A SOURCEBOOK

Integration of environment into transport policy

– from strategies to good practice

Highlights from the Conference on Good Practice in Integration of Environment into Transport Policy, 10-11 October 2002, Brussels, Belgium

European Commission

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Directorate-General Environment

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Introduction

Who should read this publication?

This document is for policy-makers and stakeholders involved in developing and implementing sustainable transport policies at local, regional or national levels of government.

What does it aim to do?

The publication aims at providing inspiration and insights about how to promote integration of environmental considerations into transport policy. It focuses on messages and issues discussed during a two-day conference held in Brussels in October 2002 on "Good Practice in Integration of Environment into Transport Policy". More specifically, the publication

- briefly summarises the background and main developments in the EU policy framework for integration of environment into transport policy
- highlights selected "lessons learned" and cases presented at the conference
- highlights selected conclusions from the various thematic workshops

The publication by no means attempt to reflect fully all the lessons and conclusions from the conference – it rather offers an "appetizer", and interested readers can find the full documentation and detailed workshop conclusions on the conference web site:

http://www.europa.eu.int/comm/environment/gpc

What does it cover?

The publication covers a wide range of issues related to transport and environment. It is structured according to the subjects of the 9 workshops at the conference:

- Land-use planning: its use as an instrument to promote environmentally sustainable transport
- Intermodality: overcoming modal thinking and breaking down barriers
- Pricing of infrastructure use: taking environmental issues into account
- Infrastructure investment decisions: improving transparency and public participation
- Sensitive areas: ways of reconciling demand for transport with the environment
- Strategic planning, strategic environmental assessment and targets: tools to improve integration in transport and other sector policies
- Evaluation, benchmarking and indicators: using them on the policy-making level
- Rethinking organisations or their interplay: innovative institutional set-ups and ways to co-operate that can improve integration
- Behavioural change and public acceptance: achieving consensus about transport policy instruments linked to environment

How was it produced?

The publication was prepared by Commission staff on the basis of the documentation from the conference (presentations/papers prepared by the speakers, and conclusions prepared by the rapporteur and chairman for each of the workshops). The workshop rapporteurs and chairmen were then asked to review and comment on the draft.

The political framework for integration at EU level

Environmental integration – its role in environmental policy

In the early days of environmental policy, three to four decades ago, the environmental problems being addressed were typically releases of dangerous or polluting substances into water, air or soil, causing acute and severe problems in the immediate vicinity of the source. Sources were often large point sources like production facilities or power plants. The focus was largely on "end-of-pipe solutions" and retroactive action – cleaning up after the damage was done and mitigating the most visible and immediate adverse impacts. As a consequence, environmental policy was more about the installation of filters and sufficiently high chimneys than about how society was organised, about how people lived their lives.

Today it is widely recognised that this approach is no longer sufficient - the challenge of sustainable development cannot be addressed simply by retrofits, technological fixes or increased dilution ratios. It is not enough to address environmental problems at a limited number of distinct point sources - the environmental problems of concern today are generally of a more diffuse nature. Problems now tend to arise from the cumulative effects of a large number of actors that consume resources, generate waste or emit pollutants - to an extent which might not be critical in a purely local context, but which creates problems in a broader context. More fundamental changes are necessary to reverse such cumulative effects – and this requires a completely different approach to policy-making.

This is what the integration concept offers. It recognises that the sources of environmental problems need to be addressed at a structural level – and at the point where decisions are taken. In other words, integration means that everyone must take environmental considerations into account just as they take account of economic and social aspects. To ensure this, environmental concerns must be taken into account at an early stage of the policy formulation process. Issues like transparency, early stakeholder consultation, and co-ordination and cooperation between different sectors are therefore very important for the successful implementation of the integration principle.

The history of the concept of environmental integration

As a concept in environmental policy, "integration" has been known at least since the first UN conference on the environment in Stockholm in 1972. However, the importance of the principle of integration really first seemed to receive attention more than a decade later.

In 1987, the UN World Commission on Environment and Development put forward the concept of sustainable development as an alternative approach to one simply based on economic growth — one "*which meets the needs of the present without compromising the ability of future generations to meet their own needs*".

In the same year, the Single European Act made integration a legal obligation in the EC Treaty, requiring that "*[e]nvironmental protection requirements shall be a component of the Community's other policies*".

About a decade later – and 5 years after the UN Conference on Environment and Development in Rio de Janeiro in 1992 - the principle was given a more prominent position in EU legislation with the Amsterdam Treaty. Integration was identified as an instrument to promote sustainable development, and the existing provision as amended was moved to Article 6 in the "Principles" part of the EC Treaty.

The Cardiff process

To give substance to this renewed and strengthened requirement, the Heads of State and Government at the June 1998 European Council initiated what has since been called the Cardiff process. Various Council formations whose environmental impacts were considered particularly high were invited to formulate sector-wide strategies for the promotion of environmental integration in their respective policy areas. Agriculture, transport and energy were the first sectors identified in June 1998. Industry, development and internal market followed in December 1998, and economic and financial affairs, general affairs (foreign affairs and trade) and fisheries in June 1999.

The transport integration strategy

As one of the first sector Council formations to follow this up, the Transport Council submitted its strategy to the European Council summit in Helsinki October 1999. This strategy set out objectives and contained an account of the progress achieved and the need for further actions. Moreover, it spelled out concrete measures to be taken at EU level and in Member States.

Amongst other actions, the Council invited the Commission "*...to continue to gather information (e.g. on the internet) on best practices and outstanding examples of initiatives of sustainable transport....*". A similar request had been made at the joint transport/environment Council in 1998, where the Commission was invited to "*...facilitate the exchange of information on national and local strategies ...taking into account best practice...*".

As a part of its response to these requests, the Commission organised the conference for which the present report – together with the documentation available at the conference website - constitutes the proceedings.

> ***"Environmental protection requirements must be integrated into the definition and implementation of the Community policies and activities..."***
>
> TREATY ESTABLISHING THE EUROPEAN COMMUNITY

Cardiff and sustainable development

Since its emergence, the Transport Council has reviewed the integration strategy twice – first in April 2001 under the Swedish Presidency, and then in December 2002 under the Danish Presidency.

