



## **Work Package 5: Extended transfer programme to wider SEE space**

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### ***Action 5.1: SEE mapping of the status of urban public transport***

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## Contents

<b>1. Introduction: The contemporary urban condition</b>	<b>3</b>
<b>2. Mobility and the urban condition in SEE</b>	<b>4</b>
<b>3. The diversity of the urban and territorial contexts examined</b>	<b>5</b>
<b>4. ATTAC: the project objectives and development</b>	<b>6</b>
<b>5. RTPI - Real Time Passenger Information</b>	<b>7</b>
<b>6. Testing SUMP</b>	<b>8</b>
<b>7. The objectives of the Mobility Toolbox</b>	<b>10</b>
<b>8. Emerging concepts</b>	<b>11</b>
8.1. Accessibility	11
8.2. Mobility	11
8.3. Integration and interdependence	12
8.4. Sustainable cycle and pedestrian mobility	12
8.5. Public Transport (PT)	13
8.6. Intermodal exchange	13
8.7. Rational use of energy	13
8.8. Control of private motorisation	14
8.9. Convergence and cooperation	15
8.10. Management and processes	15
8.11. Information connectivity	15
8.12. Flexibility	16

## **1. Introduction: The contemporary urban condition**

The entities we define as 21<sup>st</sup> century European “cities” are extremely dynamic organisms that simultaneously reflect the economic and territorial contexts of their location and the effects that changes on an international scale produce on local territories.

The interesting point here is that the current demographic dynamics determined by the ongoing European economic processes can be divided into two distinct patterns:

- On the one hand, the demographic growth of urban metropolitan agglomerations, especially in the new EU Member States in SEE (produced by the depopulation of rural areas and the transformation of former planned economies) requires the inclusion of areas of urban gravitation and not only cities in the strict sense of the term;
- On the other hand, there is the suburban dispersion taking place in the cities of the older member states where the urbanization phase has been followed by a suburbanization of homes and a number of production and service activities. This, however, does not alter the concept of mobility catchment area, at the most it alters some of the aspects of mobility within the catchment area, for e.g. its perimeter, the distances travelled, the distribution of population and services, the greater diversification of the gravitation centres within the catchment area.

Both phenomena have a direct impact on mobility demand and tend to produce an increase in private mobility, the most critical factor for contemporary urban mobility. Currently the problem concerns all European cities, albeit with different characteristics due to the size and structure of urban gravitation areas – core, fringes and outer rings – and the rate of motor vehicle ownership, which is linked to the degree of development of local economies and their spatial distribution.

## **2. Mobility and the urban condition in SEE**

A prevailing rural character mostly marks the SEE settlement pattern where a network of medium and small towns, excluding capital towns and few other main urban centers, represent the urban network performing the gateway role to guarantee the access to advanced services by huge low-density territories where the rural character is dominant.

Due to the deep, still ongoing economic transition of the last twenty years, SEE cities show a greater demographic and settlement trend which is producing a suburban attraction process around the most active centers; this generates an increasing urban commuting trend together with a parallel growth of mobility, both within and around the urban areas.

The mobility growth reproduces the structural diversification of the economy and society, both increasingly oriented to give individual answers through a strong growth of private motorization. This phenomenon was already known by the urban economies of most Western Europe towns since the late '50s when different urban policies have started to limit it. First of all new road infrastructures were created for cars, then Public Transport was strengthened, finally discouraging the access of cars in towns.

SEE cities are now experiencing the same trend but they have the opportunity to take advantage of the European experience of the last 50 years to set up innovative and updated urban mobility policies whose aim is to anticipate the right solutions and to avoid traffic criticalities.

EU figures show that the motorization peaks vary between top values of more than 600 cars/000 inhabitants (Central Europe) and about 200 cars/000 inhabitants in SEE countries. This is not only a pure urban management technical problem, but it is a substantial political and social issue, since the aspiration to individual mobility represents an idea of individual freedom and welfare.

These pressures can only be contained by an alternative urban mobility supply able to associate to the efficiency and quality also the perspective of a less polluted urban environment, which is more oriented on the socialization of primary needs by the population, and a healthier life style.

