

# Sustainable Freight Transport in Sensitive Areas

Proceedings of the conference held in  
Vienna, 27 - 28 October 2004



European Federation for  
TRANSPORT and ENVIRONMENT



**Sustainable Freight Transport in Sensitive Areas**

Proceedings of the conference held in Vienna, T&E 04/7  
27 - 28 October 2004

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**T&E – European Federation for Transport and Environment**  
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The conference is organised by:



European Federation for Transport and Environment, [www.t-e.eu](http://www.t-e.eu)

VCO Verkehrsclub Österreich, [www.vcoe.at](http://www.vcoe.at)

The conference is sponsored by:



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The conference takes part in the framework of T&E's project 'Safe and Sustainable Freight Transport' which is sponsored by the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, the Swedish Rail Infrastructure Authority Banverket, the Swiss Ministry of Environment, Transport, Energy and Communication, the regional governments of Aragon, Basque Country and Catalonia and Swiss NGOs.

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## **Note on presentations**

Presentation slides used by the speakers at the conference can be downloaded from the T&E website, [www.t-e.nu](http://www.t-e.nu)

## **1) Introduction and Objectives**

Sensitive areas, such as mountainous regions or also wetlands and coastal zones, are particularly vulnerable to the impacts of transport. The rapid increase of transport through, for example, the Alps over the last 30 years has seriously deteriorated air quality in the valleys and causes widespread noise nuisance.

The increase in freight transport in sensitive areas represents also a safety risk, repeatedly shown by tunnel accidents. Transport infrastructure is increasingly congested. Enlarging transport infrastructure capacity in these areas is generally extremely expensive.

It is clear that these conditions pose a special challenge to policy makers in the transport field. With the continuing European integration of the transport sector in mind, sensitive areas are becoming an EU issue as well. This is clearly shown by the discussions on so-called 'mark-ups' in the 'Eurovignette' revision process.

The conference should increase the understanding of the sensitive areas and of sustainable transport through sensitive areas. The European view should be made more familiar for national and regional decision makers and stakeholders vice versa. And most of all, the conference should highlight a couple of inspiring examples of how sustainable freight transport could be achieved without harming economies and communities.

## **2) Opening speech by Josef Pröll, Austrian Federal Minister for Agriculture, Forestry, Environment and Water Management**

The protection of ecologically particularly sensitive areas and the development and implementation of environmentally friendly transport solutions for these areas constitute priority issues of Austria and of my Ministry, and we have thus gladly supported this event of the European Federation for Transport and Environment, T&E.

In Europe we find a wide variety of ecologically particularly sensitive areas: the most well-known among them are the big mountain areas, such as the Alps, the Carpathian Mountains and the Pyrenees, but they include also dry steppes, wetlands, river and lake landscapes, as well as sea areas and coastal landscapes.

Ecologically sensitive areas are vulnerable, as only minor interferences into the ecological or utilisation systems can have grave effects. Sensitive areas suffer particularly from environmental pollution and traffic load! In these areas, which are already particularly sensitive, environmental pollution can even be further reinforced by the natural conditions, such as by the topography with frequent inversion weather and the high level of noise reflection in the Alpine valleys.

They are valuable, because they render services for the society: They contribute to the purification of water and air, ensure the diversity of species and biodiversity, offer protection from dangers, and play an important role as a counterbalance to conurbations, in stress reduction and recreation. Some of these areas are therefore subject to a certain status of protection; on a large-scale basis, such as within the framework of the Alpine Convention or the Carpathian Convention; at international level such as the Ramsar areas or biosphere reservations; at regional level, as for example national parks and Natura 2000 areas, and at local level such as nature protection areas. Others still require protection.

Finally, ecologically particularly sensitive areas are characterised by special potentials for a sustainable regional development from the economic, ecological, and social points of view. In spite of all the efforts taken in terms of more rigid environmental standards and technical improvements in vehicles and fuels the road traffic, and especially the freight traffic are still the principle headache of environmental policy, not only in Austria, but also in Europe as a whole.

Sensitive areas call for sensitive (transport) solutions:

- The transport solutions must be tailor-made and must take account of the value and the instability of the region.
- There must be a possibility to take for ecologically sensitive areas more rigid and more comprehensive measures than those which are taken as a rule, if this is necessary due to special requirements.
- For the purposes of the encouragement of the integration of sustainable development into sectoral policies, environmental objectives must be put on an equal footing with economic and social objectives, for example in transport policy.