In parallel, the Lisbon Strategy was initiated in the spring of 2000 under the Portuguese Presidency, with the declared objective of making the EU, by 2010, "*the most competitive and dynamic knowledge-based economy in the world capable of sustained economic growth with more and better jobs and greater social cohesion*". The June 2001 European Council in Gothenburg adopted an EU Strategy for Sustainable Development and added a third, environmental, pillar to the Lisbon Strategy. The EU Sustainable Development Strategy recognises integration as one of the fundamental, horizontal strategic approaches that are necessary to make sustainable development a reality.

Land-use planning: its use as an instrument to promote environmentally sustainable transport

Through its impact on transport demand, land use planning is an essential tool to integrate environmental concerns into transport policy. By influencing spatial structures and the use of these, land use notably affects trip lengths and choice of transport modes. A recent EU study, TRANSLAND[1], provides an excellent summary of some of the important relations between load-use and transport:

- higher residential densities lead to shorter trips and lower levels of car use
- higher employment density leads to greater public transport use, but often over longer distances
- mixed development leads to shorter trips and lower levels of car use
- "traditional" neighbourhoods have shorter trips and lower levels of car use than car-oriented suburbs
- developments which are close to suitable public transport services generate higher levels of public transport use
- larger conurbations have lower trip lengths and more public transport use
- none of these affects trip frequency significantly.

To varying degree, all cases presented at the workshop gave emphasis to (re)developing areas and municipal centres situated along railway

The surroundings of railway stations are the "shop window" of the town

After the 1970s , rail share of passenger traffic started to decline in the Hämeenlinna-Tampere Zone zone in Southern Finland and many town centres moved the focus of development from the traditional railway station areas to the vicinity of the Helsinki–Tampere motorway. The former city centres, often located near railway stations, gradually lost their importance as commercial centres, and at the same time their general appearance and environment deteriorated.

On of the concrete outputs of an integrated land use and traffic research project in the Helsinki-Hämeenlinna-Tampere Zone in Finland was the development of a good practice manual for planners on revitalising or developing areas close to the railway in towns located on a railway line. The specific experience and guidance developed concern the most important questions that planners should give attention to, including planning elements such as

- The image of the station area
- The surrounding area
- Traffic arrangements
- Railway station services offered
- Guides and signs
- Attractiveness and safety

[1] TRANSLAND is a project supported by the European Commission. The acronym stands for "Integration of TRANSport andLAND-use planning"

Holistic plan to increase the shares of public and non-motorised transport and prevent urban sprawl

A comprehensive regional plan for long-term urban development has been approved in the Stavanger region (Jæren) of Norway as an overall solution for land-use and transport demands in a region including 10 municipalities and around 250.000 inhabitants. The starting point for the planning process was high growth rates for motorised transport, traffic congestion and pressure on farmland, wetlands, cultural heritage sites and nearby recreational areas. The market share for public transport was low (ca. 7 %).

The municipalities have now agreed on development in town and city centres (infill-development and brownfield areas) and development along linear axes that are close to suitable public transport.

The political and administrative organisation of the planning process has been identified as an important condition for success. Among the factors emphasised are the following:

- The planning process was governed by a political steering group, chaired by the County Council Chairman. Among the delegates were politicians from the local governments (Mayors, leaders from the opposition parties) and from the regional government (all major political parties). The steering group gave the planning process legitimacy and weight, both internally in the various administrative elements, and externally in the media, business world, etc.
- The planning process was carried out based on the consensus principle. When disagreements occurred, alternatives were prepared. These alternatives were used both under hearings and in the decision-making process.
- It was critical for the initiation of and participation in the process that there were clear signals from the Ministries of Environment and Agriculture, that some municipalities might not have their respective municipal master plans approved without a county spatial plan that emphasised effective spatial development.

lines. Improving the use of these areas clearly has potential to lower trip length and raise shares of public and non-motorised transport. But the areas need to be densely built with a high share of infill development and redevelopment on brown fields. Planners should also take into account the importance of complementary measures to get the essential effects of land use planning on trip lengths and mode. A German case showed how housing subsidises were used to promote public transport in North Rhine - Westfalia.

The cases presented at the conference also made clear that land-use planning has become a continuous negotiation process. Planners must know how to negotiate with politicians, different administrative levels, different sectors and interest groups. This requires good interpersonal skills, but also careful attention to the political and administrative organisation of the process. Planners should also take into account that land use policies require a significant read time before their impacts are felt.

Another issue highlighted by the workshop was that for land use measures, legislative and institutional barriers are particularly important. There is a need for co-ordination between those responsible for transport and land-use, and between those responsible at local, regional and national levels, with legal powers to impose requirements on lower tier authorities and, in turn, on developers and occupiers. In practice, the TRANSLAND study identified three different categories of EU country, with and without institutionalised regional planning and with and without legislation to enforce those plans.

Intermodality: overcoming modal thinking and breaking down barriers

While workshop 1a on land-use planning did not give much attention to freight transport, this was in focus for workshop 1b on intermodality. For decades, goods transport has grown, not least due to changes in the European economy and its system of production and consumption. The stronger international competition has encouraged a development where increased specialisation has lead to the concentration and relocation of many industries and Europe has moved from a 'stock' economy to a 'flow' economy.

Faced with the challenges of environmental impacts and congestion from increasing volumes of traffic, it has become increasingly important to promotie intermodality - understood as a system of transport whereby two or more modes of transport are used to transport the same loading unit or truck in an integrated manner, without loading or unloading, in a transport chain.

The workshop showed that spatial planning can play a role in the development of more sustainable transport solutions by ensuring that "the critical mass" of goods is concentrated at the right logistical spots, thereby creating opportunities for intermodality and improving the conditions for better capacity usage of the individual modes. The spatial planning should focus on the role of harbours and other transport centres as hubs in global transport chains.

Attention should be given to enable planners at the local and regional level to develop interregional transport strategies. Interregional transport strategies should promote networks and cooperation between harbours, transport centres and other facilities for handling goods, and thus enhance the efficiency of the transport chain.

The workshop confirmed that intermodality is still facing important problems, not least with regard to legal, technical and financial barriers. The Commission's proposal on the Marco Polo programme was identified as an important step forward and necessary to help correct existing distortions in the freight markets.