### **3. The diversity of the urban and territorial contexts examined**

Over and beyond the common principles and recurrent experiences found in the case studies it is necessary to distinguish between the differences in scale and in settlement structures. The cases examined include:

- a medium small city (< 100.000 inhabitants): Maribor (SI)
- 5 medium-sized cities (approx. 200.000 inhabitants): Miskolc (HU), Kosice (SK), Oradea (RO), Burgas (BG), Modena (IT)
- a metropolitan agglomeration (> 1.000.000 inhabitants): Thessaloniki (GR)
- a region of 1.5 mln. inh. composed of a network of small and medium cities: Marche Region (IT)

The demand for mobility in the various cases, therefore, is necessarily different in terms of quantity and spatial distribution. In all the cases, the core theme is the relation between the central nucleus and the more or less dense and spatially distributed suburban conurbation. This is always characterised by a centripetal gravitation, with the exception of Marche Region, in which polycentric clusters have primary attraction poles on the coastal ridge and secondary poles located inland.

This core theme can be traced back to the idea of “city region”, where it is necessary to organize a system of multiple functional and relational interdependencies but with reduced mobility flows. In the other cases, mobility is more homogenous, with specific differences only in terms of the demographic dynamics between the centre and the periphery of the urban system.

The elaboration of the SUMP, which necessarily deals with the specific characteristics of each case, however, introduces a new approach within the general theme of contemporary urban management: that of sustainable mobility. Sustainable mobility focuses on the citizen-user, rather than on the transportation mode, and on the urban infrastructure designed to support physical, technological and cultural innovation. This produces an exchange between project proposal and the implementation, which is destined to influence the futures choices of every administration.

## **4. ATTAC: the project objectives and development**

The ATTAC project had three main objectives:

- to develop Information and Communication Technologies (ICT) applied to public transport in a series of urban case studies conducted in SEE;
- to identify existing best practices in the field of sustainable mobility in Europe that could serve as reference points for SEE cities;
- to develop a Mobility Toolbox (MT) to the benefit of administrations involved in ATTAC.

This initial project concept was modified subsequent to the adoption of the new European methodology for urban mobility (introduced in autumn 2011), otherwise known as the Sustainable Urban Mobility Plan (SUMP).

This did not imply a distortion of the project but was rather seen as a way of aligning the project to European reference standards. The added value of this change en route was the opportunity of testing the new SUMP's long term planning methodology in very different geographical, economic, infrastructural and demographic contexts so as to validate their utility within the project, and beyond it, in the practices of the local administrations involved.

The SUMP is the exact opposite of a rigid planning system, it is a set of administrative and decision making behaviours that involves urban mobility stakeholders in a shared process to improve general mobility. This requires constant changes and adaptations both in the urban environment and in the behaviour of users-stakeholders.

Therefore, it is not a plan with a conclusion but rather an ongoing process, based on a methodology inspired by common principles, which, however, develops over time, progressively adapting its goals based on partial results and new occurrences in the specific urban contexts.

## **5. RTPI - Real Time Passenger Information**

The core theme of the project is the data provided to users by public transport system operators, thus recognizing the vital role of public transport in solving the mobility demand issue in contemporary cities. This assumption explicitly refers to all European best practices and to the vast international literature on the application of ICT and Intelligent Transport Systems (ITS) to modern urban transport systems.

The principles are summarized in seven points and are the prerequisite for any innovative urban transport project. These are:

- to guarantee the availability of reliable data, easily accessible using existing technologies;
- to verify the accuracy of the information used;
- to make electronic information displays available at public transport stops;
- to verify performance requisites for information systems using transparent offer systems;
- to programme the organization and maintenance of intelligent information systems;
- to integrate of data of all transport systems and to manage them through a single operator;
- to promote collaboration between users, managers, politicians and transport authorities.

In practice, this is an invitation to employ resources made available by technological innovations produced in the last decade and widely tested by an ample number of projects financed by the EU.

## 6. Testing SUMP

The implementation of SUMP in various case studies has highlighted a number of aspects:

- the limited time frame for the application of the methodology – in reality the programme should unfold over years – has forced many to implement only a few features, focussing on the *main priorities* on the basis of local problems, in coherence with the general methodology adopted by the project;
- the common methodology has necessarily produced different results in the various contexts. This is also due to the different contributions depending on the locally available know-how and administrative traditions for the work at hand;
- the studies carried out on SUMP have mainly referred to three forms of pre-existent planning: *town planning, transport planning and environment planning*:
  - *town planning* is by far the most common reference for the new process, given that the principles of spatial development are compared and integrated with those of a sustainable and shared mobility
  - *transport planning* is the natural disciplinary background for SUMP. It could be defined as the necessary premise, based on two cornerstones: Public Transport (PT) planning and the regulation of private transport. These two strategies must be integrated with each other and within a more general view of the construction and use of urban spaces
  - *environmental planning*, on the other hand, is the real novelty, because of its more recent disciplinary history and lesser administrative and institutional tradition, and due to the difficulty in controlling diffusive phenomena of urban, industrial and other origin
- the result of the interaction between these different disciplinary approaches can be attributed to a new and more evolved concept of *interdependence* in the construction and management of urban space, and also to the necessity that this concept be shared and ultimately processed in the behaviour of the main urban actors: the citizen stakeholders. The latter leads to another innovative concept:

