



European Commission

Community Research

ACHIEVING SUSTAINABLE TRANSPORT AND LAND USE WITH INTEGRATED POLICIES



ENERGY, ENVIRONMENT
AND SUSTAINABLE DEVELOPMENT

TRANSPLUS

Contract EVK4-CT-1999-00009

Final Report

ACHIEVING SUSTAINABLE TRANSPORT AND LAND USE WITH INTEGRATED POLICIES

Status: Public

Project Co-ordinator:

ISIS – Istituto di Studi per l'Integrazione dei Sistemi (I)

Contractors:

TIS.PT – Consultores em Transportes, Inovação e Sistemas (PT)

TNO – Netherlands Organisation of Applied Research (NL)

TRL – Transport Research Laboratory (UK)

IVV-TUW – Institut für Verkehrsplanung und Verkehrstechnik, Technische Universität Wien (A)

STA – Societa' Trasporti Automobilistici SpA (I)

SOCIALDATA – Institut für Verkehrs- und Infrastrukturforschung GmbH (D)

CERTU – Centre d'Etudes sur les Réseaux, les Transports, l'Urbanisme et les Constructions Publiques (F)

CETE – Centre d'Etudes Techniques de l'Equipement Nord Picardie (F)

UCL – University College London (UK)

TTR – Transport and Travel Research Ltd (UK)

LV – Langzaam Verkeer (B)

KUL – Katholieke Universiteit Leuven (B)

ILS – Institut für Landes und Stadtentwicklungsforschung des Landes Nordrhein-Westfalen (D)

ISEH – Institute of Spatial Economy and Housing – Warsaw (PL)

IOS – Institute of Environmental Protection (PL)

IC – Impact Consulting (Ro)

FA STU SPECTRA – Central European Training Centre in Spatial Planning, Slovak University of Technology (SK)

UMT – University of Malta, Department of Physics (MT)

Project Duration: 1 April 2000 to 1 December 2003

Date: December 2003

Project Home Page: www.transplus.net



Table of Contents

Introduction: the “TRANSPLUS” approach to complex mobility problems	3
1 Land USE and transport trends	6
2 integrated land use and transport strategies	9
3 implementation of integrated land use and transport policies	13
3.1 MENU OF LAND USE AND TRANSPORT MEASURES	14
3.2 INTEGRATED POLICY IMPLEMENTATION.....	16
3.3 LUT DECISION MAKING SUPPORTING TOOLS	18
4 LUT barriers, solutions and transferability of good practice	21
4.1 BARRIERS TO THE REALISATION OF INTEGRATED LAND USE AND TRANSPORT POLICIES.....	21
4.2 SOLUTIONS TO OVERCOME THE BARRIERS TO INTEGRATED LAND USE AND TRANSPORT POLICIES	24
4.3 TRANSFERABILITY OF GOOD PRACTICE.....	26
5 Participation and Communication on land use and transport Policies.....	29
5.1 THE BASIC PUBLIC INVOLVEMENT FRAMEWORK.....	32
5.2 THE SHORT-TERM FRAMEWORK AT THE NEIGHBOURHOOD OR DISTRICT LEVEL	33
5.3 THE SHORT-TERM FRAMEWORK AT THE CITY OR SUB-REGIONAL LEVEL	33
6 Conclusions.....	35

INTRODUCTION: THE “TRANSPLUS” APPROACH TO COMPLEX MOBILITY PROBLEMS

Do you think that increasing traffic congestion and the related adverse impacts on quality of life – such as the waste of travelled time to and from work, shops, health, education and leisure; growing air pollution; and the increasing risks for your safety, to mention the more evident consequences – are the signal that existing urban policies need to be reviewed?

Would you like to know the solutions applied elsewhere in Europe, and to what extent they were effective? Are you interested in knowing how these can be applied to your case and how to avoid further degradation of your urban environment?

Do you think that we may all benefit by promoting a more rational use of private cars to avoid congestion, and by increasing accessibility to workplaces, shops, health, education and entertainment with alternative transport choices (public transport, walking and cycling) and by building more compact, mixed-use and attractive places to live?

If the answer to any of these questions is YES, you will find interesting the results of the investigation undertaken by the research project TRANSPLUS – TRANSport Planning, Land Use and Sustainability¹. The mission of TRANSPLUS was to identify best practices in the organisation of land use and transport (LUT) policies in order to achieve a sustainable pattern of transport and land use in European cities and regions, promoting economic, social and environmental improvement.

The acronym “TRANSPLUS” evokes that we need to tackle existing problems of mobility in our urban environment using “transport” policies, but adding some fundamental “plus”:

- + **Land Use:** different land uses and spatial separation of human activities create the need for travel and transport of goods. On the other hand, the transport system determines the accessibility to places, making them more or less attractive for the location of business, leisure, shops, housing, services etc. Thus, **integrated land use and transport policies** are needed in order: i) to reduce the need to travel while maintaining spatial integration and access to services and opportunities; ii) to reduce car dependency and motorised individual transport; iii) to reduce the development of greenfield land; iv) to reduce disparities in the costs of living, travelling and providing public services, without hampering the growth of urban and regional economies; v) to reduce indirect costs which may hamper transactions in a number of city market places (e.g. by facilitating the accessibility to a wider range of employment

¹ TRANSPLUS project has been funded by the European Commission under the 5th Framework Programme, Key Action “City of Tomorrow and Cultural Heritage”. To further promote research in this field is currently the target of the European Commission DG RTD sector on “Urban Sustainability and Cultural Heritage” The project deliverables may be downloaded from www.transplus.net. TRANSPLUS is also part of the Land Use and Transport Research (LUTR) cluster, a group of interrelated research projects funded by the European Commission under the same programme. More information on the LUTR cluster may be found at www.lutr.net

options on the local labour market; by improving accessibility to local retail services for a wider range of customers; by promoting new transport markets etc.).

- + **Participation:** co-ordination of complementary policies in the same field of intervention as well as of policies of the same nature (e.g. fiscal policies) across the different government tiers is the key to an effective development and implementation of integrated policies, to tackle complex mobility and accessibility problems over different time and spatial scales. This requires organising new forms of purpose oriented processes and strengthening the links between different institutions with open and dynamic forms of co-operation (e.g. associations, covenants, new regional authorities etc.). Participation includes also engaging in the policy decision making process, planning, implementation and monitoring activities of private partners (e.g. private transport operators, developers etc.), citizens and stakeholders. To be effective, a professional approach to participation is needed, and the consultation processes must be carefully planned and implemented.
- + **Sustainability:** this is a concept increasingly used in the policy arena, and especially in the urban context where almost 80% of the citizens of the European Union are concentrated and most of transport related environmental, health and social problems occur. Although vague, the word "sustainability" always claims for considering simultaneously the impacts of human activities on the environment, on social cohesion and on economic development perspectives for ours and future generations. **Sustainability impact assessment** is increasingly required in all fields of policy intervention, to decide what would be the optimal use of the limited resources available to enhance economic competitiveness, to improve the environment and to augment social cohesion in our cities. Sustainable mobility is a key issue, and methods and practices to achieve it must be devised, experimented and widely disseminated to obtain breakthrough improvements in the quality of transport and of urban life.

The main results of the TRANSPLUS research are illustrated in this report, showing the currently unfavourable land use and transport trends (Chapter 1), the integrated planning strategies aiming to achieve more sustainable spatial and mobility patterns (Chapter 2), the implementation of integrated land use and transport policies (Chapter 3), the barriers more frequently encountered, possible solutions and their transferability (Chapter 4), the key role of participation and the methods needed to ensure an adequate consideration of citizens' and stakeholders' view (Chapter 5), and finally some conclusions and recommendations (Chapter 6).

However, the overarching conclusion that we may anticipate here is the need to build up networks of politicians, civil servants, representatives of private stakeholders, NGOs and citizens groups, expert research and universities with competence in the transport and land use sectors.

Why are these networks needed? Because nobody will achieve effective results working alone. This is especially true when one has to deal with problems that are complex and concern several jurisdictions, as

most of the mobility problems increasingly are. Networking may facilitate the finding and implementation of solutions at local level. But **transnational networks** are also important to disseminate best practices and exchange experiences that may help to find easier and faster effective solutions to local problems. Transferability of innovation is desirable in practice because the risks and costs involved in developing the first example of a solution can be avoided by adopting a proven approach. However, transferability is also difficult because each country and each city has its specific features. In this context, transnational networks: i) may increase the accessibility of those concerned with mobility and land use planning to shared knowledge; ii) may facilitate the implementation of regional cooperation programmes where cities with similar problems and goals are associated together to realise similar goals; iii) may even facilitate the transplanting of institutional forms that were proven to be effective (e.g. regional authorities, public-private partnerships schemes, forms of inter-municipal association etc.)

The networks shall be carefully planned and cover issues for a targeted group of participants who can see the need for improvement of specific land use and transport policies (e.g. improving public transport accessibility, walking and cycling strategies, renovation of railways stations and surrounding areas, parking policies, city logistic, mixed-use development etc.), processes (e.g. participation, co-ordination of spatial planning strategies etc.) or tools' application (e.g. land use and transport integrated models, monitoring indicators).

1 LAND USE AND TRANSPORT TRENDS

A first question to be raised is why do we need integrated LUT policies. In many EU cities we see that **current trends are unsustainable** and neither land use nor transport policies alone are sufficient to tackle existing problems.

Urban sprawl trends similar to those illustrated in the box below for the Barcelona case may be easily observed in many European cities and metropolitan regions.

Practical Example – Barcelona Metropolitan Area

- ✓ From the mid-1970's the population of Barcelona city started to stabilise and then decline in the '90s. During the '90s the region beyond the metropolitan area (the city's "second crown") has been gaining in population, whereas the "first crown" is also losing population.
- ✓ The production and housing sectors have shown the same dispersion patterns of population.
- ✓ The dispersion of people and economic activity has caused increasing inter-regional mobility, also with an increase in suburbs-to-suburbs trips.
- ✓ In the central city, services have continued to increase mainly in the commerce and catering sectors, financial services, and communications and transport sectors.
- ✓ Housing supply in the last decade has been greater and cheaper in the rest of the Barcelona region (i.e. the region minus the metropolitan area). Prices in Barcelona city have increased so much that young couples with a middle or low income cannot afford to buy there, and thus have to look elsewhere.