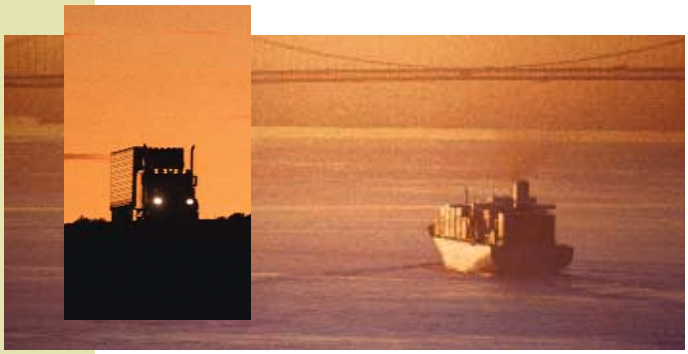
Freight villages

In Italy, the need for regional cooperation to promote intermodality by obtaining "critical mass" has been recognised and lead to the development of a number of Freight Villages. The concept is generally based on

- the concentration of freight traffic flows by the self-settlement of the transport companies inside a dedicated area
- highly efficient intermodal systems inside the same area
- support from the government (e.g. co-financing)

The advantages materialise in terms of

- less congestion (less heavy traffic inside the residential areas)
- increased productivity (strategic construction of logistics infrastructures)



Public-private partnership and networks as opportunities for intermodality

In the National planning report for Denmark 2000 one of the Government's important objectives was to shift focus from further expansion of infrastructures to more efficient use of the existing ones for the benefit of both the environment and transport companies. The project "Transport in the competent and innovative Denmark" was initiated to give a better understanding on how the demand for logistical services emerging from globalisation should be reflected in spatial planning at the local, regional and national level.

The project points out the need for new ways of co-ordinating public initiatives at all levels. But it also points out that private stakeholders should be involved in this process as "users" and that public-private partnerships should be developed in order to ensure private ownership and responsibility in the process of implementation. Some of the lessons learned were:

- **New roles at the local and regional level**
  - Municipalities and counties should not see themselves as "the hubs of the universe" but as partners in interregional strategies
  - Focus on transport as international rather than regional
  - Develop local harbours and other transport centres in context of the overall structure
  - Stimulate innovation and networks among private actors
- **New roles for the state**
  - Create national policies and visions as frameworks
  - Stimulate interregional co-operation
  - Co-ordinate resources used at local, regional and national level
  - Ensure follow-up of national goals by regional means
  - Conclude agreements based on "give and take"
- **Focus on the ability to organise the transport chains**

Despite the considerable barriers remaining, successful commercial intermodal transport services exist. Some examples from Italy, France and Spain were presented at the workshop, and these cases suggested that success-factors for such services might include the existence or provision of

- a clear analysis of the traffic flows and market needs
- a door-to-door service
- an integrated single tariff
- yearly stability of prices
- a single contract of carriage
- a single interlocutor
- a guarantee of service quality
- strong political support from the Commission, governments, and regions

Pricing of infrastructure use: taking environmental issues into account

The focus of this workshop was the successful use of economic instruments in implementing environmental policy goals in the transport sector. The case studies were environmentally differentiated fairway dues in Sweden, differentiated landing charges in Switzerland and the decision to introduce road charges for heavy goods vehicles in Germany. A number of "conditions for successful implementation" were identified and discussed. These included:

"Factors setting the agenda"

- there must be widespread concern regarding the environmental problem addressed and a recognition that the present state of things is associated with real (but external) costs
- the problem must be attributable to clearly identifiable polluters – it helps if this is a distinct group such as road freight transport and if transit traffic is included

"Procedures and politics"

- extensive balanced consultation with stakeholders is vital
- new laws are often required, but modification of existing charges or other fiscal instruments is an easier route to implementation

"The wallet effect"

- while economic incentives based on marginal social cost principles in theory increase overall economic welfare, distributional concerns often stop implementation. Guaranteeing revenue neutrality or recycling to related financing purposes appears important for gaining the support of stakeholders and the public at large

"Clear benefits"

- the effects of introducing economic incentives need to be demonstrable and sufficient to

Environmental differentiation of fairway and harbour dues for shipping

Environmentally differentiated fairway dues were introduced by the Swedish Maritime Administration in 1998. The scheme is based on an existing system of charging the shipping industry and consists of 2 charging components:

- the size of the ship (the gross tonnage)
- the amount of goods loaded/unloaded in Swedish ports.

The first component is environmentally differentiated: the charge is related to the sulphur content of the bunker fuel used and the certified emission level of NOx per kWh for the ships' machinery. Such differentiation is aimed at encouraging use of low-sulphur fuel and installation of NOx abatement equipment irrespectively of the ship's nationality. The introduction of the scheme was accompanied by a temporary possibility for obtaining reimbursement of up to 40% of the investment costs if NOx abatement equipment was installed before the year 2000 (30% in 2000 and 2001). The differentiation system was designed to be revenue neutral.

These economic incentives have proven to be effective and have induced substantial reductions of maritime emissions of SOx and NOx. The scheme is currently under review to develop and refine it further.

generate short term improvements and progress in achieving policy targets

The workshop showed that succeeding in implementing pricing instruments to integrate environmental concerns in transport policies is possible, but that it should always be part of an integrated approach comprising other instruments as well.

Moreover, the conclusions emphasized that

- EU legislation should provide frameworks rather than barriers for the use of pricing instruments at national level. Indeed, EU legislation is vital to promote harmonised and compatible charging schemes
- it is sufficient to start with proxies of external costs, rather than exact cost figures. While marginal social cost pricing is the optimal, it will often be easier to amend and differentiate existing charges to reflect external costs (the Swiss case on airport charges illustrates this approach well).

Environmentally differentiated landing charges for aircraft

In 1993, given the widespread concern regarding the actual and forecast air quality situation within the greater Zurich airport region, the airport operator began establishing an emission related landing charge aimed at promoting the introduction of the best available aircraft engine technology. Following lengthy consultation and legal processes, the charging system was finally implemented on September 1st 1997. It is based on 5 classes of NOx and HC technology for all types of engines. The reform of the landing charge has been revenue neutral in the sense that revenues are used for already existing air pollution reduction programs.

At virtually the same time, Sweden introduced a very similar emission charging system with the same aim, thus already multiplying the effects. The effects of the schemes include changes in airline operations and in increased awareness and new development activities amongst engine manufacturers.

When developing and implementing the charging scheme, particular issues analysed included legal compliance, cost structure, easy handling and potential environmental benefits. With this analysis, the Swiss Government was able to successfully defend the scheme in court when challenged by the industry. In particular, the separation of the assessment of the problem from the search for solutions was seen as important for the final success.