- *social equity*, a consequence of the general right to the urban environment as the process of construction and management of the *common good*, and the product of an ever more urbanized society.
- all case studies share the considerable re-evaluation of *non-motorized mobility*: namely walking and cycling as the most basic urban mobility. This is a reversal of traditional criteria based on vehicle traffic flows that tend to emphasize the speed of influx and outflow of motor vehicles from the city while devoting less attention to pedestrian mobility;
- the centrality of cycle and pedestrian mobility has a direct impact on the design/restructuring of existent and future urban spaces consisting in the enlargement of “*soft mobility*” areas, the creation of intermodal exchanges for soft and hard mobility and protected promiscuous areas at soft and hard mobility intersections;
- at the same time soft mobility programmes must be combined with standards of road practicability based on modes and times compatible with the urban structures and with the propensities of the different categories of stakeholders bearing in mind that propensities are subject to change over time, but they condition the structure of the urban space;
- it can be said that the core of everything is the innovative notion of *accessibility and circulation*. This notion identifies a series of principles belonging to urban zoning which now require a different type of integration: residential areas, the central administrative and commercial functions of the city – the school areas, urban stations, leisure areas. This refers to the past experience of a number of European cities and new towns that over decades had pursued the idea of “*urban green spaces*”, composed of a network of protected pathways immersed in nature, that are today among the reference European best practices;
- at the operational level an interesting idea is the establishment of “*quality assessment units*”, permanent task forces to certify the existence of quality requisites in the solutions adopted to equip cities with protected pathways.

## 7. ***The objectives of the Mobility Toolbox (MT)***

The MT and recommendations, both representing ATTAC main output, are tailored specifically on the needs of SEE cities, drawing from three types of contribution from project activities: 1) evaluation of the outputs produced by ATTAC and their potential extension to the SEE region; 2) capitalization of the experience accrued during the elaboration of local SUMP and the implementation of pilots; 3) formulation of a specific methodology to show how the MT can represent a real contribution for policy makers willing to apply innovative local mobility policies.

The ambitious task of MT is to supply a common reference to all subjects having a direct or indirect role in transport activities in SEE:

- *PT Authorities;*
- *Public Administrations;*
- *Financial institutions & Research;*
- *PT Operators & PT Industries;*
- *User associations, NGOs, CSOs and others.*

Urban transport can be summarized in 5 themes characterizing urban mobility planning:

- *Walking;*
- *Cycling;*
- *Public Transport;*
- *Car circulation and freight distribution;*
- *Planning.*

In its final version, the MT can be condensed into a set of recommendations elaborated by the different ATTAC Task Forces and documented by concrete experiences collected during the programmed development of the project. Three specific recommendations sum up the innovation of the methodology developed by ATTAC:

- ***Flexible Transport Solutions;***
- ***Integrated e-ticketing;***
- ***Intelligent Passenger Information.***

The sense of these recommendations lies in two key aspects of contemporary urban mobility strategy. The first aspect is flexibility, meaning that measures shall be adopted gradually and eventually reversed basing on empirical observation. The second is the extensive use of the latest technologies for ticketing and making information accessible to users. These technologies have been thoroughly investigated in the past decade due to the rapid progress of innovation and the parallel spread of information by the EU and the major manufacturing industries that compete on the market for supplies.

## **8. Emerging concepts**

The ATTAC project methodology, which places mobility at the core of planning in contemporary European cities, has a number of innovative concepts.

### **8.1. Accessibility**

This is a concept with multiple meanings, spatially and for ICT:

- Accessibility into cities favoured by the functional integration of transport systems that must be organized by planning intermodal nodes and interchanges between different scales (from international to local);
- Accessibility from the city outwards to different areas of the urban and metropolitan system. The system is interconnected by a continuous network of spaces for mobility, by different transport modes and by the possibility of access for different categories of users;
- Real time (before, during, after) accessibility to information systems that offer the traveller all trip alternatives, modes, schedules, journey times and costs to allow the most convenient choice. This is a political and technological programme – still to be achieved – based on access to up-to-date and reliable databases, and on the political intention to favour services over business logic monopolies in the management of transport offer.