Urban sprawl is mainly a reaction to the deterioration of the quality of life in the inner cities – due to congestion and air pollution problems – and at the same time to the reduced affordability of central locations for the average household – due to the increasing value of land. However, the overall effect is the worsening of **accessibility** – houses are increasingly far away from workplaces, shops, town centres – and of **mobility** – increasingly the use of private cars is required, because there are no transport alternatives (as public transport is not viable to connect sparse settlements in the suburbs).

Indeed, some well known trends are visible with regard to:

- **Transport developments:** in the EU15 global mobility is growing and the extrapolation of the current time series points to an increase of about 50% in the next 50 years. Around 80% of the EU15 population lives in urban areas, and the transport of goods and people in these urban areas accounts for an important share of all transport kilometres in Europe. Per capita **car ownership** rates have increased over the past decades in virtually all cities. In the EU15, it is expected that this growth, although slowing down, will continue in the coming decades. Car ownership tends to be lowest in urban centres and to increase towards the outskirts. An OECD-ECMT survey of cities (ECMT-2002 final report) presents a 10% growth in number of trips by private car per person per day in the EU15 in recent years (since 1999). The growth in **car use** is not only the results of growth in number of trips but also the average trip length is still growing in most urban areas. On the other hand, the market share of **public transport** has been decreasing in most urban areas within the EU15. Here, as public transport improves, there is an unintended effect, whereby public transport attracts pedestrians and cyclists. The mode shift from private car towards public transport is often rather low and public transport measures are not very successful in reducing car use. There is also a rapid growth of **light freight vehicle transport** within our urban areas due to the growth of the service sector and the related need for

smaller and flexible deliveries (a recent survey from the Cityfreight project computed an average load of 19 Kilos per delivery), as well as logistic developments such as just-in-time management in the industry. As a result, **congestion** has deteriorated during the 1990s and its costs (time waste, increasing gasoline consumption and pollution) are concentrated in the larger urban areas. A continuation of past and present policies will not reduce congestion levels, rather it will significantly increase it in the European cities. Finally, some good news can be recorded concerning **safety**: fatalities due to road accidents have recently decreased substantially in the EU15, with the notable exceptions of Portugal, Spain and Greece. However, a considerable variation in this trend exists among cities.

- **Land use developments:** growing wealth and increasing demand for an improved quality of life are reflected in the increasing consumption of land and space, demand for privacy and better living conditions and access to green space. In most urban areas, sprawl is ongoing and the highest population growth rates are in satellite towns and low density sub-urban neighbourhoods. Demographic trends, including an ageing of population and the growth of smaller and single persons households, are adding to the demands for new housing and to the pressures for **suburbanisation** in rural areas, as well as for improvements to the quality of life in inner city areas. At the same time, increasing land values and property prices in cities make housing in location that are accessible to livelihood opportunities and services increasingly unaffordable for many segmentations of the population. This process of sub-urbanisation is turning monocentric urban areas into complex polycentric urban conurbations. An important consequence is the increasing **spatial separation** of houses, workplaces, retail and other services. The sub-urbanisation of residents and the clustering of economic and service activities (e.g. shopping-malls), which exploit the economies of scale and scope, are leading to increasing average trips length and suburbs-to-suburbs trips. However, there are also signs of **re-urbanisation**. Active urban redevelopment and renewal policies in many urban areas seem to be having some success in reversing the depopulation and decay of urban centres. This trend applies to selected segments of the population, mainly small, one or two persons households.
- **Acceding and Accession Countries:** in the early 1990s, East European countries underwent a transition process which started different departing points in every country. Driving forces behind economic and spatial developments were privatisation and the growing share of private sector output, increasing labour mobility and restructuring of labour markets as well as emerging land and property markets. The process of spatial transformation is regionally differentiated due to increasing polarisation between rapidly advancing regions and those affected by severe economic recession and unemployment, creating problems of social cohesion. These countries are struggling with **declining city centres**, which in some cases have reached a level hardly encountered even in the EU15 member states. Migration from urban areas to the surrounding settlements or countryside is an ongoing trend. At the same time, there is in these areas tremendous pressure by private (and even public) commercial enterprises, investors and developers. These problems are aggravated by unclear

and varying restitution rates, which gives rise to unclear ownership situation and liability, and by the lack of funding. As a result, inner cities or town centres are quite often characterised by a mix of less competitive shops and workshops, old residential and commercial buildings lying vacant or under-used, as well as individual, scattered buildings fully restored or newly built for commercial, residential or institutional use. Urban sprawl is also continuing at a pace that was seldom experienced in any of the EU15 member state, and is often accompanied by the phenomenon of shrinking municipalities (within existing administrative boundaries). There is in particular a growing **industrial and commercial development on greenfield sites**, which in some cases poses severe competition to inner city commercial and trading operations and has contributed to the decline of city centres. As a result, a newly emerging and comparatively affluent middle class is moving away from urban districts into the surrounding areas. **Pre-fabricated large housing estates** are an extremely common feature throughout all former socialist countries (on average, more than 40% of all inhabitants in major cities live in estates of this kind).. The task of improving and renovating these estates is difficult because for very many years the housing industry has not been sufficiently developed, and a major portion of the apartments themselves were privately owned, while the built land was either in local government or other ownership. As it concerns transport, increases in **motorisation** have proceeded so rapidly that several municipalities have reached levels of motorisation higher than those of many towns and cities in the EU15 member states. Car ownership has often has doubled, and in some cities even quadrupled. While urban sprawl is one of the main reasons for this huge increase of private motorised transport, the driving force behind increases in urban goods transport is economic growth and prosperity.

For more information

TRANSPLUS – System Analysis of Trends and Strategies – Deliverable 1 (2000)

TRANSPLUS – Impacts of Megatrends on Transport and Land Use in Europe – Deliverable 1.1 (2000)

OECD-ECMT – Implementing Sustainable Urban Travel Policies – Final Report (2002)

European Commission – Thematic Strategy on the Urban Environment (TSUE) – Twelve Candidate Countries Overview Report (2003)

2 INTEGRATED LAND USE AND TRANSPORT STRATEGIES

The cities' experiences analysed in the context of the TRANSPLUS project are considerably different with regards to both the planning approach and the kind of measures applied to solve their problems. However, two major approaches to define and implement **integrated land use and transport strategies** have been identified:

- land use policies aiming to reduce the need to travel – these are mainly ‘forward’ policies (or “**city of tomorrow**” policies) which create new centres or regenerate brown-field sites, changing the urban fabric and limiting the sprawl of dwellings, workplaces etc.;
- transport policies aiming to improve accessibility with a wider range of transport alternatives – these are mainly ‘backward’ policies (or “**city of today**” policies) taking the existing urban fabric as a datum, and changing the transport system in order to improve accessibility by alternative transport modes (public transport, walking & cycling, flexible transport services, car sharing etc.) and stimulating the revitalisation of high-density and mixed-use neighbourhoods within the city.

Both approaches are needed to build up comprehensive strategies based on **urban and regional structural plans**² and aiming to achieve the **sustainability goals**, as those included in some key European Union policy documents and directives as follows:

Sustainable Development Strategy (COM 2001/264 Final)	Headline objectives to improve the transport system and land use management : <ol style="list-style-type: none"> 1. Decouple transport growth significantly from growth in Gross Domestic Product in order to reduce congestion and other negative side-effects of transport. 2. Bring about a shift on transport use from road to rail, water and public passenger transport so that the share of road transport in 2010 is no greater than 1988. 3. Promote more balanced regional development by reducing disparities in economic activities and maintaining the viability of rural and urban communities, as recommended by the European Spatial Development Perspective.
Air Quality Framework Directive ³	The aim of this Directive is to define a common strategy to: <ol style="list-style-type: none"> 1. Define and establish objectives for ambient air quality in the Community designed to avoid, prevent or reduce harmful effects on human health and the environment as a whole. 2. Assess the ambient air quality in Member States on the basis of common methods and criteria. 3. Obtain adequate information on ambient air quality and ensure that is made available to the public, <i>inter alia</i> by means of alert thresholds
Thematic Strategy on Urban	The objectives of the TSUE are:

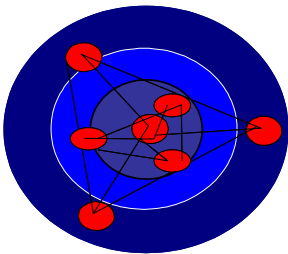
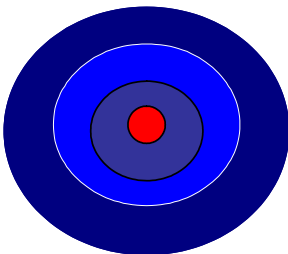
² these may be named differently – e.g. strategic plans, territorial plans, master plans etc. – in the different country practices, but for the sake of simplicity we will use the term “structural” for this type of high level plans.

³ More information may be found at www.europa.eu.int/comm/environment/air/ambient.htm

Environment (TSUE) ⁴	<ol style="list-style-type: none"> 1. The promotion of Local Agenda 21 2. The reduction of the link between economic growth and passenger transport demand. 3. The need for an increased share in public transport, rail, inland waterways, walking and cycling modes. 4. The need to tackle rising volumes of traffic and bring about a significant decoupling of transport growth and GDP growth. 5. The need to promote the use of low emission vehicles in public transport 6. The consideration of urban environment indicators
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Indeed, the case studies surveyed in TRANSPLUS showed considerable differences among cities concerning their perspective on land use and transport integration. The following set of recommendations gives some insights on how to design and put in practice a variety of integrated LUT strategies.

A basic option: monocentric or polycentric strategies?



Broadly, monocentric development strategy puts the focus on revitalisation or strengthening of the city centre while polycentric development strategy concentrates investments in the development of well located sub-centres. The choice between monocentric or polycentric strategies depends however on the city size. For smaller cities the monocentric urban form is much more sustainable than a polycentric urban form. Smaller cities that opt too early for the polycentric urban model are in fact encouraging urban sprawl. On the other hand, larger cities that pursue the monocentric urban model, focusing all attention on the city centre, might lose control over developments at the periphery. Uncontrolled urban sprawl will be the result, when a polycentric strategy could limit this tendency. Thus, harmonisation of city strategies should be pursued depending on the context. This in particular requires **effective spatial planning at the regional level** and **coordination of the web of policies typically promoted in each region of Europe by a great variety of national, regional and local institutions**, with different responsibilities, covering different issues at different scales.