In the course of developing the schemes, Sweden and Switzerland decided to harmonize their charging schemes for the benefit of the manufacturing industry. Subsequently, a working group under the European Conference on Civil Aviation (ECAC) looked into the subject and developed a framework model for emission charging which was accepted by the ECAC in June 2002. Sweden and Switzerland will now adapt their schemes to this new model, striving for a joint implementation in the year 2003. The new model focuses on the polluter-pays-principle on the basis of mainly the NOx emissions of aircraft engines.

Infrastructure investment decisions: improving transparency and public participation

The subtitle of this workshop might have been *giving the community and users the information and power to make choices*. This depends critically on a number of factors, including

- counting the real costs of infrastructure investments
- presenting data to the public and to politicians in ways they really understand
- matching financial responsibility to legitimate (local) level government
- allowing for the public to participate and make use of that information
- assessing the right goals

Counting the real costs implies highlighting the less visible costs to the community that flow from capital investments. For example, the decision to build a road results in a recurring cost to the local government of providing street lighting and dealing with polluted run-off. Of course environmental and safety impacts are an important aspect of these invisible costs.

Presenting data in ways that are readily understandable is often difficult. A case from Switzerland showed an example of good practice with a system of mapping accessibility in terms of time taken on foot to reach train stations and tram and bus stops. Areas of the city where this take over 5 minutes are shaded black to give an accessibility footprint. Zurich comes out white with a few small black spots. Many other cities come out mostly black. Big infrastructure investments were shown to be no guarantee of improving service levels when assessed in this way.

Money for transport frequently comes from central government and is very often tied to particular modes or types of expenditure - normally capital investment in infrastructure, and sometimes vehicles. From the perspective of the local community this money is free of cost. But if they also had freedom to chose whether to spend the money on capital investments or on operations the results would usually be very different. Thus, *matching financial responsibility to legitimate (local) level of government* is important to increase efficiency of investments. Central governments should give attention to making transfers and subsidies to support transport systems conditional on spatial planning and transport and environment appraisal results instead of tied to specific modes or types of expenditure.

In Zurich, citizens decide how to invest in transport

Zurich in Switzerland gets no money from the federal government to run its public transport system and thus has freedom to choose whether to spend the money on capital investments or on operations. The community is very careful to get value for money and over the last few decades has rejected proposals to build light rail and metro systems preferring to expand the tram system. Even here, instead of buying new vehicles it prefers to run 30 year old trams and invest in technology for intelligent traffic light management and provide real time information to customers on minutes to wait for the next tram. Efforts are currently being directed to factoring bicycles into the priorities of the public transport operators, changing opinions to view bicycles as a potential feeder system rather than as competition.

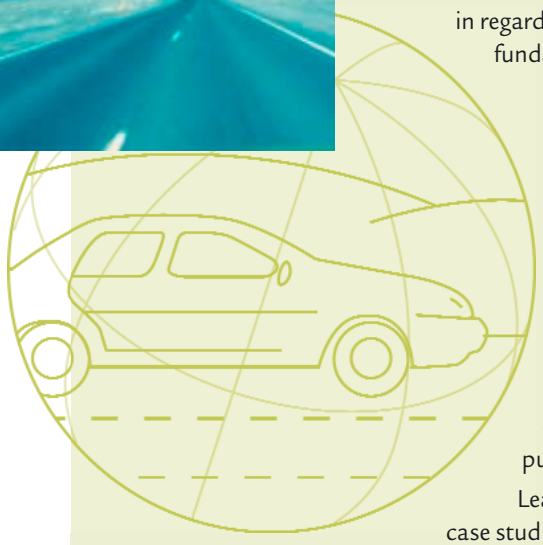
Improving public participation certainly requires legal and procedural opportunities to be created. But consultation must go wider than institutional stakeholders and just creating the opportunities is not sufficient. It requires formal strategies for public involvement. Partners for achieving political acceptance have to be identified, and all representative groups solicited, especially weak groups and particularly potential losers from the project, as experience with plans to expand Sydney airport demonstrated (see workshop 2d).

Although much may remain to be done in practice, UK legislation has the merit of aspiring to ensure consultation at all stages of planning from the earliest moment possible. An effective forum for consultation has to be created and animated - a consultation manager ("community facilitator") should be employed. Consultation should not be limited to the search for solutions to issues raised by a project but should be brought in from the early stages of project development and continue into the stage of reviewing implementation.

Assessing the right goals

Regional development is frequently put forward as the main reason for investing in roads. Justification of the regional economic benefits foreseen has become a crucial factor in transport assessments in UK appraisal practice. Most new roads are justified on the ground that they create new jobs. The onus is now on the promoter to demonstrate this in detail, taking full account of possible job losses elsewhere in the region as a result of development of new sites served by the new infrastructure. The quality and durability of the businesses attracted as the result of the road is also now a key concern. Many proposed new road schemes have failed to demonstrate their case convincingly at this level of detail.

"Multi-modal corridor studies", as a strategic planning tool, have been very useful in highlighting the fact that economic development can often be fostered by different sets of transport investments/policies, not just traditional roads, and that in any case further measures are essential such as: renovating buildings; investing in schools and other social facilities; offering tax breaks and other incentives for inward investment. On their own, however, multi-modal studies would not have been enough to get the balance right and the policy changes in regard to equity and regional economic benefits described above are more fundamentally important.



To set out the background to these studies, in 1998, the UK Ministry for Environment, Transport and the Regions introduced a New Approach to Appraisal, which was instrumental in changing the basis of transport planning in that it set out the need to appraise transport investment with a clear understanding of the objectives to be met. It recognised that proposals may contribute to the achievement of one objective but compromise the achievement of others and that it is the decision-maker's role to determine the appropriate balance between these objectives. Hence transport planning now must operate within a broader community objectives-led planning process rather than respond purely to objectives about travel time and accident savings etc.

Least cost planning has been developed in Germany in a number of case studies with some of the same objectives as the UK multi-modal studies. The basic proposition is that the objective is providing access (to jobs, homes, services etc.) not providing transport perse. It is therefore essential that economic and environmental appraisals are undertaken from the very outset and that these include comparisons of all relevant approaches to providing access not just specific transport projects.

Sensitive areas: ways of reconciling demand for transport with the environment

Dealing with the environmental impacts of transport can be more challenging in areas where ecosystems are particularly sensitive, where geographic conditions and topography may intensify pollution and noise, or where unique natural resources or unique cultural heritages exist (mountainous areas, coastal and specific marine areas, wetlands, dry lands, rivers and lakes etc.).