In addition to the measures which can be taken directly in the sensitive areas, measures at supra-national or international level will be necessary.

These strategies are to be supported not least by economic incentives for sustainable mobility. Moreover, an offensive in the field of awareness raising and information about the advantages of sustainability-oriented, "intelligent" mobility behaviour aims at supporting these strategies.

The UN/ECE Declaration on Transport and the Environment, and the international conference on the issue “Sensitive Areas – a Key Challenge for Environment and Transport in Europe”, which was held in Eisenstadt in 2001, constituted important milestones for demonstrating that sensitive areas as well as transport and environmental problems exist in all countries and are not confined to mountainous regions.

For this reason it is to be especially welcomed and to be supported that this topic is now taken up again at international level by T&E. The topic of ecologically particularly sensitive areas is an all-European issue which concerns each individual Member State and only together will we be successful in protecting these areas.

### **3) Conclusions by the chair of the conference**

#### **Do not forget the driving forces!**

The trends in freight transport, i.e. growing freight transport over the last decades for road freight, stagnation for inland waterways and shrinking rail freight are caused by strong forces behind.

It is important to understand these driving forces and not to have illusions about possible solutions. Road freight transport has become more and more attractive over the last decades. This is e.g. caused by to liberalisation of road freight in Europe, whereas international rail freight has hardly developed.

#### **Sensitive areas are valuable and vulnerable**

Sensitive areas are valuable and vulnerable, therefore, special policy must be developed to protect them.

First, it is necessary to define sensitive areas based on guidelines and characteristics which should ideally be agreed on EU level. There are several types of sensitive areas in addition of the environmentally sensitive mountainous areas, the maritime areas, coastal zones and wetlands but also urban areas.

Second, Transport related problems are different for these different types of sensitive areas. It is important to identify the problems for each type of sensitive areas in order to take the appropriate instruments.

Third, stricter rules and measures are required to protect sensitive areas. Accordingly, EU legislation should also allow for stricter rules, such as stricter fuel quality and noise standards or additional charges to reflect the vulnerability.

Fourth, the policy to protect sensitive areas should be addressed on two levels. The European level should design a framework allowing Member States to implement non-discriminating measures to protect sensitive areas. On the regional level, e.g. Alpine or Pyrenean countries, member states neighbouring the Baltic Sea or the Mediterranean should take own initiatives. These regions could be forerunners and trend setters for a sustainable transport policy and sustainable in Europe.

#### **Charging: More opportunities for member states needed**

The main obstacle of the current 'Eurovignette' directive on charging for the use of certain infrastructure for heavy goods vehicles is the restriction to motorways only. Following the principle of subsidiarity it can be questioned whether European legislation should include provisions for the secondary road network. An important step forward in the political process can be to only adjust the current Eurovignette Directive allowing charging on secondary roads.

Member states should, of course, implement interoperable systems. The EU has already set guidelines in a directive on the interoperability of electronic fee collection systems.

Non-discrimination of foreign users is a must. The concern of peripheral countries to be unjustifiably charged must be taken seriously.

All existing regulations should be better enforced, e.g. with regard to working and driving time, in order to reduce distortions between transport modes.

### **Investments in transport infrastructure: CBA needed**

Independent cost-benefit analysis should be mandatory for all transport infrastructure investments. This is especially relevant on EU level for the TENs. SEA should be closely linked to the cost-benefit analysis and the results of SEA should have feedback on the decision and the design of plans.

The challenge is to build the good and viable projects and not to build the bad once. Building bad projects instead of good projects harms the economy as not building good projects harms it as well. Therefore the role of cost-benefit analysis is highly important.

### **Modal shift: improvement of rail services necessary**

All transport modes should increase the attractiveness for the clients. Especially railways should improve the use of the existing infrastructure..

It is important that all transport modes reduce their environmental impacts.

### **Shipping: cost-effective possibility to reduce air emissions**

There is a big potential to reduce emissions from the shipping sector for low costs.