Is integration effective?

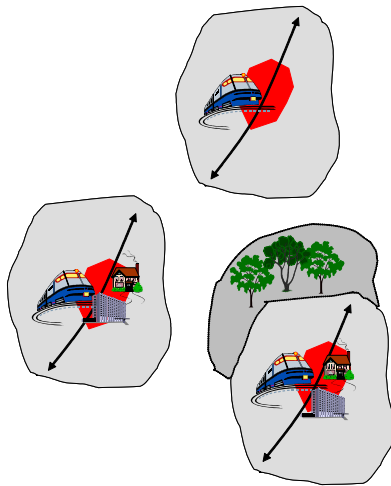
Integration is only realised when it is applied to policies, planning methodologies and organisation of processes or structures.

Integration is a multidimensional task. Not only do different policies need to be integrated, but the supporting tools and the supporting organisational structures of town planning and transportation engineering also need to be integrated. Often the strongest integration is found at the policy level. Most cities in Europe

⁴ More information may be found at www.europa.eu.int/comm/environment/urban/home_en.htm

try to initiate integrated policies like public transport oriented development. However, integration of the supporting models, monitoring indicators and institutional structures is much less developed.

Which strategies should be considered?



Policy packaging must consider different kinds of interrelated measures

A combined “push-and-pull” strategy, “pushing” residents from excessive car use through restrictions such as parking management and at the same time “pulling” users towards environmentally friendly modes by providing an efficient public transport system and favourable conditions for walking and cycling has been recommended by many EU research projects and examples of good practice. The analysis of the TRANSPLUS case studies confirmed that in reality there is an emphasis on stimulating pull-measures, while restrictive push-measures have a lower priority. Much attention is given to softer measures such as information and communication to influence mobility behaviour. The applicability of land use and transport policy packages depends on all kinds of urban characteristics.

What evidence we have of the impact of LUT measures?

The TRANSPLUS case studies provided only little evidence of the impacts of the LUT measures illustrated above. Partly this is due to the fact that the case studies focused on innovative policies which are new and as yet unproven. A main difficulty was that often there is not a full monitoring and evaluation scheme in place, and it is difficult to assess impacts. Notwithstanding the lack of clear-cut before and after results, it is clear that, on one hand, **land use policies to increase urban density or mixed land-use without accompanying measures to make car travel more expensive or slower have only little effect on car mobility**, but, on the other hand, **these policies are important in the long run** as they provide the preconditions for a less car-dependent way of life.

It is rather obvious that in deciding a spatial strategy the specific geographical and historical context must be considered⁵. This is easier said than done, especially when integration of land use and transport issues is at stake: indeed, while land use planning is often concerned with settlements and zones that can in principle be neatly nested within one another, transport adds a new dimension which cuts across these.

⁵ there are a variety of situations throughout Europe: regions dominated by huge monocentric cities such as Paris, metropolitan clusters based around key cities as for Merseyside (Liverpool) and Greater Manchester in Great Britain or the Netherlands Randstad (Amsterdam, Den Haag, Rotterdam).

Transport bodies are not only often different from urban planning bodies, but transport infrastructure and travel patterns typically cut across land use boundaries. One way to solve this problem is to take the **daily mobility areas** ⁶ as the ideal spatial scale at which to design, develop and implement LUT strategies. These areas are often considered in planning studies, and in some countries they are also acknowledged as relevant statistical units for mobility data census, but they are rarely, if ever, considered as administrative “territories”, due to the inherent flexibility of their boundaries (strongly dependent on the spatial dynamics of settlements). However, planning and monitoring broadly consistent with this spatial scale, co-ordinating the various institutions and actors acting in these functional regions, is feasible, provided that there is the common commitment of regional, county and local authorities.

For more information

TRANSPLUS – Assessment of Integrated Land Use and Transport Planning Strategies – Deliverable 2 (2002)

TRANSPLUS – Assessment of development strategies – Deliverable 2.1 (2002)

⁶ also named “population catchment areas”, “travel-to-work areas” or “urban functional regions”



5 IMPLEMENTATION OF INTEGRATED LAND USE AND TRANSPORT POLICIES

The implementation of a **land use and transport strategy** usually implies the **combination of several policy measures**. A “policy measure” is any tool which can be used to overcome problems and achieve objectives, and it may include transport as well as land use policies ⁷.

The assumption behind combining different measures is that the objectives can be achieved more effectively by using *packages of policies*, whereby the combination of complementary and mutually supportive measures *facilitates their implementation* and/or *intensifies the respective impacts*. Mutual interactions may be:

- **Benefit enhancing:** a measure reinforcing the benefits of another;
- **Acceptance enhancing:** a measure making another more acceptable for the citizens and/or stakeholders (e.g. specific provisions to compensate losers);
- **Resource providing:** a measure providing more financial or technical resources for the implementation of another measure;
- or simply **prerequisites** for implementation (e.g. compact land use is a pre-requisite for the viability of car sharing).

For instance, an example of ‘resource providing’ interaction is the combination of light rail and road pricing. The latter encourages greater use of light rail and generates revenue to pay for the light rail, while investing this revenue in light rail makes road pricing more acceptable. Thus, interactions between pairs of measures are not necessarily symmetrical: road pricing is resource enhancing for light rail, while light rail is acceptance enhancing for road pricing. An example of ‘pre-requisite’ is the relationship between compact urban development and strategic location of car sharing facilities. Compact cities and sub-centres reduce the need to travel by car, facilitating the adoption of car sharing schemes which are usually convenient only for low-level car users living in the vicinity of car sharing facilities. In conclusion, a good package of policies should include not only the right elements (the measures), but also the right relationships between the measures⁸.

⁷ this definition has been firstly adopted in the LUTR project PROSPECTS, accessible through the web-site www.lutr.net . PROSPECTS has provided also a list of transport and land use policy measures and a Decision Making Guidebook (DMG) including rules for the efficient packaging of policy measures.

⁸ for instance if a city is implementing some form of parking charge scheme together with a programme of PT service quality improvement, but the revenues from parking are not used to finance the PT investments, or these are used but citizens are not made aware through information campaigns, the overall effectiveness of the policy may be reduced.

3.1 MENU OF LAND USE AND TRANSPORT MEASURES

Although there exist a broad variety of possible combinations policy instruments, TRANSPLUS focused on case studies of implementation for three types of integrated LUT policies:

- public transport oriented development;
- short distance structure development⁹;
- car restriction oriented development.

These policies pursue the integration of land use and transport measures taking respectively public transport, walking & cycling, and regulation of car use (including the space for cars in the city) as pivotal elements.



Public Transport Oriented Development includes several mechanisms to intensify the density of housing and other activities near urban rail, light rail, subway and tram stations. This may take place in the inner cities as well as in the metropolitan area to catch commuter flows. The most common measures include:

Improving PT accessibility in existing settlements: this includes the revitalisation or extension of light rail lines and tramways - or the continuous development of bus systems in smaller cities.

New PT oriented settlements: concentrating urban growth and sub-centre development around PT nodes and corridors is a practical way to apply the 'decentralised concentration' concept. A new urban development strategy is to improve the accessibility of the means of PT by opening up new stations or reactivating former ones in combination with the revitalisation of tramways or bus lines.

Renovation of railways stations and renovation of areas surrounding stations: stations are new centres of mobility and gateways to the city. The regeneration of the station building, including preservation of historic building structures, may enhance its integration into the urban environment endorsing a diversity of uses near the station, e.g. work-places, living, shopping, leisure-time or cultural facilities and services, etc.

⁹ namely "short distance structure development" is an urban form where a wide mix of activities is accessible in walking and cycling distances. The concept coincides in practice with that of high density and mixed-use development.



Short-distance Structure Development aims to create a pedestrian and cycling friendly approach to site development, and to facilitate “door-to-door” travel without using the car, encouraging the use of alternative transport modes. Short distance structure development can be an important pre-requisite for the successful promotion of walking and cycling. Possible measures include:

Short-distance mixed-use development: as short travel distance is a main reason for choosing non-motorised modes, the urban structure is of prime importance to promote walking and cycling.

Usage of inner city brownfield sites: in urban development planning, priority should be given to the regeneration of city areas that have lost their original function.

Development of a walking/ cycling strategy: A hierarchical city-wide cycle network should be created in an attractive environment connecting different locations and facilities. Local cycling and pedestrian networks must be linked to sub-regional networks. Simultaneously, conflicts between cyclists, pedestrians and motorised modes must be reduced to improve the safety and attractiveness of cycle tracks and foot paths.

Improvement of information and orientation: this measure is an important ‘soft’ policy. Pedestrians and cyclists should feel that they are respected and welcome as travellers. Improved information system can link together the different parts of the city and encourage people to walk, cycle or use public transport.

Pedestrian and cyclist friendly urban design: altogether, pedestrian and cyclist friendly site development consists of various measures supporting each other. Planning for pedestrians requires high quality design in a confined space and thus, conscious interactions with buildings, and open spaces.



*Pictures of car free neighbourhood Vienna – Floridsdorf © 2001
Murdoch University*

Car Restriction Oriented Development aims to limit the intrusion of cars into the urban environment, and reduce by this way their negative impacts on noise, air quality, safety and aesthetics of towns and neighbourhoods. Restrictive measures may have a low priority in political agendas since they are not very popular among car users. The combination of **push and pull measures** (the so-called “carrot” and “stick” approach) is, thus, the main approach to implement projects aiming at car restriction.

Planning new car restricted developments: one of the more radical forms of car space restriction is the “car free development”. This is based on the assumption that for non-car owners it is more attractive to live in an environment where the impact of cars on noise, air quality, safety or aesthetics is reduced or absent.