The workshop presented examples of ways to address this problem. Two types of approach can be distinguished: top-down and bottom-up. Top-down approaches include instruments such as the Alpine convention or the Helsinki Convention (Convention on the Protection of the Marine Environment of the Baltic Sea Area, 1992). These are suitable to address issues that arise from outside the area, such as transit traffic. Bottom-up approaches are more suitable for aiding local and regional development within the area itself.

But what is a sensitive area? An interdisciplinary group of experts commissioned by the Austrian Ministry of Environment has created a *Criteria catalogue for ecologically particularly sensitive areas* that can be defined as a toolbox to identify factors that are decisive for the particular sensitive area. The model assumes that there are no areas *which can be defined as being ecologically insensitive*. Hence to identify ecologically *particularly* sensitive areas among other areas, a filter of three criteria can be applied:

- ***value*** criterion (assessment of ecological and cultural values),
- ***fragility*** of habitat and
- ***potential*** criterion (options and opportunities for sustainable development).

The criteria model may be taken into account in all levels of the decision-making range from policies, programmes to local studies in planning, and could

HELCOM – environmental protection and maritime safety in the Baltic Sea

A number of factors make transport and environment a special issue in the Baltic Sea:

- 2000 ships at sea at any time – steady growth in traffic
- 85 million people in the bordering areas
- Low temperature
- Brackish water & long residence time of water
- Slow degradation of hazardous substances

The Helsinki Commission is an intergovernmental organisation consisting of the States bordering on the Baltic Sea as well as the European Community, working to protect the marine environment of the Baltic Sea from all sources of pollution and to restore the ecosystem and preserve its balance, as spelled out in the Helsinki Convention. The role of HELCOM in relation to maritime transportation is to co-ordinate common actions of the Contracting States within IMO and where need be to adopt regional measures, to ensure implementation of the global and regional measures within the Baltic Sea and to co-ordinate efficient law enforcement in the Baltic Sea States.

for instance be introduced into regional development plans and transport development plans.

Having identified an area as particularly sensitive, the next recommended step is to create a vision for sustainable regional and transport development ensuring that the transport system

- does not reduce but improve the value of the sensitive area
- takes into account the fragility and be aimed at avoiding risks
- serves the objective of utilising the unique future potentials of the sensitive area
- has as low as possible impact on sensitive area.

In Italy, experience with the definition of sensitive areas for air quality management planning has demonstrated the use of multivariate statistical methods to classify the territory on very detailed scale (1 km x 1km grid) based on:

- sensitivity indicators (population, vegetation, biotopes, tourism sites, archaeological and monumental patrimony, ...)
- the impact on the sensitive areas of the different components of pressure on environment media (air, water, soil, wastes, noise, ...).

Plans and visions must be followed by concrete actions and a good starting point for these is the development of innovative cross-sectoral pilot projects for sustainable transport. One example of such a project is "Alps Mobility" which consists of several pilot projects for each region of the Alps.

Alps Mobility – multilateral pilot project for sustainable mobility in the sensitive Alpine Region

Alps Mobility I (1998) and its continuation Alps Mobility II are multilateral projects for sustainable mobility in the sensitive Alpine region. Initially only Austria, Germany and Italy were involved, but after the successful first phase, further partners from Switzerland, France and Slovenia have joined the Alps Mobility II.

The main objective of the first project was to create environmentally sound travel logistics linked with electronic booking and information systems in Alpine tourist regions. Tourism solutions proposed for eight regions included for instance a car-free tourism project in the region of Pongau a mobility management centre "Mobilito" and a solar re-charging station for electric vehicles.

The planned Alps Mobility II project is aimed at managing mobility in the regions (infrastructure management, management of enterprises, shopping and commuting, public awareness campaign etc.) and it proposes innovative measures like creation of a joint tourism package called Alpine Pearls, which would offer a car-free round trip across the Alps.

The workshop cases generally highlighted modal shift toward more environmentally friendly modes of transport as a priority in sensitive areas. It also found that special attention should be given to involve stakeholders at all levels of decision-making. The workshop recommendation was to build up cross-sectoral and interdisciplinary co-operation models including public-private partnership as in the case of cross-border area of Lake Fertö/Neusiedler in Austria and Hungaria, where tourist companies were involved in the creation of innovative mobility solutions.

Strategic planning, SEA and targets: tools to improve integration in transport and other sector policies

The findings of a study of experiences from 17 countries on the influence of strategic environmental assessment (SEA) on decision-making in transport planning was presented by The Finnish Environment Institute.

Whether or not an SEA is considered successful in "influencing" the planning process depends on the view adopted with regard to the role that SEA should play. If the success (or "effectiveness") is measured by the extent to which the SEA has "an observable effect on goals, the views of decision-makers or involvement of decision-makers", the study identified four important "clusters" of necessary conditions for effectiveness, loosely referred to as:

- Integration
- Communication
- Correct timing
- Willingness to use the information

Kyoto and the NEC requirements – implications for French transport policy?

In 1996-1997 the French Ministry of infrastructure, transports, housing, tourism and the sea initiated work on a comprehensive review of the transport policy ("transport services master plans"). A number of scenarios were developed showing very different forecasts for transport volumes in 2010 and 2020. On this basis it was decided to evaluate the expected effects on national emission levels of CO_2 and four other air pollutants, and to assess the implications with regard to two of France's main international obligations (the Kyoto targets and the national emission ceilings under Directive 2001/81/EC respectively).

The assessment exercise carried out was "integrated" in several senses:

- It relied heavily on inter-ministerial cooperation
- Several pollutants were addressed simultaneously (CO_2, NOX, SO_2, NMVOCs, CO_2)
- All sectors were included, not only transport
- Both "global" multi-sector models and partial sector-specific models were used

Amongst the main conclusions that can drawn from the exercise are

- When doing cross-sectoral assessments, it is important to use both economy-wide and sector-specific models – dangerous to rely on one only
- Sector-specific targets are useful tools to improve the analysis of cross-sectoral issues and make it more accurate

In this context, "integration" can mean a number of different things. The study suggested that clarifying quantitative targets or qualitative objects from the beginning of a process can help overcoming the obstacles of achieving such integration. A French case also presented at the workshop clearly illustrates the importance of "integration" in all its meanings and the usefulness of targets in this process.