#### **4) Recommendation from T&E**

T&E recommends the following steps at national, regional and European level:

At European level, the European Commission should:

- Sign the transport protocol of the Alpine Convention
- Present guidelines to define sensitive areas
- Present a proposal for a coherent transport policy in sensitive areas including guidelines for targets
- Present a revision of the Noise Directive including limit values for noise exposure
- Present a proposal to use economic instruments, e.g. charging or permit trading schemes in a target-oriented way.

At regional level, Member States should:

- cooperate in defining the sensitive areas including trans-boundary areas
- coordinate the targets for trans-boundary sensitive areas
- coordinate the instruments for trans-boundary sensitive areas.

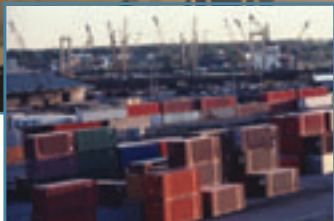
At national level, Member States should:

- define their sensitive areas within their countries
- define non-discriminating instruments to achieve the targets
- use existing flexibility of EU legislation

# Conference on sustainable freight transport in sensitive areas

27 / 28 October 2004, Vienna

**VENUE:** Regierungsgebäude Stubenring I, A-1010 Vienna | Saal II (1<sup>st</sup> floor)



## Why this conference?

Sensitive areas, such as mountainous regions or also wetlands and coastal zones, are particularly vulnerable to the impacts of transport. The rapid increase of transport through, for example, the Alps over the last 30 years has seriously deteriorated air quality in the valleys and causes widespread noise nuisance. The increase in freight transport in sensitive areas represents also a safety risk, repeatedly shown by tunnel accidents. Transport infrastructure is increasingly congested. Enlarging transport infrastructure capacity in these areas is generally extremely expensive.

It is clear that these conditions pose a special challenge to policy makers in the transport field. With the continuing European integration of the transport sector in mind, sensitive areas are becoming an EU issue as well. This is clearly shown by the discussions on so-called 'mark-ups' in the 'Eurovignette' revision process.

## What should be achieved by the conference

The conference should increase the understanding of the sensitive areas and of sustainable transport through sensitive areas. The European view should be made more familiar for national and regional decision makers and stakeholders vice versa. And most of all, the conference should highlight a couple of inspiring examples of how sustainable freight transport could be achieved without harming economies and communities.

## Who should attend?

The conference is addressed to

- decision makers and stake holders on EU level
- national governments from old, new and future EU member states
- professionals from all transport modes and intermodal transport operators
- representatives of industry, shippers and employees
- NGOs and interest groups promoting sustainable transport



Europe's voice for sustainable transport

## Agenda

### WEDNESDAY, 27 OCTOBER 2004

**8.30 – 9.00** Registration and Coffee  
The conference is chaired by Arie Bleijenberg, Dutch Ministry for Transport and Public Works.

**9.00** **Opening** by Matthias Zimmermann, chairman of advisory committee of T&E's project 'Safe and Sustainable Freight Transport', Liestal

Welcome by Josef Pröll, Austrian Federal Minister of Agriculture, Forestry, Environment and Water Management, Vienna

#### **9.30 – 11.00 Part 1: Sensitive areas and freight transport**

##### **What are sensitive areas?**

Sibylla Zech, Stadtländ, Vienna

##### **Sensitive areas – what threats from freight transport?**

Peder Jensen, European Environment Agency, Copenhagen

##### **Transport impacts in sensitive areas – example from the Pyrenees**

Prof. André Etchelecou, University of Pau, Pau

##### **The sensitive Alpine region – the Role of the Alpine Convention**

Marie-Line Meaux, French Ministry of Transport, Paris

##### **East meet West: Pilotprojects Lake Neusiedl/ Fertő-tó**

Robert Thaler, Austrian Federal Ministry for Agriculture, Forestry, Environment and Water Management, Vienna

#### **10.45 – 11.15 Discussion**

#### **11.15 – 11.30 Break**

#### **11.30 - 13.00 Part 2: The European framework**

##### **The use of sensitive areas in EU legislation**

Dietrich Kraetzschmer, Planungsgruppe Ökologie + Umwelt, Hannover

##### **Transport infrastructure pricing in Europe Revision of the TEN-Guidelines and EU transport investment instruments**