### **8.2. Mobility**

Mobility planning has become a core issue due to the growing concentration of population in urban areas. Mobility planning can no longer be left to the spontaneous organization of demand – in time and space – but should be interpreted as guaranteeing access to a common good that is fundamental to the contemporary urban condition: mobility.

Mobility as a core issue means putting citizens before transport, and adopting a consumer-oriented strategy that interprets the relationship between citizens and the urban environment as a programme based on quality of life and the rights belonging to the urban condition. Mobility demand has a number of fixed components (daily commuting) and variable components (special events), many are predictable (cyclical variations in demand) but others are unpredictable (external interferences, unexpected events). Adaptation to variations is

therefore part of the system, and flexibility should be considered an internal component of the offer structure and of the organization of the managing authority.

### 8.3. *Integration and interdependence*

This is the focal point of user-oriented offer. The offer is traditionally segmented among corporate entities and different and separate management sectors, which do not spontaneously develop an integrated vision and tend to work according to internal conservation logics. The first form of integration is that among separate planning systems: town planning, transports and environment. Each of them handle a separate urban problem according to sector logic: sustainable mobility offer must necessarily integrate the three aspects in a coherent way.

The “environmental quality” dimension is the most innovative because it introduces integration aspects that retroact with the construction of the physical and functional structure of the city. It is evident that the city should be seen as a “single environment” in which the construction and use of common space/environment create strong interdependent connections. Working on the relationship between individual behaviour and the organization of the city according to the best environmental quality standards, we influence the use of space according to a shared model of social solidarity built around a common good.

The idea of an “green urban network”, as a system of cycle and pedestrian paths separated and protected by plant barriers that connect the entire city, is a historical concept which entered the urban ecology culture some decades ago, even though it has been limited to a few pioneering experiences in Northern European countries. It is a cross between the traditional 20th century landscape culture and urban functionalism, and the new ecological awareness which developed during the Seventies and which took root more rapidly in some urban contexts rather than others.

### 8.4. *Sustainable cycle and pedestrian mobility*

Endorsing individual non-motorized mobility means the introduction in urban spaces of time and road practicability parameters with specific quality standards valid in all seasons. Cycle and pedestrian road practicability must adapt to capacity and times compatible with different types of users. The network of cycle and pedestrian spaces requires safety, separation,

continuity and physical protection to separate it from motorized traffic and to guarantee the construction of specially outfitted interference points. At the same time, the intermodality between cycle and pedestrian traffic and points of access to motorized traffic require the construction of protected bicycle deposits.

#### 8.5. *Public Transport (PT)*

Public Transport is the traditional answer to the demand for urban mobility in dense areas or along popular routes, as the alternative to private vehicles. However, the continued growth of mobility increases the need for the greater integration of PT with other forms of mobility, both in city centres and in the suburbs. Urban intermodality has three different forms:

- Intermodality between different PT systems;
- Intermodality between PT and private vehicles;
- Intermodality with the cycle and pedestrian network.

Each of these forms has its own characteristics as regards localization, physical infrastructure and management.

#### 8.6. *Intermodal exchange*

Urban intermodality as a crucial aspect of sustainable mobility in dense areas involves an integrated view of the network of feeders to exchange points. The planning of intermodal exchange nodes is one of the fundamentals of urban spatial planning because it conditions user mobility choices and the choice of localization of many public and private activities, which determine the ways the city is used. The areas that host core services must especially be provided with an efficient intermodal exchange system in order to maintain the localization value of the activities.

#### 8.7. *Rational use of energy*

Urban mobility can be considered an issue involving the rational use of the energy required to move within the urban system. The topic is: how to satisfy an urban community's mobility demand for fulfilling the necessities of daily life: work, study, home economics, leisure and social life. It is a well-known fact that the greatest concentrations of pollutants in the atmosphere can be found in the densest and most developed urban areas: large cities, the Benelux

countries, Northern Italy, etc. The rationalization of urban mobility is not only an advantage in terms of the environment, and thus for citizens, but it is also part of European policy in an attempt to reduce the global greenhouse effect.

The approach adopted by SUMP's encompasses the overall improvement of the quality of the service offered by PT in order to satisfy the mobility demands of citizens. On the other hand, citizens are required to contribute by increasing individual sustainable mobility in the form of cycling or walking, thus reducing motorised mobility. This urban mobility policy embraces all technological innovation directed towards renewable energy and the production of non-polluting engines for different categories of motorised urban vehicles.