GIS as tool for early identification of potential nature conservation conflicts in national transport infrastructure plans

The German Federal Agency for Nature Conservation has developed a methodology for the selection of transport infrastructure projects requiring an estimation of environmental risk (EER). The purpose of this methodology is to identify nature conservation conflicts early on, to recommend which projects should be subjected to EER and, in general, to contribute to an improved management of conflicts between conservation and transport infrastructure interests within the context of the German Federal Transport Infrastructure Plan. The screening-methodology includes criteria based on conservation requirements. Within a geographic information system (GIS), these criteria are overlain with planned transport infrastructure projects. The results of this GIS-based analysis form the basis for a nationwide pre-selection of transport infrastructure projects for EER. The pre-selection approach contributes to satisfying several of the institutional and methodological conditions for success mentioned above, not least by enhancing the possibility to provide quality input to the planning process already from an early stage.

The workshop concluded by identifying four categories of ***conditions for success*** slightly different from the list above but covering essentially the same issues:

Political

- That there is a political will to carry out a SEA and use the results
- That the 'vision' behind a SEA is present

Institutional

- That the process is well organised and timed
- That monitoring and evaluation is undertaken either by independent institutions or supervised by such institutions
- That there is a close link between environmental assessments and the preparation of the policy, plan or programme
- That the organisation as a minimum involves all relevant ministries

Methodological

- That there is a national and preferably also international consensus on the value conventions used in the assessment methods
- That data are electronically available to all interested stakeholders
- That the results are converted into political priorities within transport plans
- That the results of assessments to some extent can be integrated with traditional economic appraisals

Communication

- That the output of the assessments is kept simple and comprehensible
- That comparable alternative scenarios are produced
- That regular monitoring and evaluation is needed

The overall conclusion of the workshop emphasised the inter-dependency between targets and SEA: "Targets are essential for successful SEA and SEA are essential for successful/useful targets". This illustrates the point that targets are needed as a benchmark against which the forecast performance of a plan or a program can be assessed, while at the same time stressing that targets generally should not be set without the support of some kind of analysis and assessments. A case from Flanders in Belgium showed how SEA as one of the concrete outcomes resulted in the integration of a quantified CO_2 emission target as well as mitigating measures proposed by the SEA experts into the transport policy plan being assessed.

Evaluation, benchmarking and indicators: using them on the policy-making level

Evaluation, benchmarking and indicators are tools that can be used for improving policies through systematic use of available experience. Ideally, they can also help to increase transparency, accountability and participation in decision-making. The key question addressed during the workshop was how to further encourage the use of these tools to integrate environmental objectives in transport policy and planning.

The cases presented and the discussion at the workshop demonstrated that indicators can indeed provide important inputs to this process, for instance by

- highlighting environmentally problematic trends (e.g. transport growth, modal shares, emission levels, noise impact etc.)
- measuring progress in achieving environmental policy objectives
- helping to formulate or clarify objectives where these are weak or lacking
- engaging policy makers, experts and the public in the same policy processes

The discussion revealed that success in these areas can be achieved without having the 'perfect' indicators in advance. Making progress is to some degree a question of addressing technical and policy related problems as part of the same process. Another common finding concerned the importance of *relevant targets to compare indicated trends with*. This was illustrated by a Swedish case, where indicators and targets are used to monitor national goals with respect to natural and cultural heritage values.

Targets and indicators for sustainable mobility within Local Agenda 21 processes

The aim of this project developed at the request of the German Federal Environmental Agency was to evaluate the effects of measures concerning mobility/transport and to create a town-specific system of quality targets and indicators to link the municipal traffic development planning and Local Agenda 21. Some of the key lessons learned from the project were that:

- Using indicators can be a tool contributing to achieve successful public participation and integration of LA21 in municipal traffic planning processes
- Indicators may be widely accepted by decision-makers and the public if the set of indicators includes not only environmental indicators but also indicators related to the social and spatial aspects of the town. Keywords include quality of life, health and safety
- 'Less is more' - a useful start can be made by using just a small number of particularly concise indicators over which agreement is easily reached
- It is important that indicators are understood and that conclusions on the effects of measures implemented by town and traffic planning authorities can be drawn directly
- Collected data and statements should serve other useful purposes than just monitoring. Such multiple-purpose application may be used to overcome the barrier of costs of developing data sets

Targets and indicators for natural and cultural heritage values

The Swedish National Road Administration has developed methods intended to promote and ensure the quality of natural and cultural heritage values in the transport system while contributing to the fulfilment of the government's goals for natural and cultural environment values and recreation. The approach is based on

- ***a principle for national interim goals*** – the proportion of the road network that is to meet the quality requirements
- ***quality targets and quantifiable criteria*** – the national quality goals are made concrete on the basis of the operations, and state what the Swedish National Road Administration is to contribute to enable the attainment of the national environmental goals
- ***methods for applying the quality targets*** – adjustments in existing road management processes (long-term planning, road planning and design and maintenance contracts)
- ***principles for monitoring and quality assurance*** – monitoring the targets set up on three levels:
  1) the percentage of roads or maintenance districts that meet the quality requirements,
  2) individual road projects, maintenance districts, care plans, etc
  3) general indicators, e.g. animals killed in traffic

This case study pointed out the main advantages of using the method:

- It provides clear input for decisions on natural and cultural environments since the analyses are based on set targets
- It creates good conditions for balancing the aims of different interests in society (e.g. need for infrastructure vs. nature protection interests)
- The detailed criteria make cost estimates possible

The workshop provided the following advice concerning the use of indicator systems:

- Make it simple, credible and useful rather than complete. Maintain transparency by simple presentations and underlying documentations
- Talke things step-by-step, learn-by-doing and create momentum by building up from existing data and initial successes
- Define indicators that are relevant for key users and decision makers (customised output to different user groups, like quality of life)
- Multiple applications of collected data can reduce costs
- Define scenarios to compare trends with effects of policies (monitoring means and measures as well as outcomes); move beyond merely descriptive indicators to address underlying trends and policy measures
- Present indicators in a way that puts the responsible actor in the centre
- Set up regular reporting routines targeted to the policy cycle
- Marketing, learning and networking with others can strengthen the process

Key messages aimed at policy-makers that emerged from the workshop included

- Support to monitoring exercises is needed from the top level to make it useful
- Integrate the messages received from monitoring system in your policy discussions; use indicators to justify policies, listen to stakeholder responses
- Remember that indicators only tell part of the story, consider the whole

Rethinking organisations or their interplay: innovative institutional set-ups and ways to co-operate that can improve integration

The cases presented in this workshop generally provided examples of mechanisms to promote cooperation between different levels or branches of government.