Christophe Deblanc, European Commission, DG TREN, Brussels

##### **One Size doesn't fit all: A sensible EU transport policy to respect sensitive areas**

Jos Dings, T&E, Brussels

#### **12.30 – 13.00 Discussion**

#### **13.00 - 14.00 Lunch**

#### **Part 3: Frameworks and good practices**

#### **14.00 – 17.00 Sustainable Pricing**

##### **LKW Maut in Austria**

Friedrich Schwarz-Herda, Austrian Federal Ministry for Transport, Innovation and Technology, Vienna

##### **The Swiss Heavy Vehicles Fee: How fair and efficient pricing works in reality**

Barbara Schär, Swiss Federal Office of Spatial Development, Bern

##### **Road infrastructure pricing initiative in new EU member states: kilometre charging goes east?**

Michal Tesar, Czech Transport Ministry, Prague

##### **The Eurovignette directive: How to turn the Commission's proposal into a useful tool**

Per Kågeson, Nature associates, Stockholm

#### **15.15 - 15.45 Coffee break**

##### **Trading of Alpine transit rights: fair and efficient allocation of scarce transport infrastructure**

René Neuenschwander, ecoplan, Bern

##### **Charging, trading or subsidising? Necessities and option to reduce air pollution from ships in Europe**

Susanne Ortmanns, SNF, Stockholm

#### **16.15 – 17.00 Discussion**

#### **20.00 Dinner**

### THURSDAY, 28 OCTOBER 2004

#### **9.00 – 15.00 Sustainable investments and operation**

##### **The risks and limits of big infrastructure investments or: Small is beautiful**

Nicoleta Ion, T&E, Brussels

##### **SEA – Assessing impacts of large-scale investments**

Christian Baumgartner, Austrian Federal Ministry for Agriculture, Forestry, Environment and Water Management, Vienna

## Agenda

### The importance of investments in the density of rail networks

Wolfgang Rauh, VCÖ, Vienna

### European Framework in the direction of fair competition between transport modes

Béatrice Hertogs, ETF, Brussels

### Sustainable freight transport operation – how fair are the competitive conditions for employees and employers?

Sylvia Leodolter, Vienna Chamber of Labour, Vienna

#### 10.15 – 10.45 Discussion

#### 10.45 – 11.00 Coffee break

### Transport investments in new member states and sustainable freight transport – a contradiction?

Boris Zivec, Slovenian Transport Ministry, Ljubljana

### How to use the potential of improved logistics to reduce negative impacts of freight transport?

Stefan Eriksson, Freight Forwarders International, Brussels

### Improving waterway infrastructure in line with ecological needs and with the help of information technology

Christian Schramm, viadonau, Vienna

### Rail research and innovative technologies - a substantial contribution to sustainable freight transport?

Stefan Duelli, Austrian Federal Ministry for Transport, Innovation and Technology, Vienna.

Silke Frank, arp - planning.consulting. research, Vienna

#### 12.00 – 12.30 Discussion

#### 12.30 - 13.30 Lunch

### Cost efficient investments for combined freight transport

Martin Burkhardt, UIRR, Brussels

### Innovative Concepts to move Alpine freight from road to rail

Karl Fischer, Logistics Competence Centre, Prien am Chiemsee

### How to scan the potential for modal shift? Results from the SPIN Project

Martin Ruesch, Rapp Trans AG, Zurich

### Short Sea Shipping on the Atlantic Arc

Txaber Giori, Port of Bilbao, Bilbao

#### 14.30 – 15.00 Discussion

#### 15.00 – 15.15 Conclusions from the Chairman

#### Closure of the Conference

#### 15.30 - 17.30 Part 4: Intermodal transport in practice: visit of the 'Innovativer Umschlagsterminal IUT' organised with the support of Rail Cargo Austria

Dietmar Schratt, ÖBB Rail Cargo Austria

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## 6) Abstracts from the speakers

Sibylla Zech / stadmland

### What are sensitive areas?

Criteria for sensitive areas

The Vienna Declaration of the UNECE Conference on Transport and the Environment (Vienna 1997) defined “sensitive areas” as a field of action requiring sustainable transport development. The “Criteria Catalogue for Particularly Ecologically Sensitive Areas” (2000) offers tasks and assistance for stakeholders regarding the charges and risks for the development of sensitive areas. The EPSA method uses clear and easily identifiable indicators which demonstrate the particular sensitivity of an area. The method does not create an inventory or map of sensitive areas, but makes the examination of an area’s sensitivity possible with respect to a particular application.