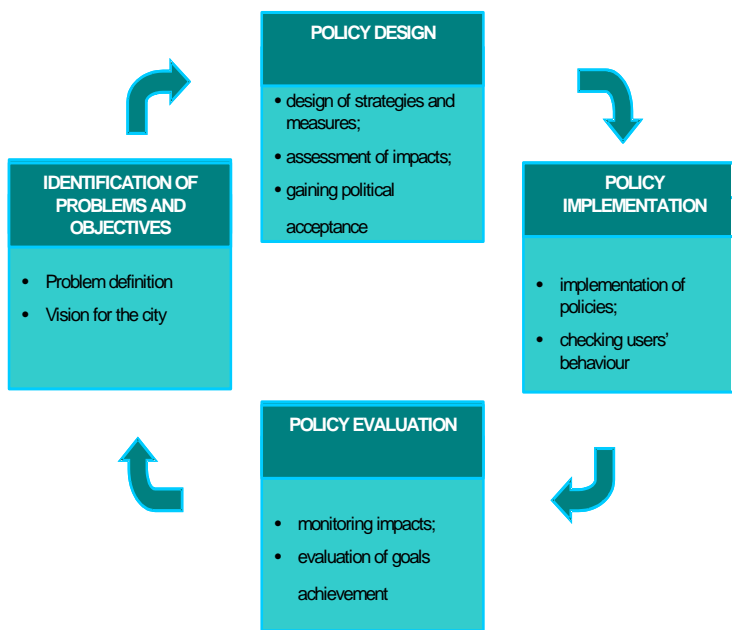
Parking regulations in location policy and in building codes: this may be seen as ancillary to planning new car restricted developments. The well known ABC-principle can be quoted as a major example of a location policy including parking regulations.

Reallocation of existing urban public space: this includes several measures, such as private car accessibility regulation, parking policy or reallocation of road space.

3.2 INTEGRATED POLICY IMPLEMENTATION

To implement a land use and transport strategy does not simply require to identify a suitable a list of policy measures as those presented above. More importantly it involves the **integration of several processes and actions** needed to realise any substantial policy – **deliberation, implementation, monitoring, evaluation, identification of complementary policies, coordination between authorities** at different levels of government, **participation of private actors, citizens and stakeholders** - into a coherent, comprehensive and enduring framework where the single processes may reinforce one another in meeting the objectives, and in overcoming barriers to the successful output and outcome of the policy.

Indeed, although there is a great variety of city contexts in Europe, there are also several issues linking the urban agendas to common and widespread goals of sustainable mobility and urban development, and a normative approach is recommended to link deliberation, implementation, monitoring and evaluation steps into a **policy life cycle**.



Full policy integration requires to activate this policy cycle **organising new forms of purpose oriented processes, and strengthening the links between different institutions with open and dynamic forms of co-operation**. However, the real challenge is to maintain the global coherence of the policy cycle over a long time period, including the different decision makers at neighbourhood, city, regional and national level, as well as ensuring the

participation of relevant stakeholders and the civil society in the various steps of the process.

There are many barriers - legal, institutional, organisational, financial, cultural – to achieve a greater coherence and continuity of land use and transport policy making processes. In many cases the administrative jurisdictions of the various local and regional governments do not match the evolving spatial configurations and current urban developments (sub-urbanisation, agglomeration effects etc.). One response to this has been the formation of organisational arrangements to reflect the new functional interrelationship between local, local/ regional and even between regional administrations. These evolving administrative patterns may be formal or informal. Another major trend towards inter-agency work has been the adoption of public-private partnerships. Such agencies can potentially vary in their relationship with the formal structures of government and in the degree to which they contain a local democratic input.

A number of key-factors influencing the successful implementation of integrated LUT policies as well as the main types of barriers and ways to avoid or overcome them, have been identified when analysing the TRANSPLUS case studies. The following recommendations synthesise the main findings on how to improve the implementation process of LUT policies:

Identify the problem Be aware of the barrier ‘problems’ and take the initiative to find solutions

The accurate specification of a problem may sometimes allow attention to be focused on the kind of solution that might be used. Search for solutions able to remove barriers that are contingent (i.e. they can be removed) and hinder the implementation of the policy (output barriers) or the realisation of the sustainability goals (outcome barriers). The TRANSPLUS case studies show that most barriers are interconnected and may not be immediately identify explicitly. However, the identification and recognition of the existence of a barrier constitutes the first step towards a solution.

How to support the implementation process? According to the case studies analysed within TRANSPLUS research, many different and innovative ways are being adopted in order to improve the implementation of integrated LUT policies. The basis for good implementation practices, in all cases, are:

- **Adopt a broad strategic concept for the city** which integrates sectoral policies in a comprehensive strategy;
- **Strengthen co-operation and co-ordination** between the different administrative departments within the city and across different tiers of government (municipal, regional, in some cases even national), and increasingly between public and private actors;
- **Promote the involvement of stakeholders and inhabitants** in the development of a vision for the City of Tomorrow and the planning processes

Progressive or massive implementation?

Often relevant policy changes cannot be implemented at once in the whole city. This may be caused by a number of reasons, and thus only a **step by step implementation process** seems to be an effective way to proceed. Usually, the measures can be limited to a specific area where more favourable circumstances enable (or more stringent needs require) the implementation of LUT integrated concepts.

A positive aspect of a step by step implementation process is that it prevents stakeholders from being confronted with extensive projects that disrupt their usual patterns of mobility and, thus, does not threaten acceptance

3.3 LUT DECISION MAKING SUPPORTING TOOLS

TRANSPLUS has reviewed the current status and capability of **tools** to support integrated LUT decision making and implementation, including:

- urban LUT Integrated models;
- LUT indicators.

The perspective of TRANSPLUS was to investigate the current usage of Land Use and transport Integrated (LUTI) models in the case study cities as well as of indicators for monitoring the results of LUT policies, pinpointing the main problems encountered and examples of good practices.

There is a range of modelling tools available to assist urban policy makers in their decision making¹⁰. Model selection depends on what information was available/used in the policy setting process for the project, what key elements are to be assessed and which main impacts are to be measured, and the timescales to which they apply.

The capability of *all* existing models and assessment tools is severely limited. Current methodologies are only able to examine a relatively small proportion of the policy interventions that could be applied by policy makers at various levels of the policy-making spectrum. This is due to several factors: data availability; skill and knowledge availability; and software availability. Moreover, there is generally an insufficient understanding of the underlying behavioural assumptions and how these are embodied in the model parameters.

Examination of the city case studies investigated in TRANSPLUS identified that the cities' use of formal modelling procedures fall into three groups:

¹⁰ A full account of what models have been used in the TRANSPLUS case studies, their outputs, strengths and weaknesses, and in particular the evaluation of their capability to handle and assess integrated LUT measures is provided in TRANSPLUS Deliverable 2.2. (available at www.transplus.net).

- those that use an integrated land-use/transport model;
- those that use models, but do not take the feedback from transport to land use into account (what might be called the 'traditional' approach); and
- those that do not appear to use any formal modelling tool.

Few of the cities employed an interactive land-use/transport model. The remainder of the cities employed a variety of different transport planning tools which mainly are concerned, at best, with the impacts of land-use on transport. There is no evidence to suggest this picture is not representative of the majority of cities in Europe. Indeed, many local transport officers and planners throughout Europe acknowledged the usefulness of models to predict effects on transport, but:

- interactive models are by their nature very complex, and the skills and understanding necessary to use them, not forgetting the increased resources required, may not always be present;
- the lack of resources within local government means that models are seldom re-run regularly or updated;
- accuracy of interactive models over time is not yet proven, and this leads practitioners to a degree of suspicion and uncertainty as to their full usefulness;
- models are often considered as a confirmation and an additional check of the estimations made by a city's administration;
- many local officers remain unconvinced by the outcome of models and therefore political judgement, influenced by business, can override professional judgement;
- whether or not models are reliable, decisions also need to be based on public acceptance. Therefore, final decisions can often be based on the judgement of politicians who are answerable to the public and to business.

In this situation, however, it is clear that there is still the danger that **potentially important impacts are overlooked or undervalued**. Interactive land-use/transport models must be improved, but there are some important challenges to be met (e.g, the development of new activity-based modelling technique and microsimulation; the improvement of spatial resolution of present models; a wider consideration of spatial equity and social impacts). In any event, models will always be a generalisation of reality. While detail is important to the user, so is flexibility and the ability to construct interactive models relatively easily while still retaining accuracy, robustness and, crucially, acceptability. This is particularly relevant to smaller cities, where resource and skill availability may be a problem.

If better models are requested to provide more solid foundation to policy evaluation, we need also indicators to feed the **monitoring** of land use and transport policies. This is a key activity aimed to measure at different steps of the policy process: i) the **successful implementation of a project or**

regulation, with indicators of change in some output variable; ii) the **change of the users' behaviour**, with surveys or direct counts of the usage of new infrastructures and services, of users' compliance with different types of regulations, etc.; iii) the **achievement of the policy outcome goals**, with appropriate result or impact indicators. A list of key city context data and monitoring indicators is provided in the TRANSPLUS Guidelines (available at www.transplus.net).

One important task for monitoring is to timely observe possible feedback effects of policies or external tendencies (e.g. the diffusion of new goods, services, technologies) on users' behaviour. For instance, **imitation or network effects** may increase directly the adoption of new behaviours after a certain critical mass of new users of a service has been achieved (e.g. due to the spreading of good reputation). Other feedback effects may regard the opportunity of using an existing infrastructure or service, that may be reduced by adverse congestion effects due to an excess of demand, or pressures for new infrastructures and services raised by too rapidly growing demand. These feedback effects may arise spontaneously, and monitoring users' adoption rates may be the quickest way to become aware of unexpected consequences.

The main suggestions to foster the usage of indicators throughout Europe are:

- to build sub-systems of LUT indicators in the different cities using a common set of key outcome indicators (as those presented in the TRANSPLUS Guidelines);
- to keep the number of these LUT indicators to the minimum set needed for analysing the ultimate impacts on sustainable mobility and urban quality of life (on travel volumes, congestion, accessibility air pollution, noise, safety, competitiveness, citizens' satisfaction);
- to relate these sub-systems of LUT indicators to other initiatives currently fostering the adoption of comparable urban indicators at the EU level, such as the urban audit initiative, the indicators used for monitoring projects financed by the EU Structural Funds, or the European Common Indicators elaborated in the context of the EU Thematic Strategy on Urban Environment;
- finally, to integrate the collection of specific data and indicators to monitor LUT policies into the regional and local statistical and monitoring systems (if any), in order to avoid duplications of efforts and survey activities.