One of the presented mechanisms of integration was "latching environmental goals onto other policy areas", an approach also referred to as "policy hitchhiking". That mechanism was successfully used to reduce NOx and CO_2 emissions through the speed limit policy in Netherlands. In this case, environmental objectives were combined with objectives concerning road safety and congestion control to ensure agreement between ministries with responsibility for environment and for speed limit enforcement (the police).

In general, the workshop highlighted that personal, frequent and respectful intersectoral communication between ministerial officials, experts and politicians should be encouraged and institutionalised to help overcome language and concept barriers between different sectors and institutions.

A key to success at both national and local level is to take a concrete and action-oriented approach based on intersectoral implementation of programmes and projects.

It was also pointed out that monitoring is necessary to ensure that short-term programmes and projects are really leading towards the desired long-term objectives.

A Finnish case showed that all these above-mentioned principles can be applied through implementation of an Environmental Management System in the government bodies.

Environmental Management Systems for government bodies

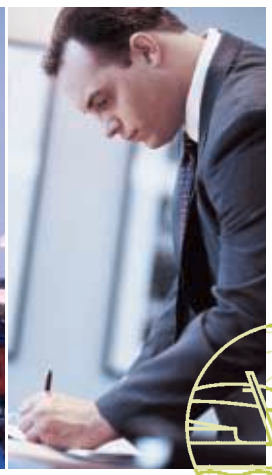
An Environmental Management System (EMS) can be used successfully to implement an integrated environment and transport strategy at all levels of a government sector administration as proven by the following example from the Finnish Ministry of Transport and Communication.

The integrated transport strategy (Environmental Guidelines for the Transport Sector) defines goals, identifies key actions, set timescales and targets and assigns responsibilities to all units and departments.

Implementation is monitored on an annual basis, providing an opportunity to assess progress, identify what research and training is needed, incorporate new knowledge and develop further policy actions.

In order to co-ordinate cooperation between the Ministry and other organisations, a group of environmental managers of administrative sectors of the ministry was set up consisting of representatives of the road, rail, maritime, and aviation administrations.

The benefits from implementing EMS include a better understanding of environmental problems within the ministry and the opportunity to resolve potential conflicts at an earlier stage.



It was highlighted during the workshop that the desire for organisational and professional learning amongst employees can be used as a driver for integration of environment and transport.

This was one of the conclusions from a Danish example where the main motivating factor for municipalities to participate in the "Urban Traffic Project" to develop local plans and projects for sustainable transport was – perhaps surprisingly - not the economic incentive provided from the national funding support, but rather the desire for organisational and professional learning in relation to transport and environment in the municipality.

Urban Traffic Project in Denmark – motivation for municipalities to work on T&E integration on a voluntary basis

In 1990, the Danish Government approved an action plan for sustainable transport. In order to support implementation of local T&E action plans and to motivate urban municipalities to work on T&E integration, the Danish Environmental Protection Agency (DEPA) set up the "Urban Traffic Project" in 1992. The project included the following forms of support to municipalities:

- Financial support to the municipalities that develop integrated T&E action plans
- Technical support – guidelines for T&E integration, possibility for municipalities to collaborate with the DEPA on developing plans, seminars and forums for good practice exchange.

As a result of the Urban Traffic Project, 51 urban municipalities developed T&E action plans, the implementation of which had significant positive environmental impacts. The main keys to success identified by the evaluation of the project were:

- Creation of learning forums and technical support
- Focus on inter-organisational skills and collaboration of stakeholders
- Action oriented approach (strategies should be complemented by implementation of very concrete projects)

Another important lesson to be learned from this case is how important it is to create "institutional ownership" of T&E action plans and projects in order to ensure lasting changes. The entire organisation should be the owner of the T&E plans and integrate it into other on-going plans like development plans, spatial planning etc - otherwise T&E integration plans tend to become a one-off activity losing their significance over time.

A case from Poland highlighted the need for capacity building and institutional and professional support from EU-15 countries to accession countries in the field of integration. The experience shows that decision-makers sometimes "listen more" to foreign experts than their own experts giving similar advice. In such situations cooperation with foreign experts can "lever" integration and may prevent the present tendency in the accession countries to copy "bad practice" resulting in declining use of public transport, increased congestion etc.

Behavioural change and public acceptance: achieving consensus around transport policy instruments linked to environment

Briefly formulated, the conclusions from this workshop were:

- Public acceptance is crucial for every integration approach
- Target properly: which groups are you aiming at?
- Start early, the earlier you start the greater the acceptance
- Make it easy and transparent so people can understand and take part
- Use third party contribution and cooperation with different stakeholders
- Monitor the project results and refer to the targets (CO_2 emission reduction, modal shift etc.)
- Ensure feed-back of results for gradual adaptation and correction

Experiences from a Dutch programme aimed at reduction of CO_2 emissions through changing driving behaviour showed the importance of an integrated approach by packaging several measures/initiatives in one programme, and of having third-party contributions by entering into partnerships with consumer and business organisations to create networks of reliable "messengers" that act as "translators" and multipliers.

"The New Driving Force" programme

The TNDF programme aims to reduce CO_2 emissions by introducing and promoting eco-driving. The programme is being carried out by the Dutch Agency for Energy and Environment which has established a network consisting of consumer and retail organisations that pass the message of the programme to their own target groups. 23 consumer and retail organisations have signed an agreement to co-operate in reducing CO_2 emissions. Among these organisations are the Royal Dutch Touring Club, the Dutch Consumer Association and the Dutch Association of Car Importers, and also Opel and Ford will join the network. The network plays an active role in carrying out the programme. They 'translate' the messages of the programme and pass them through to their own target groups. So, not the government but intermediaries are the (reliable) messengers of the TNDF recommendations. The programme focuses on the following issues:

- driving style – a subsidy programme to stimulate interaction between demand and supply; driving course providers must meet a set of quality criteria.
- driving school curricula – training for instructors and examiners and certification,
- car labelling – energy label for new passenger cars, which indicates fuel consumption and CO_2 emission (introduced by Dutch government in 2001)
- tyre pressure – annual tyre check campaign in which drivers of passenger cars and vans are offered a technical check free of charge
- fuel saving in-car devices (e.g. ecometers, on-board computers, cruise control) – installation is incentivised by the government by means of tax reductions and subsidies.