There are no areas which can be defined as being ecologically insensitive: “particularly ecologically sensitive areas” fulfill specific criteria.

The technical and political discussion around the concept “particularly ecologically sensitive area” can be reduced to three criteria: Value, Fragility and Potential.

Particularly sensitive areas are valuable: These areas include rare landscapes and habitats, unspoiled areas, intact cultural historic landscapes and nature protection zones. These areas are valuable because of their material advantages (e.g. purification of water and air, biodiversity, protection against dangers, alleviation of climatic impacts, etc.) and non-material benefits (e.g. stress reduction, leisure time recreation and enjoyment of nature, sense of identity and home, etc.) for the individual and society as a whole.

Particularly sensitive areas are vulnerable: “Sensitive“ in the general sense of the word means “quick to receive impressions, able to record even minor changes, easily hurt”. Therefore, areas and/or the individuals inhabiting these areas may be defined as sensitive if even slight changes in their ecological or economic systems produce a pronounced impact and/or lead to far-reaching consequences. Fragile areas, for example, are areas with a low buffer capacity – in spatial and/or ecological terms; areas boasting nature reserves that need to be protected or areas with conditions under which impacts are aggravated.

Ecologically particularly sensitive areas have a future: The prime function of a set of instruments designed for particularly sensitive areas is not to preserve things in their natural state, but rather to develop sustainable, environmentally-friendly settlement and landscape patterns. The main objective is to create development options for the future.

Recommendations

Transport systems in ecologically sensitive areas should be conceived to meet regional accessibility and mobility needs. Traffic and transport systems: must not reduce, but improve the value of sensitive areas

- must defer to the fragility of sensitive areas, aim to avoid risks and pay due regard to critical limits
- must serve the objective of using the unique future potentials of sensitive areas and enhance a sustainable development of the region.

- Sensitive areas need tailor-made infrastructures constructed with a view to keeping emissions as low as possible, to consume a minimal amount of land and to blend in well with the landscape.
- Networking within the region, crossing borders, between sectors and intermodal eco-mobility, to
- use the competence of regional and local players
- ensure active participation of stakeholders from national, regional, local authorities, of the sectors (industry, trade, tourism, agriculture) NGOs and citizens
- intensify interdisciplinary and intersectoral cooperation, national, regional and international cooperation, public private partnerships
- promote awareness-raising campaigns, information and communication and sharing of best practice

Peder Jensen, EEA

### **Sensitive areas – What threats from freight transport**

In our mapping of impact of transport on the environment, presented in November 2004 in the EEA report 'Ten key transport and environment issues for policy makers' we have seen the following trends:

There is a good development in the emissions of regulated pollutants. We have however not seen the same positive development in air quality, and have looked for reasons for the apparent lack of progress. It appears that there is an increasing tendency for vehicle emissions to be tailored to the test cycle criteria rather than real world driving situations. Therefore emissions are not reduced as much as we think. Additionally the ageing of abatement equipment as well as the modification of diesel engines appears to play an increasing role.

Fragmentation of landscape by infrastructure is an additional and increasing pressure on the environment.

In modal terms rail is continuously losing market shares, and the prices do not favour rail transport.

The increasing thirst for Russian oil is putting further strain on the Baltic sea environment, via accidents as well as operational discharges of oil. Only much stronger enforcement of existing regulation appears to be able to break the trend of increasing problems.

But perhaps the time has come to try to see sensitive areas as a driver rather than a barrier. Regulation in the Alpine area could help push more freight onto rail, but for it to affect the rest of Europe there is a need to solve the inherent problems of inflexible railroads. Small-scale solutions in the Alps do not solve the whole problem.

Prof. Etchelecou, University of Pau, Pau, France

### **Transport impacts in sensitive areas – example from the Pyrenees**

Growth in freight transport by truck through the Pyrenees is becoming a major risk for the environment as well as the population. 18,000 trucks per day are crossing the borders of the Pyrenees today, compared to 3,800 in 1984.

Saturation of the road corridors on the Atlantic and Mediterranean coasts is a strong indicator that there will be a shift in routes taken by heavy goods vehicles to the narrow valleys of the Pyrenees (mainly in the Aspe Valley and Val d'Aran).