For more information

TRANSPLUS – Assessment of Implementation Strategies – Deliverable 3 (2002)
TRANSPLUS – Public transport oriented development – Deliverable 3.1 (2002)
TRANSPLUS – Pedestrian and cycling friendly structure development – Deliverable 3.2 (2002)
TRANSPLUS – Car restriction development – Deliverable 3.3 (2002)
TRANSPLUS – Land Use and Transport Indicators – Deliverable 3.4 (2002)
TRANSPLUS – Supporting models and indicators – Deliverable 2.2 (2002)
TRANSPLUS ACCESS – Case studies reports – Assessment of planning and implementation strategies in five AAC cities (2003)
TRANSPLUS ACCESS – Synthesis Report – Assessment of planning and implementation strategies – 2003.

4 LUT BARRIERS, SOLUTIONS AND TRANSFERABILITY OF GOOD PRACTICE

4.1 BARRIERS TO THE REALISATION OF INTEGRATED LAND USE AND TRANSPORT POLICIES

Implementing integrated LUT policies which shall ensure sustainable transport and land use is often a difficult task due to a number of barriers. These barriers could be legal, organisational, financial, technical, social or of a more composite and not readily identifiable nature. The tables below show examples of the most frequent and/or prominent barriers encountered in the TRANSPLUS case studies, also specifying when these barriers are more severe in the AAC countries.

Examples of Financial Barriers

Barrier	Description
Inefficient and unstable taxation system	The implementation of long-term sustainable programmes would require a taxation system creating the right incentives for ecologically sound activities and a stable environment to attract investors and developers. The barrier is particularly severe in the AAC, which are still subject to frequent changes and adjustments of the taxation system.
Lack of financial resources	A key pre-requisite for the implementation of LUT policies and projects is the availability of powers and rights, and the corresponding financial resources, at the regional and/or municipal level. This concerns primarily the financial resources available in the local government budget to finance investments and partially subsidise services (when necessary for public interest purposes), coming in form of grants from the State. The barrier is again particularly severe in the AAC, where the dimension and elasticity of the local tax base is reduced, due to the fact the citizens live on the edge of minimum living standards, and cannot afford additional taxes. A related problem is lack of information at local level for available development project financing.

Example of Institutional Barriers

Barrier	Description
Lack of stability and integration of the administrative structure	Another important barrier is the lack of integration between the administrations in charge of transport planning on one side, and those in charge of land use planning on the other. Very often the transport planners urge for the adoption of measures to reduce transport undesired "consequences" of settlement systems which are the real causes of traffic troubles, also if these measures have on the longer term adverse impacts on land use (e.g. facilitating urban sprawl). Also at the national level the competencies are separated between different ministries. This barrier is more severe in the AAC, where the transition process is leading to an almost continuous revision and reorganisation of the system of regional and local administrations and their decision-making competencies.

Examples of Instrumental Barriers

Barrier	Description
Lack of coherence of the planning and implementation system.	The current planning system often doesn't ensure the compliance with sustainability goals set at national, regional and local level, especially because the economic instruments in the land use planning system are missing. However, even when plans are relatively comprehensive, the main problem remains their implementation, and the capacity to counteract to the pressures of developers and investors. There is a general lack of implementation instruments and monitoring

	procedures, such as economic instruments to capitalise land value increases (e.g. value capturing, tax increment financing etc.) or compensate the owners of developable land in order to enforce the planning provisions (e.g. transfer development rights).
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Examples of Physical Barriers

Barrier	Description
Mono-functional settlements from the past planning tradition	The current system of settlements in several cities is shaped according to rigid zoning criteria and functional segregation, which makes difficult the realisation of mixed-use (re-)developments.
Inadequate national transport infrastructure	In some cities – especially of AAC but not only - the road and railway transport network at the higher level is insufficiently developed, and this causes troubles of transit traffic in the urban environment creating congestion, severance, noise and air pollution problems.

Examples of Political Barriers

Barrier	Description
Priority given to competitiveness and attraction of new commercial developments.	Often land use and transport planning choice are not optimised by the environmental and social point of view because the preference is given to economic factors, e.g. by reducing EIA rules for opening new industrial sites in the region. As a matter of fact, the process of economic development is regionally differentiated due to increasing polarisation between advancing regions and those affected by severe economic recession and unemployment. This makes the backward regions less and less attractive for private capital investments, and there are no active policies to counterbalance this effect. The resulting unbalanced territorial development is particularly evident now in some AAC.
Historical break in autonomy of the regional and local governments	In some countries a long-term absence of a layer of autonomous regional and local governments led to centrally biased strategic development planning, which caused inefficient LUT policies at the regional and local levels, hampering in particular the development of adequate regional transport infrastructure. This barrier is particularly relevant in those AAC characterised in the past by the central planning typical of socialistic regimes
Uncontrolled privatisation	In some countries intense privatisation, deregulation and decentralisation process not enough balanced and accompanied by new regulatory frameworks affects the economic structure and also the real estate market, land use, public transport, freight transport and the building of new transport systems and infrastructure. A typical consequence is the reduction of personal railway transport and local public transport in rural and peripheral regions, with the concomitant increase of car ownership and private car transport.
Immature democratic institutions and citizens awareness.	Several EU and AAC political systems are still highly instable, as witnessed by the numerous elections and change of national, regional and local governments. In this context, if there were long-term plans and policy concepts, there have been abandoned by the incoming new government coalition. On the other hand, also voters appear often immature. They frequently vote according to their emotions and personal preferences, with the attitude “against someone” instead of “for something”. The consequence of this is that politicians are not interested in pursuing long-term goals, because they need to show short-term effects up to the next elections.

Examples of Procedural and Legal Barriers

Barrier	Description
Unclear land ownership regulation and ineffective land use	Unclear land ownership regulation a specific barrier for some AAC. In these countries there is often an absence of transparent and efficient land registers which would allow to speed-up the process of land registration for the new owners. Uncertainty of ownership relationships is an obvious obstacle to new investments and a smooth operation of

control	the real estate market. Ineffective land use control is typical also for some <i>enclaves</i> of the EU countries, where the practice of building unauthorised dwellings was widespread in the past, and in some cases is still continuing.
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Examples of Social Barriers

Barrier	Description
Opposition of specific stakeholders categories	There are many examples of specific stakeholders categories that have something to loose from innovative LUT policies, as taxi drivers fighting against new flexible forms of transport in their towns (e.g. in Rome), shop owners combating against car access limitations, private owners of public buses against the renovation of buses or service schedules (as in Malta, where there is a strong coalition of owners of local buses, that are a family business), and many others.
Car ownership as a status symbol	The ownership of the car has always been a status symbol, creating a car oriented mentality. This cultural barrier is now particularly severe in the AAC, where after the long years of hardship and difficult access to car ownership, to own a car and be able to have better mobility is a symbol of freedom.
Corruption	The fact that many legal acts in the field of real estate market are not co-ordinated and are simply unclear, gives a good field for corruption. Often there is no interest on adopting the strategic documents since these are binding and under public control and thus are of obstacle to corruption. Corruption in this field is a serious problem and a main challenge particularly in the AAC, but it is present also in western EU countries.

Examples of Technical Barriers

Barrier	Description
Overload of professional duties with daily routine	Under the pressure of globalisation trends the urban environment problems are constantly changing all over Europe. In this highly dynamic context, urban planners in staff to the regional and local authorities suffer from a substantial lack of time to study and elaborate new long-term strategies, and for updating as needed their technical skills. In some countries the organisational troubles created by decentralisation of competencies from the national to the regional and local level doesn't help. Actually, the scale of competencies and the tasks to be undertaken by regional and local administrators are increased, but their preparation and training is not increased accordingly, often for the lack of the financial resources needed for hiring new skilled personnel or training the old one. Moreover, the language barrier is also important, because makes impossible for many public administrators to exchange information and knowledge with foreign colleagues.

Most of the barriers encountered in the TRANSPLUS case studies were interconnected. Often they stem from the difficult interplay between the different **institutions** responsible for policy planning and implementation, the **policy instruments** they can (and do) apply, the different **territories** over which the institutions have a competence established under the present legal system. Truly **constellations of barriers** may be observed in several cases, when a complex institutional environment, the multiplicity of jurisdictions and conflicting policy instruments hinder or delay the planning and implementation of a policy package. It is important to note that single barriers or true constellations of barriers may act at different stages of the policy process:

- preventing the *deliberation* of a policy because local politicians are not empowered to deliberate on a given matter or to adopt a certain policy instruments, or because they already know that the key financial or other resources are lacking, or even because they are aware of a number of institutional,

social or cultural barriers that make that policy unacceptable. To be precise barriers that do not allow a policy even to be conceived shall be named “**input barriers**”;

- preventing, delaying or hindering the *implementation* of a policy instrument or project when this has been deliberated. In this case the policies do not achieve the output stage, and so we label barriers at the implementation stage “**output barriers**” ;
- preventing, delaying or hindering the realisation of the policy outcome, defined in terms of achievement of ultimate policy goals, e.g. sustainability goals. To be precise, barriers acting when the policy has been implemented shall be named “**outcome barriers**” and they may be properly detected only if an appropriate *monitoring* of policy outcomes is undertaken.

In any event, the distinction between the “output” and “outcome” of a given policy must be clarified on a case by case basis, considering that:

- a ‘policy output’ corresponds to the end product of the policy formulation and implementation (e.g. installation of a transport scheme);
- a ‘policy outcome’ is the result of what happens in relation to the initial goals and targets once the policy has been in operation for some time (e.g. changing in mobility patterns).

A successful output of a policy does not necessary lead to a successful outcome. Whilst it is relatively easier to identify and measure the output of a policy –e.g. the opening of a new metro station and park & ride facility - to monitor outcomes – e.g. the impacts on mobility and total vehicle kilometres travelled in the urban region – is more difficult. By the same token, it is not easy to react readily to outcome barriers preventing the achievement of sustainability goals. Exchange of experiences with other cities where the same or similar policies have been implemented in the past – as suggested below – may help to raise awareness of possible adverse outcomes or unintended consequences of policies.