Those cities in SEE especially that have not yet experienced urban congestion phenomena with the pollution peaks found in Central European cities, have the opportunity of adopting innovative policies without dismantling the physical and organizational infrastructure that has accompanied the growth of urban vehicle mobility in the second half of the 20<sup>th</sup> century.

#### 8.8. *Control of private motorisation*

In cities private motorisation is based by two factors:

- the rate of private vehicle ownership (cars/000 inhab.) relative to the income of the urban population and the propensity for expenditure of inhabitants;
- the competitiveness of Public Transport as regards quality of the service offered in terms of frequency, cost, reliability, travel times, fleet size, information and comfort.

If PT is not competitive the use of private vehicles is practically inevitable and carries a considerable capacity for political pressure. The balance between Public and private transport is, thus, not only subject to physical, regulatory and tariff restrictions, but to the competitive performance of PT. All of the above issues lead to the necessity for permanent economic investment on behalf of the public sector. According to the principle that the process leading to sustainable urban mobility should be gradual, it is therefore necessary to proceed with priority investments based on a stable long-term programme.

### 8.9. *Convergence and cooperation*

The changed approach to mobility, which applies both to tools for planning and programming the offer and to individual and collective demand behaviours, is the result of a continuous finalized and verified process. At the root of change, there must be an ability for flexible management, which must be effective in the short term and coherent in the long term. The efficacy of this result cannot depend on the spontaneity of single behaviours (individual, collective or corporate) but rather on a process of convergence towards common objectives that presumes the existence of a “management unit” to guide the process.

### 8.10. *Management and processes*

The development of sustainable mobility is a gradual process, subdivided into phases that are distributed in the long term, thus beyond the mandate of any single administration, and requires constant financial planning due to the necessary investments into urban infrastructure. The “management unit” is a necessary requirement for the success of a sustainable urban mobility policy. The unit should not be a bureaucratic superstructure but rather a recognised body comprising different subjects and skills based on a shared cooperation programme to assemble the many components of urban mobility policy, which by definition is integrated and not sectorial.

### 8.11. *Information connectivity*

The true novelty in the field of technology applied to PT in the last decade is the development of communication and information technologies that allow the production of a permanent infrastructure of immaterial flows from a multitude of private and public electronic devices to support accessibility to a network of information on the public transport offer. This is accompanied by new and simplified electronic methods of payment for the service. All this represents the true innovation for public mobility that can inform on prices and performance available in real time. A number of decisive aspects, however, must be considered:

- different corporate subjects that can be in competition to supply data on transport offer. Therefore the sharing of information must become convenient, and recourse to price barriers or limitations in the supply of data must be avoided; technological innovation is fruitless if it is not employed for the benefit of the consumer;

- the creation of a data circuit requires multiple investments in “soft” technology which must be adequately matched by the offer of “hard” services, in other words, of an adequate transport fleet to match demand; the quality of the PT fleet remains a crucial part of sustainable mobility policy, which, together with an adequate infrastructure, cannot be substituted by any other policy;
- familiarity with Real Time Passenger Information (RTPI) is not equal among all segments of the population, and this is a specific component in the gradual process of urban smart mobility that must be taken into account.

### 8.12. Flexibility

The flexibility concept is another issue emerging from the whole ATTAC elaboration. Flexibility in approaching the different urban and/or regional contexts examined by ATTAC, which includes different territorial situations since the transport mobility, differs for demographic size and for the state of each local transport supply and mobility demand. Flexibility is related also to the expected evolution of mobility demand in the given case studies and more generally in the wider context of the SEE area, which includes a real huge set of urban-regional socio economic dynamics where the urban rural pattern is clearly in transition. Flexibility also refers to potential reaction of Local Authorities that shall implement the Mobility Tool-Box, as the responsibility for interpreting/adopting local policies is up to administrations democratically expressed by local communities, which include the interpretation of the priority actions to be faced according to the budget availability and to the willingness and capacity to intervene since it can be observed that similar problems may have different solutions in the range of identified tools for action.

Flexibility can also be addressed to the quick evolution of the existing technologies in particular referred to the ICT applications, which is one of the central items proposed by the project. Flexibility finally is the clear message expressed by the Mobility Tool-Box methodology and Task Force recommendations elaborated by the project partnership with a long work of data collection and expert elaboration. All these observations about flexibility just want to express the concept that within an increasing dynamic evolution of the EU territory the concept of multi task governance oriented is taking over the more traditional concept of government as referred to many traditional static socio economic contexts.