The morphological and climatic specificities of these valleys do not allow for easy dispersion of pollution, as has been demonstrated by studies conducted within the context of the Ecosystems, Transport and Pollution Program (ETP Program).

What makes the problem even more crucial is the fact that local pollution is compounded by pollution originating far away from the mountains and conveyed there by the atmosphere, troposphere or even stratosphere (Pyrenees Air Pollution Program or PAP Program).

The only solution is to engage as soon as possible in a combined transport policy including the construction of a high-capacity railway link.

Marie-Line Meaux, President of the Transport Group of the Alpine Convention  
**The sensitive Alpine region – the role of the Alpine Convention**

Through its Transport Protocol signed in Lucerne by eight countries of the Alpine Region in December 2000, the Alpine Convention seeks to promote the sustainable development of transport in the European region in highly sensitive areas such as the Massif Alpin in the French Alps.

The major concepts laid down in the protocol must be ratified and transposed into national legislation (ratification is still on the agenda in France, Switzerland and Italy). The Alpine countries cannot act without applying a closely concerted multilateral approach, even if their approaches vary depending on what is at stake for them in terms of transalpine freight transport as it relates to their specific geographic location in the Alps. Cooperation is the aspect dealt with by the Transport Working Group, which is the only standing committee of the Convention.

The Alpine Convention is progressively implementing information tools for defining the actual situation in the Alps (Monitoring and Information System on the Alps, SOIA, based in Bolzano) and monitoring indicators relating to the quality of the environment. The transport sector is very much involved in these initiatives.

The Transport Working Group received a mandate at the meeting in Merano in December 2002 to focus on monitoring and the analysis of experiences. It has defined three major areas of intervention:

Transalpine railway freight transport services: combined transport, railway highways, new infrastructure projects, multilateral cooperation between different countries to improve the situation in the seven major existing corridors. One of the priorities in this respect is to develop concerted measures regarding railway corridors for which there are not yet any action plans in place, such as those implemented in the Munich-Verona Corridor (Brenner Plan 2005) and the Basel-Milano Corridor (North-South Corridor or IQ-C).

Comparison of methods used in the various Alpine countries to take into account external costs in road pricing and analysis of the impact of draft directives (especially the Eurovignette) on sensitive areas in the Alps.

Research and best practice examples for the development of sustainable intra-Alpine mobility in two directions: networking between Alpine settlements, access to major tourism sites. This subject, which has not been dealt with in any detail by the Working Group, calls for close cooperation with the networks of regional authorities in the Alps, because it falls within their remit in most Alpine countries.

As regards the major concepts laid down in the Transport Protocol and the intervention of the standing committee, there should be more stress placed on the great disparity in the development over the last ten years of the geographical distribution of freight transport across the Alps. The upcoming analysis of the CAFT 2004 study (Cross Alpine Freight Transport) will provide valuable insight.

Robert Thaler, Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management

### **Austrian-Hungarian Umbrella Project**

#### **“Environmentally sustainable transport and tourism in Sensitive Areas, an example of the Lake Neusiedl – Fertő-tó Region”**

The Austrian-Hungarian Umbrella Project (2002-2007) is based on an agreement made between the Hungarian and Austrian Ministers of Environment on the occasion of the UNECE international Conference on “Sensitive Areas – A Key Challenge for Environment and Transport in Europe”, 2001 in Eisenstadt. It provides a model for cross-border cooperation on environmentally sustainable transport and tourism in ecologically sensitive areas. The project serves as an Austrian and Hungarian contribution to the WHO/UNECE Transport, Health and Environment Pan-European Programme – THE PEP.

The transnational region Neusiedler See – Fertő-tó was selected as it represents one of the most important ecologically sensitive landscapes in Europe and is, as a border region for Austria and for Hungary, of special and joint interest. This region contains a transfrontier national park (IUCN) and has, additionally, the status of UNESCO “world cultural heritage” site.

The ecological and cultural values on one hand and labile ecological systems on the other make the area a particularly sensitive with exceptional chances for regional sustainable development. These factors are in the midst of a dynamic economic area and against the background of rising east-west transport volumes and transport-dependent environmental risks.

The transnational pilot project should be a model to develop environmentally compatible solutions to transport-related problems in ecologically sensitive areas. At the same time, ecologically sound accessibility and mobility, tourism and regional economic development should be assured.