4.2 SOLUTIONS TO OVERCOME THE BARRIERS TO INTEGRATED LAND USE AND TRANSPORT POLICIES

In general, to remove barriers to land use and transport integrated policies it is useful to know that there are:

- ✓ **contingent barriers**, which may be amenable to change through a direct action of the LUT decision makers at the local level (politicians, city officers). For instance, lack of co-ordination between land use and transport planning at the city level may be eliminated through the decision of a local council to create an integrated urban planning department, or more simply establishing informal co-operation between the city land use and traffic planners. Other barriers may be removed at the local level through forms of co-operation with local agencies/departments responsible for complementary policies not concerning land use and transport;
- ✓ barriers that may be removed only by finding an **agreement with other jurisdictions** (e.g. requiring surrounding municipalities to co-ordinate transport policies targeted at commuters or land use policies

aiming to reduce the urban sprawl) or with higher level of governments, which for instance may be asked to change national regulatory frameworks limiting the LUT planning competences of municipalities, to enact new funding mechanisms etc.;

- ✓ **embedded barriers**, which are not amenable to change – at least on short-term horizons - because they are intertwined within a particular location or scheme. Such barriers may include physical and resource barriers, social and cultural barriers. A classic example of embedded barrier might be that of an economically poor city, with extremely hot or cold weather conditions and a maze of narrow crowded streets. This situation contains by itself barriers to transport in general (no resources or space for new infrastructure) and to cycling in particular (no cycling culture, adverse climate).

The TRANSPLUS case studies show the complexity of the institutional structures and dynamics, thereby helping to identify some possible solutions:

- re-organisation of existing institutions;

Possible solutions	What does it mean
Co-operation	Working together: implies shared commitment to action
Co-ordinating body	Creation of a new institutional set up to co-ordinate the actions of bodies at a lower level. Bodies remain independent.
Public-private partnerships	A relationship between public and private actors, used to implement existing or new instruments.
Aggregation	Removing the division between conflicting bodies, either integrating them or absorbing one body within another.
Separation	Division of competencies, change of instruments.
Rationalisation	The removal of layers of authority or dissolution of institutions and/or institutional relationships.

- adaptation of instruments;

Possible solutions	What does it mean
Realignment	Conversion or re-orientation of a LUT aspect in line with another, so that the two are no longer in conflict.
Technical legislation	Adaptation of existing or introduction of new legislation relating directly to the LUT sectors.
General legislation	Adaptation of existing or introduction of new non-land use and non-transport related legislation.
Financial restructuring	Adaptation of existing financial structures or creation of a new financial structure.
Readjustment of policy packages	Adjustment of the integrated policy packages to the given institutional context.

- other options.

Possible solutions	What does it mean
Concerted initiative	A specialised form of co-operation, where the collaboration or co-operation is more localised within the context of a specific initiative.
Covenants and agreements	A solution to complex conflicts of competencies, found with the agreement or subscription of the involved individual authorities.
Compromise	A solution between conflicting parties.
Creation of a metropolitan/ regional authority	A more comprehensive version of the co-ordinating body, in which a new territorial unit is established. The constituent bodies hand over their competencies to the 'new' all-embracing authority.

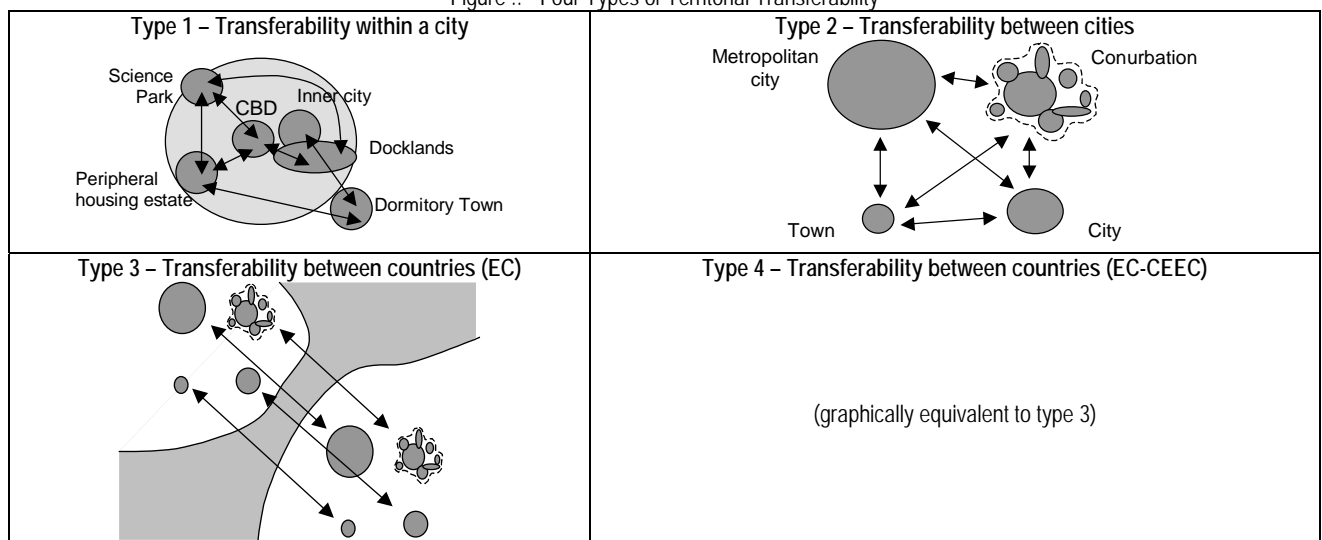
4.3 TRANSFERABILITY OF GOOD PRACTICE

We can look at the integration of LUT policies from the perspective of a single, “isolated” city or region in Europe, providing guidelines on how to assess integrated policy planning and implementation within each city context. But in the real world we don’t live in a closed environment. Although the problems are inherently “local”, **knowledge concerning good practice may be exchanged all over Europe and beyond**, comparing good practices realised in other towns and successful experiences of others. **Learning from other cities** may be considered a policy formulation process in which planners and decision-makers of a receptor city search for **good practices** implemented in other cities (originator cities), analyse those practices and decide or not to implement the good practice..

TRANSPLUS has defined several types of **transferability**: horizontal transfer between jurisdictions at the same level of government, vertical transfers between institutions at different levels, full transplanting of institutions. **Horizontal transfers** entail the replication and adaptation of policies between different contexts at the same spatial scales, with a translation of policy instruments:

- within a city (Type 1);
- between cities (Type 2);
- between European Union countries (Type 3);
- between European Union and other European countries (Type 4).

Figure .. - Four Types of Territorial Transferability



A second typology of policy transfers includes **vertical transfers between institutions at different levels**. This kind of transfers implies “zooming” in or out the area of application of a policy instrument. For example, a national policy could be scaled up and adopted as an EU (supra-national) policy. Conversely, a nationwide policy could be “scaled down” to become a locally applied policy.

A third typology of transfer implies not only the transferral of a policy instruments, but the full **transplanting of institutions and related competence instruments**. Indeed, the **transplant** can entail transferring an

instrument (or set of instruments) with a part of their *institutional context* from one area to another. For example, the transfer of a metropolitan transport co-ordination policy might require setting up a new metropolitan institution.

Transferability of innovation is desirable because the risks and costs involved in developing and test driving a solution can be avoided by adopting a proven approach. However, transferability is difficult because each country and city has its specific features. In general, transferability between different countries is particularly complex as legislation, planning systems, economic structures, living standards and social expectations are significantly different. Nevertheless the TRANSPLUS case study analysis has proven that practices can be successfully transferred, both between cities and from one country to another.

A useful scheme to analyse policy transferability has been provided by Rose (2001), who argues that policies can be transferred more easily if some “**factors of success**” are in place, as those illustrated in the table below:

Significance of factors of success for the transferability of LUT measures

“Rose” factors Transfer is easier:	Significance for transferability of LUT measures	
	Within EU Member States	Between EU and AAC countries
where they are less context-dependent.	Many LUT measures are not context dependent, those that are, are clearly non-transferable to certain locations.	Difference of national legal context may be relevant. This factor will reduce the influence when accession to EU will be completed.
where the organisations for service delivery are substitutable.	This should be the case for most cities, but the relationship between organisations may vary – and where multiple organisations are involved transfer may be more difficult.	Continuously evolving administrative reforms in the transition period and now to comply with the <i>acquis communautaire</i> may create problems. Also this factor should reduce the influence when accession to EU will be completed.
where the resources available to develop the programme are similar.	Resources are generally lower than for major infrastructure schemes, but may be a barrier in some locations.	Lack of funds is an especially relevant problem in AAC.
where the mechanisms by which the programme works (the “cause and effect structure of a programme”) are simple.	Many measures are not simple. In particular, LUT measures are focused on longer term impacts with complex chains of causality.	This problem is worsened in the AAC by the lack of technical skills and knowledge to handle complex problems and policies (also due to language barriers).
where the scale of changes the programme produces are small.	Some schemes (such as those involving walking and cycling) will result in small changes, but others are very extensive in their impacts.	The current situation of AAC often requires the realisation of large infrastructures with important national, regional and local impacts.
where the programme covers areas of interdependence between the originator and receptor cities.	Unlikely to be significant interdependence in most cases	Idem
where the values of policy makers are relatively consensual.	Values are defined by local politicians, and may vary over the time required for implementation, especially for complex or controversial projects	Idem

According to this scheme, analysing ‘transferability’ does not only imply knowing the operational features of the policy instruments concerned, but also to understand how a policy instrument may fit into the context of the receptor city. The example of parking policies in Bucharest, one of the TRANSPLUS case studies, is

illuminating. The city has to face the problem of growing car commuting trips to the centre, where employment is concentrated. Implementing parking charges in the city centre – as it has been done for instance in a similar capital city with centripetal commuting flows problems as Rome – could be the ideal solution. The revenues accrued from the parking scheme could be used also to finance another important policy of the city of Bucharest, that is building and operating a new light rail line. However, the implementation of such a solution in Bucharest, as in other large cities of Eastern Europe, is at present impossible because the level of income is too low, and citizens cannot afford to pay parking charges. The solution was provided in the case of Bucharest by the access to European Bank funding, which financed its public transport and car sharing projects. This solution required the intervention of an institution at the European level – the European Development Bank – which was motivated by the lack of fiscal resources of the national and local government in Romania.

This case shows that the identification of comparable cities (e.g. Rome and Bucharest) can assist in the assessment of potential transferability, but is not the end of the story. There may be a need:

- for an higher level institution (e.g. European) to intervene, according to the subsidiarity principle and until a process of convergence of some basic conditions (e.g. average income) is completed;
- to transplant a policy with part of its institutional context, i.e., transfer not only of a policy instrument, but some of the relationships between institutions and territories (in practice this means to render the “originator” and “receptor” contexts more similar and, as a consequence, the policy more compatible).

