citizens towards more sustainable behaviour is clearly essential. Various ways of influencing travel behaviour and the attitudes of transport users are well known and established, such as (car-) restrictive measures (access control, parking management etc.) or supportive measures, including improvement of the public transport supply or implementation of a new traffic management system. Additionally, sustainable mobility can be supported by technical measures aimed at the reduction of automotive emissions (e.g. use of alternative (bio-) fuels).

The main drivers towards more sustainable urban travel include:

- Political support and early involvement of all stakeholders in order to agree on a common approach are the key elements of successful implementation. As benefits of sustainable measures are often not immediately quantifiable, long-term strategies need to be developed and should be included in the major city transport plans.

- Development of city networks like CIVITAS which offer members the possibility of exchanging experiences and knowledge. *"Learning from each other*" avoids initial mistakes and builds a solid basis for a successful implementation of sustainable transport initiatives in European cities. Apart from financial support, the organisation of workshops and conferences is one of the city's expectations of the European Commission. A common platform should be established providing results and the benefits of different sustainable transport measures.

- Organisation of concerted activities to create new markets for sustainable developments. In particular, common regulations and standardisation at a European level will provide incentives for the industry to invest in the development of products required (e.g. clean vehicles, modern rolling stock). Thus prices will decrease as harmonised demand is created.

- A common framework for evaluation needs to be established and agreed on in order to make the achievable results comparable. This evaluation method must take various framework conditions in different European cities into account (e.g. number of inhabitants, car-ownership rate, modal split) and develop a standardised procedure for data collection, including both information about technical impacts (environment, transport indicators etc.) as well as key elements and steps for a successful implementation.

- A harmonised database including a description of the successful implementation of different types of sustainable transport measures and their impacts and achievable benefits should be established. It is recommended that the experiences gathered in CIVITAS I and II are summarised to provide essential information to follower cities within the current CIVITAS program (CIVITAS PLUS) or other future initiatives of the European Commission. Furthermore it seems vital to provide an easy process of submitting the CIVITAS declaration to allow no barriers towards the membership of the CIVITAS Forum Network.

- To make CIVITAS a strong brand not only in the world of the CIVITAS family and in the world of clean urban sustainable transport, the budget needs to be increased, so big campaigns can take place.

- A corporate identity of the CIVITAS Initiative should be provided already during the call for proposals and stated as immutable so the collaborative projects and demonstration cities are able to use the naming and the design elements for dissemination actions from the very beginning. The unique corporate identity guarantees an easy access to the CIVITAS Initiative for followers.

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