Transparency in public consultations - lessons learned from the expansion of runway capacity at Sydney Airport

When a new runway was opened in Sydney Airport in 1994 it met with a strong adverse public reaction, despite the fact that significant efforts had been made to communicate the anticipated impacts of the new runway and the fact that an environmental impact assessment had been carried out by professional experts. After the opening, the EIA documents were perceived by the public as having been misleading and painting a false picture of the noise impacts. A federal investigation heavily criticised the way aircraft noise had been portrayed in the EIA.

Based on this experience some key lessons were learned about the need for achieving transparency and good communication in the EIA process:

- Be careful when defining a "noise affected" population – people living outside a "noise affected" area may also be exposed to subjectively perceived high noise levels, but as they are not living inside the defined area, they will be excluded from the EIA process;
- Communicate using language and graphics that people can understand
- Try to avoid placing people in the situation where they have to trust/rely on you – provide people with the information that would enable them to form their own opinions of what the noise will be like
- Think laterally, don't blindly follow standard practice

Public acceptance is a major obstacle for the introduction or wider use of some types of policy instruments. Road pricing is a good example of this. Experience gained from the PRIMA project (a collaboration among 8 cities supported by the European Commission) show that key factors in building road pricing acceptance include

- The traffic problems must be evident and it must be demonstrated that road pricing is the best way to complement other measures
- The availability of alternative modes of transport. Road pricing should be part of a whole policy package (but all elements need not be implemented at once)
- The use of toll revenues and the level of charges. Experiences indicate that fairly low initial levels are needed and that the charges can be increased successively to meet financial requirements or other objectives
- Equity effects. Attention should be given to effects related to income and to the location of housing, workplaces and service centres. Compensating measures should be considered for groups whose welfare will decrease
- Design of the decision making process needed for the introduction, discussion and implementation of a road pricing scheme. A stepwise procedure characterised by adaptive learning seems to be best from the acceptability point of view. A financing toll system is more easily accepted than an ambitious pricing scheme differentiated by time and area and thus allowing for influencing travel behaviour. Furthermore, a pure financing scheme can be developed and refined successively based on the experience obtained

Experience also shows that acceptance tend to increase after implementation. However, building acceptance is a long process that must start long before the scheme begins operation and continue afterwards. Moreover, acceptance depends heavily on the way in which technical information on impacts is provided to the public. This was also illustrated very clearly by the case from Australia concerning an airport expansion.

Exchanging experiences and disseminating good practice

Integration of environment into transport is an issue at all levels of governance and at all stages in policy-making – from strategy building to actual implementation. Thus, it is not surprising that the exchange of good practice at local, regional and national levels in integrating environmental considerations into transport policy and planning already takes place within several different contexts and networks. Below is given a non-exhaustive list of such forums where policy-makers and stakeholders at different levels share experiences in making transport more sustainable.

POLIS - European Cities and Regions Networking for New Transport Solutions

http://www.polis-online.org

POLIS is a network of European cities and regions working together on transport and related environmental and urban issues. It brings together leading cities and regions for the development of innovative technologies and policies in local transport.

ACCESS - EUROCITIES for a New Mobility Culture

http://www.access-eurocities.org

ACCESS – EUROCITIES is a local authority network aiming to promote a new mobility culture throughout Europe, in order to combat congestion, improve air quality, and to reduce greenhouse gas emissions and noise. It creates a forum for facilitating the exchange of ideas and experience and the transfer of know-how, pooling experience and disseminating good practice as well as helping cities to identify practical solutions and in implementing specific projects.

CPMR – the Conference of Peripheral Maritime Regions of Europe

http://www.cpmr.org

CPMR is an association of about 150 regions from 27 states, all located in one of Europe's main sea basins. CPRM seeks to promote balanced development in the European Union by highlighting the value of all its geographical areas with a view to strengthening its economic, social and territorial cohesion. CPMR is active and facilitates interregional cooperation in a number of fields, including transport and environment.

BEST - Benchmarking European Sustainable Transport

http://www.bestransport.org

BEST is a three-year project about benchmarking in transport and about latest developments in the field of benchmarking. The aim of BEST is to bring together European policy makers, professionals and stakeholders working in the transport sector to share their expertise and experience of benchmarking as a practical tool to improve performance.

The EU Transport Research Programme Knowledge Center

http://www.europa.eu.int/comm/transport/extra

This site provides a library of significant findings under the Fifth Framework Key Action on Sustainable Mobility and Intermodality underpinning policy developments in transport. The aim is to provide a reference point for decision-makers from national, regional and local administrations, industry and researchers.

ELTIS - European Local Transport Information Service

http://www.eltis.org

The aim of ELTIS is to provide information and support a practical transfer of knowledge and exchange of experience in the field of urban and regional transport in Europe. It should give the user the opportunity to explore best practices from European cities and regions, to search for specific transport solutions and to be informed about the state of the art in a given transport application. In turn this should help create a more sustainable living environment, one which provides greater accessibility and mobility to its inhabitants.

European training programme for urban transport professionals

http://www.transport-training.org

From 2003-2005, the European Commission is offering a training programme for urban transport professionals that aims to deliver a comprehensive programme of European training seminars designed for mid-career transport managers and executives working in local/regional authorities and related bodies, or for public transport operators in the EU and future member states. The curriculum of the programme contains numerous elements of relevance for making urban transport more sustainable.

Database on Good Practice in Urban Management and Sustainability

http://europa.eu.int/comm/urban/

This database is designed to help local authorities to work towards sustainability by disseminating good practice and policy, facilitating the exchange of experience, and raising awareness about how cities and towns can be managed in more sustainable ways. The database is developed within the framework of an Integrated Commission Database Network incorporating all relevant European Commission databases and establishing links to related databases set up by other institutions.

It presents case studies and relevant documents providing background information on policy and practice.

CIVITAS Initiative

http://europa.eu.int/comm/energy_transport/en/cut_en/cut_civitas_en.html

CIVITAS is an urban transport initiative supporting demonstration projects in a number of laboratory cities across Europe. CIVITAS is a key element of the strategy on Clean Urban Transport prepared by the Energy and Transport Directorate-General of the European Commission. The objective of CIVITAS is to assess the impacts of the introduction of radical integrated sustainable urban transport strategies, supported by innovative measures, technologies and infrastructures.

OECD EST Project – Environmentally Sustainable Transport

http://www.oecd.org

The OECD EST project demonstrates what strategies to achieve EST might look like, as well as their economic and social impacts, considering long-term environmental issues. It is an attempt to establish a basis for a diverse range of policy-makers and economic actors to communicate and a framework for government to set goals, objectives, targets or standards and initiate actions.

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