Further experience can be gathered through a range of mechanisms for seeking information. In addition to published data sources, networks, co-operative projects, skills exchanges, and various NGOs all provide access to new ideas. The EC studies provide many examples of innovation, often with the support of NGOs such as ICLEI. A number of activities which support transferability or increase the likelihood of success have been identified. These may take place at different levels.

- **Collaboration:** in some instances pairs or groups of cities will work together formally to develop similar systems and the transfer of innovation will take place through the structure of a specific project. These may include skills exchanges and staff secondments.
- **Networking:** many cities participate in networks, facilitated by NGOs, where they gather to share experiences and transfer expertise through conferences, workshops and other media.
- **Dissemination:** cities who have successfully implemented a new solution will disseminate their results to other cities through conferences and journals.
- **Osmosis:** eventually an innovative solution becomes mainstream practice. At this point the process of transfer becomes hard to monitor, and further transfer takes place through a process of osmosis until the solution becomes standard practice.

All the above mechanisms are valuable, but there is the need of a more systematic approach to ensure that the results of research and practices experimented throughout Europe are exploited to the full, by matching research outputs to user needs, enabling the means of information exchange, seeking agreement on best (and worst) practice, and promoting the early introduction of new policies, measures and tools into urban and regional planning. Specific networking activities that may contribute to foster transferability of good practice are:

- ✓ benchmarking groups, focused on specific themes and based on the methodologies developed in several EC initiatives (e.g. BEST and the more specific land use and transport benchmarking currently being developed in the Thematic Network PLUME);
- ✓ establishment and maintenance of database of policy instruments, good practices etc;
- ✓ organisation of “peer workshops”, roundtables, one-to-one visits, where planners or decision makers of different authorities (national, regional, local) meet and exchange their experiences about noteworthy practices, possibly with the help of independent experts.

For more information

TRANSPLUS – Barriers, Solutions and Transferability – Deliverable 4 (2003)
TRANSPLUS – Assessment of barriers and solutions – Deliverable 4.1 (2002)
TRANSPLUS – Methodological Framework for Compatibility Analysis – Deliverable 4.2 (2002)
TRANSPLUS – Transferability Analysis at Country and City level – Deliverable 4.3 (2003)
TRANSPLUS ACCESS – Case studies reports – Assessment of barriers, solutions, transferability of good practice and participation in five AAC cities – 2003
TRANSPLUS ACCESS – Synthesis Report – Assessment of barriers, solutions, transferability of good practice and participation - 2003
Rose, R – Ten steps in learning lessons from abroad – Future Governance Paper 1, University of Strathclyde

5 PARTICIPATION AND COMMUNICATION ON LAND USE AND TRANSPORT POLICIES

Participation and communication issues are becoming more and more important in the field of public policies and, in particular, in LUT planning. According to the case studies analysed within the TRANSPLUS project, **effective involvement of citizens and stakeholders in LUT planning can be considered as a major factor for success**. Especially in cases where opposition exists or conflicts are very likely to occur, sound approaches to stakeholder participation can help to avoid conflicts and to build consensus. **A well conceived and well-implemented public involvement program can bring major benefits to the policy process and lead to better decision outcomes**.

Nevertheless, **communication and participation processes also create some risks and, if organised ‘wrongly’, may create extra problems**. Therefore, it is important to find the ‘right’ balance between ‘open’ planning processes and ‘fixed’ planning objectives. It is important to build confidence that the results of the participants’ input will have some impact on the planning process as well as to allow for ‘justified rejection’ of results where this is needed for the common good.

The main purposes of participatory approaches are:

- improving the quality of resulting plans and their effective implementation;

- developing common guidelines for action programs;
- avoiding and/or solving conflicts;
- raising awareness and encouraging changes in behaviour;
- initiating the learning processes and social empowerment of the participants.

The main *pros* and *cons* of proceeding to plan and implement land use and transport policies *with* or *without* participation are summarised below:

	Non-Participation	Participation
Advantages	<ul style="list-style-type: none"> • low costs • relatively quick • clear leadership of the process • raises few conflicts • can be done with routine procedures • generates few expectations • easy management • enables high distribution/ coverage • good first step to get the attention for a policy/ project 	<ul style="list-style-type: none"> • strong understanding • strong commitment • increased acceptability • increased credibility of authority • more transparency • more equity • direct influence of stakeholders on decision-making • stronger identification with a policy/ project • integration of end-users in development and design
Disadvantages	<ul style="list-style-type: none"> • limited understanding of objectives by the public • limited commitment to implement • weak process for development • missing of important elements • risk of 'information overload' 	<ul style="list-style-type: none"> • higher costs • slower • leadership problems • difficult management • generation of conflicts and difficulties in reaching consensus • generation of fatigue in actors • decreasing credibility of authorities in case of failure • risk of increased inequity if only groups participate

Based on evidence from the TRANSPLUS case studies we may say that the benefits of promoting participation in LUT planning processes overcome the drawbacks. The development of citizen's ideas, and the greater transparency of the processes are major advantages. The main drawbacks are related to the delays caused by participation. Nevertheless, consultation and participation are now becoming more widespread and expected as part of normal procedures in planning, development and implementation of integrated projects.

As every communication and participation exercise must be brought in line with the specific situation, the following recommendations can be intended as means to improve the effectiveness of participatory approaches in LUT planning processes:

- Define *what* the basic objectives and issues of public involvement are, and provide a starting document
- To avoid misunderstanding and later disappointment, preconditions must be defined before involving stakeholders so that the limits of consultation activities can be clearly shown to the participants at the outset
- As public involvement must not be an end in itself but should result in visible impacts, a starting document should contain a **clear description of the process, the goals and the means available** as well as of the

responsibilities and tasks within the project. This document should indicate a realistic time schedule and solid financial resources for all the planned participatory activities.

Clarify *who* is supposed to be participating, and prepare citizens for the process (capacity building)

Citizens must be regarded equally, but may have different abilities to participate according to social position, knowledge, experience in using communication tools and so on. Attention must be drawn to the accessibility and comprehensibility of the information.

As not all citizens are equally prepared and skilled to take part in 'active involvement', they should be backed up by processes preparing them for such engagement. Those skills can be developed within single capacity-building training projects and supporting measures.

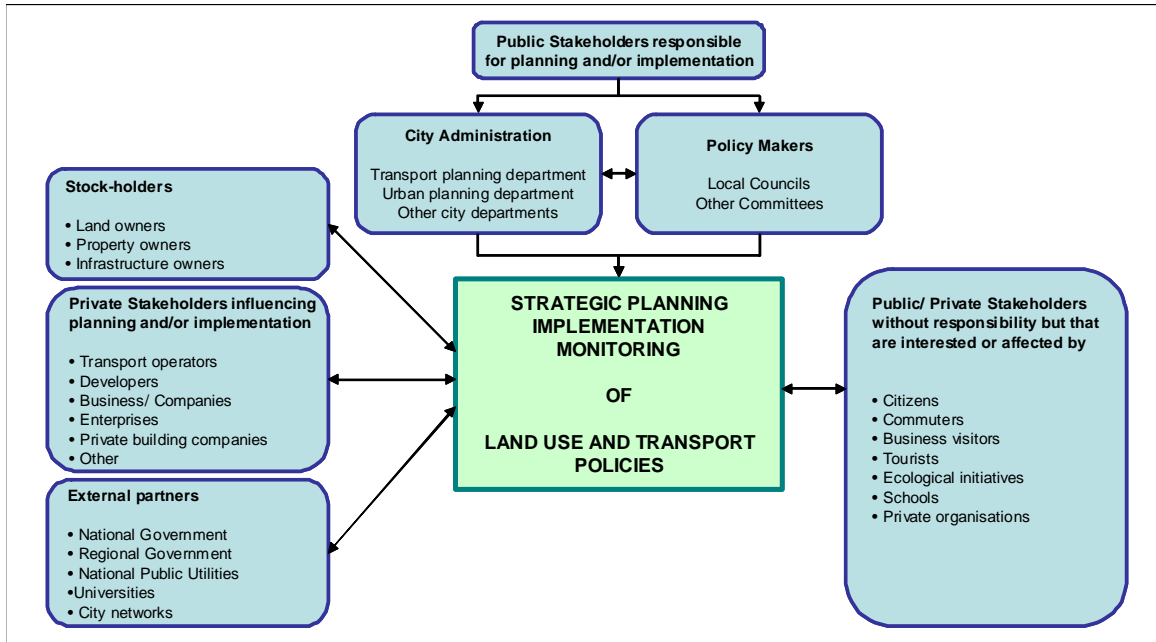
Open response to participation and avoid 'consultation fatigue'

This is crucial to stimulate the involvement of a wide range of stakeholders. Although formal guarantees are not possible since final decision-making will be in the hands of elected representatives, there should be some guarantee that authorities will seriously and openly consider (if not necessarily follow!) the results of participation.

Participation opportunities must **focus on subjects that are of interest and importance to the stakeholders**. If expectations of participants are not met, this may cause disappointment and prevent future participation. Moreover, no participation process should be initiated without checking what can be taken from previous or parallel participation exercises. By this means, synergy effects can be used and resources saved.

Whilst designing and implementing a participation process it is of major importance to identify the different groups to be involved in LUT planning. The following scheme presents a general overview of the relevant stakeholders concerned with LUT.

Relevant Actors and Stakeholders in LUT Policies



In the majority of the TRANSPLUS case studies, the initiative to start a participatory process was led by the public authority responsible for planning tasks. Three typical **Public Involvement Frameworks** have been identified:

- ❑ basic framework,
- ❑ short-term framework at the neighbourhood or district level
- ❑ short-term framework at the city or sub-regional level.

5.1 THE BASIC PUBLIC INVOLVEMENT FRAMEWORK

Even if authorities are determined to make the necessary efforts to address *all* target groups, the problem often is that there is no tradition of communication with authorities. As a result, the necessary processes to get people actively engaged in policy discussions often demand too much time, exceeding the period of a planning process.

A 'basic public involvement framework' is needed in order to establish a **continuous dialogue between authorities and their citizens** on issues that are not necessarily linked to any concrete planning process. Another objective of such a basic process is to increase intellectual, social and political capital within the groups of society that are inadequately 'equipped' to influence policy-making in concrete decision-making processes. 'Organising' and 'empowering' citizens, especially the weaker target groups, is not the task of the administrations or planners responsible for LUT anyway. By 'organising' and 'empowering', we mean that 'ordinary' citizens or specific target groups are brought together and supported to get a better understanding of the forces influencing their lives, and the possibilities they have to influence these forces.

5.2 THE SHORT-TERM FRAMEWORK AT THE NEIGHBOURHOOD OR DISTRICT LEVEL

To discuss plans or programs with all relevant groups of stakeholders seems manageable when planning for a limited area, such as neighbourhood renewal projects, or plans for mobility policies for limited areas.

The most critical problems in the neighbourhood must be previously checked by consulting the available/relevant interest groups and, when possible, by using 'local community fora'. This kind of approach will provide valuable inputs for the selection of stakeholders, for the identification of problems, and for the accurate definition of what will be done in the participatory project.

A proper structure for the participatory project is to be set up whenever no formal structure has been defined beforehand. Here, different possibilities exist and the choice will depend on the level of preparation of the ordinary citizens, the availability of communication channels to these citizens as well as the authorities' acceptance of private stakeholders taking part in the decision-making process.

Finally, the fact should be taken into account that the more 'space' is given to what can be discussed, the stronger is the need to define the 'rules of the game'. Apart from a clear division of tasks and roles, the process itself needs to be agreed. Consequently, a clear process plan is required indicating which kinds of steps and intermediate decisions have to be taken and at which point, how decisions are taken on future steps, on the content and so on (but providing adequate flexibility). A moderator should be able to guide the discussion and ensure a focus on matters that can be influenced rather than on issues that are pre-determined or impractical. Consensus building should be intended as a preferable way to choose between options, notwithstanding that final decisions remain almost always the task of the elected representatives.

5.3 THE SHORT-TERM FRAMEWORK AT THE CITY OR SUB-REGIONAL LEVEL

In planning processes covering larger areas, the organisation of residents and other local stakeholders will be much more complicated, although not impossible. The purpose of the exercise may be less tangible to the participants whilst the outcome may also be harder to appreciate. Factors of success to gain public involvement at this level are:

- selection of problems relevant to the set of participants;
- a clear mandate to achieve results, possibly incorporating responsible persons into the committee (if any), and the availability of finances;
- consensus building around the final decision-making in the hands of the elected representatives;
- conscious process and communication management as well as support by expert quality managers for the creation of integrated proposals from the diversity of inputs usually available;
- networking activities involving local stakeholders and citizens.

The latter aspect of building up local networks is even more important in the strategic city-wide planning processes than at the neighbourhood level. Existing reliable networks of residents should be used or activated for short periods. In several TRANSPLUS case studies different approaches were combined in order to reach as many different groups as possible, including:

- *Mass information and consultation.* This approach provides a variety of possibilities to incorporate results from consultation that focus on as many responses as possible or on bringing in more diversity (written and telephone surveys, local radio phone-in debates).
- *Mediated participation.* It becomes difficult to integrate the large variety of organisations active in the area into the central commission/ committee where the plan is developed. There is the need to create a small, selected group of the 'most representative' organisations with a mediation role. Other organisations need to be involved in other ways (e.g. through regular consultation incorporated in the mass consultation efforts).
- *Planning through discussion with/among individual citizens/stakeholders.* The organisation of such discussions is another possibility, without expecting that these individuals are backed-up by organised groups or forums. It is important in this approach to pay attention to the diversity of participants and to the possibility for all of them to influence discussions effectively.

For more information

TRANSPLUS – Promoting the integration of citizens and stakeholders in urban decision making – Deliverable 5 (2003)
TRANSPLUS – Current practice of participation in urban planning – Deliverable 5.1 (2002)
TRANSPLUS – New methodologies of information, communication and participation – Deliverable 5.2 (2002)

6 CONCLUSIONS

Integrated LUT planning is considered one of the instruments to promote a more rational use of private cars and sustainable land use and transport in European cities and regions. The selected case studies showed that there is a transport problem and that integrated LUT is needed to make a city sustainable in the longer term. While scholars often separate the transport and land use fields of research, practitioners have to deal with the many interdependencies between them. The following are lessons learned from the TRANSPLUS case studies, which provide some basic insights on how to design and put in practice integrated LUT approaches:

- ↳ Not only the different land use and transport policies, but also the supporting tools and supporting organisational structures of town planning and transportation engineering need to be integrated. However, the integration of supporting models, monitoring indicators and institutional structures is poorly developed. Extra effort is needed to make the current advancement in modelling techniques more applicable for local practitioners. Besides a better dissemination program, there is also a need for improvement. Efforts should be concentrated on making models more disaggregate, simpler to use and more flexible in the range of issues capable of being addressed.
- ↳ The “door-to-door” travel concept shall not be considered as the prerogative of private car use. Instead, whenever the access of cars shall be limited to reduce congestion and adverse environmental impacts, land use and transport measures should be undertaken in parallel to ensure higher accessibility and a better connection of public transport and non-motorised modes, creating attractive, environment-friendly alternatives to compete with the private car even for long distance trips. Here, various possibilities are given and should be applied in the future (e.g. transport of cycles on trains, bike & ride facilities, good conditions for walking or cycling to PT-stations, short-distance structure developments etc.).
- ↳ Participation is increasingly important. Although this task may seem optional, it is really needed to gather a full policy integration. The “external” perspective provided by the engagement of citizens and stakeholders in the decision process may help to find the key issues on which the manifold sectors of local administrations, and even of higher level of governments when needed, must integrate their efforts. Participation should be based on *public involvement frameworks* of different kind and purpose: i) a *basic framework* to establish a continuous dialogue between authorities and their citizens on issues that are not necessarily linked to any concrete planning process; ii) *short-term frameworks at the neighbourhood or district level*, to discuss plans or projects for a limited area with all relevant groups of citizens and stakeholders; iii) *short-term frameworks at the city or sub-regional level*, to build up networks of consultation with citizens’ groups and other local stakeholders on strategic city-wide planning visions and issues. These public involvement processes must be carefully

managed, they should have enough financial resources and a clear mandate to achieve results that must be taken into account in forming the local policy agenda, and in the deliberation of final decisions. A feedback effect of participation may be to increase the acceptance of more controversial policies by the side of participants.

- ↳ Transferability of good practice should be fostered involving the policy makers and practitioners that have the power to take decisions at national, regional or local level into trans-national networking activities, aiming to: i) recognise the policy options available (objectives, implementation modalities, likely impacts) and examples of good practice realised elsewhere that might be replicated; ii) analyse the compatibility of physical, institutional and cultural contexts in the different cities and countries, and identify barriers and factor of success for the transferability of good practice; iii) identify ways to remove barriers and apply/adapt the good practices (who can do what at what level of government – i.e. European, national, regional, local). Different kinds of transferability shall be recognised and a number of phases/stages must be followed in the transfer process. Different phases or stages should be followed in the transfer process, including: i) a “demonstration phase” where a best practice is identified in the originator city; ii) a “transferability phase” where the compatibility of the best practice in the receptor city is appraised; iii) an “assessment phase” where specific barriers amenable to change and factors of success are identified in the receptor city; iv) finally, an “implementation phase” where the good practice is implemented in the receptor city.
- ↳ However, transferability of good practice is still too episodic. TRANSPLUS case studies have shown only anecdotal information on transfers of ideas, concepts, policy instruments triggered by the access to published data sources, or by participation in networks and co-operative projects. Indirect transfer of knowledge through osmosis is also significant. More specific mechanisms to foster transferability of good practice in the future must be recommended. These may imply a systematic sharing of knowledge about notable experiences in European cities and regions, by using benchmarking exercises with the participation on a voluntary basis of the interested cities and the assistance of EU or national funded programmes. Useful benchmarking exercises may concern LUT policy outcomes measured with appropriate indicators, LUT measures whose impact shall be assessed with comparable before-and-after studies, and finally overall LUT strategies, to be assessed and compared using comprehensive decision support tools and common evaluation frameworks.
- ↳ Specific actions should be taken to cope with the peculiar weaknesses and threats for LUT integrated planning and implementation in the Acceding and Accession Countries (AAC). These may include establishing procedures for the assessment of projects competing for EU financing, which shall award sustainable solutions and include the requirement to employ the “best available practice”. Transport infrastructure and land use projects should be evaluated taking into account the compliance with sustainable development principles as well as all interrelations between land use and transport issues. Another relevant problem in the AAC is poor accessibility to information and knowledge due

to the language barrier and a limited interest of EU publishers to divulge contributions from other countries. This problem may be solved by establishing an Academic Publishing Network in the LUT field, exploiting the information currently embedded in the academic network - e.g. on strategic environmental assessment of transport and other sectoral concepts and land-use plans - but not easily accessible due to language barriers that reduce the effectiveness of dissemination to decision makers and planners. The majority of the projects that have been implemented have focused on solving the most pressing problems, and often their implementation has been mostly prompted by the pressure of urgent needs and less by inspiration and foresight, which better access to research results may stimulate.

- ↳ As a result of the transformation process, the structure of local authorities in the AAC countries changed. The planning system has undergone profound changes as well. A key aspect of the transition has been the *decentralisation* of decision-making powers from the national to the local level. As a result, municipalities were vested with responsibility for local development, urban transport etc. However, this transfer of responsibility has not been accompanied by reforms in the taxation sector which would have provided the necessary means, and municipalities do not have the organisational, technical or financial resources to adequately shoulder their new responsibilities. The emerging private sector is also still too weak financially to fill the gap.
- ↳ Finally, transnational networks of politicians, transport and land use planners, representatives of private stakeholders, NGOs and citizens groups, experts, research and universities should be built up. Networking activities should include benchmarking groups, issuing and disseminating policy guidelines, establishing and maintaining database of policy instruments, practices etc., organising workshops, round-tables, one-to-one visits etc. The participants to these networks should acquire: increasing awareness of common problems and workable solutions; easy access to state-of-the-art knowledge on land use and transport planning concepts, tools, policy instruments, monitoring and evaluations methods; the knowledge of a number of "good" as well as "bad" practices experienced elsewhere, a sort of "learning by others' doing"; an understanding of what are the barriers that shall be removed or the solutions that may be adopted - at national, regional or local level - to implement good practices observed elsewhere; specific knowledge and training concerning participation methods and approaches or other relevant topics; and, last but not least, contacts and first-hand information.