The pilot project for sustainable transport and tourism should be aimed at promotion and improvement of sustainable mobility and infrastructures, clean technologies, mobility management, a sustainable regional economy and sustainable freight transport as well as new and innovative offers for mobility and eco-tourism. The reinforcement of transnational co-operation shall contribute to a win-win-situation for environment, mobility and tourism. The overall goal is transnational sustainable development of the ecologically particularly sensitive area as a whole.

The project consists of five modules, which are interdependent. The modules consist of individual projects. Currently, the following projects are being undertaken, others are in development:

- innovative, sustainable public transport – pilot projects in selected communities:
- municipal bus systems in 4 municipalities (“Gmoa”-busses” in Purbach, Mörbisch, Breitenbrunn, Podersdorf)
- integrated public transport systems for Eisenstadt (federal state capital)

Development of an innovative public transport system in Neusiedl (local centre, project “IVAN”)

Further implementation projects planned

Flexible public transport concept “make.IT” and Cross-border mobility centre conception, planning, evaluation for flexible public transport in the whole Lake Neusiedl-region  
implementation of demand-oriented transport according to “make.IT”  
implementation project for a cross-border mobility centre with pilot phase 2005-2007

eco-mobility & eco-tourism

creation of eco-mobility & eco-tourism offers in the region (in the frame of “Neusiedler See Card”) sustainable mobility packages for eco-tourists for “National park - Illmitz” and “Cherry blossom region – Leithagebirge”

Sustainable commercial transport and regional development

“Start-up” Module with studies on “Innovative freight transport” and “Transport-efficient regional cluster structures”

Implementation projects for the economic revitalisation of regional (Eisenstadt) and local centres (Neusiedl)

Company mobility management: overall obligatory target reduction of company transport-related CO2 emissions (with federal subsidies)

Implementation of “make.IT”, adapted and “tailor-made” infrastructure and technologies, like the new solar-powered national park boat, intermodal transport user information systems (rail-road-public transport) or the promotion of alternative fuels and propulsion technologies.

The individual projects are financed by federal and regional sources (Ministry of Agriculture, Forestry, Environment and Water Management; Ministry for Transport and Innovations; Ministry for Economic Affairs and Labour (Tourism) and the Federal State of Burgenland), and are co-financed via EU-INTERREG IIIA Austria-Hungary funds as well as PHARE CBC funds. Local communities and private stakeholders take part in the projects, both in organisation and financing. Partners in the projects are – beside the federal and both regional and local governments – the National park, transport enterprises, local tourism cooperations as well as interested local companies.

The Austrian project is “mirrored” by the Hungarian project structure. Within a joint PHARE CBC project the state of the regional problems were analysed, proposals for concrete implementation and investments were elaborated and presented, now awaiting further implementation.

Contact: Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, Division V/5 Transport, Mobility, Human Settlements, Noise.  
Robert Thaler, Eva Gleissenberger [eva.gleissenberger@bmlfuw.gv.at](mailto:eva.gleissenberger@bmlfuw.gv.at)

Jos Dings, Director, T&E European Federation for Transport and Environment

**One size doesn't fit all**

**A sensible EU transport policy to respect sensitive areas**

Transport policy needs differ across Europe. There are differences between peripheral and central countries, and between particularly sensitive and less sensitive areas. A 'one size fits all' strategy is not appropriate. A flexible EU policy, based on an understanding of different national and regional needs, is urgently required.

The following recommendations for action have been framed to enable this degree of flexibility: The European Commission should propose a set of criteria to define what constitutes a sensitive area, both ecologically and from the point of view of human health

A coherent transport policy for such areas should then be developed. The policy should be target-based, and supported by instruments – not vice versa. For example: targets for air quality already exist, but targets for noise and fragmentation are lacking.

Targets should be non-discriminatory and achieved in the most cost-effective way possible, thereby favouring economic instruments over regulatory ones.

The Transport Council should appoint a representative to sign the Transport Protocol of the Alpine Convention, as promised in 2001.

More flexibility is needed in the field of charging. Member States should be allowed to protect their sensitive areas, while respecting the needs of other countries to include some form of upper limit to charges. A return to the 'Framework' approach is sensible way forward, given the deadlock in current talks on lorry charging.

In the field of European transport investment policy, current emphasis is on 'megaprojects' with highly uncertain economic benefits. Audited Cost Benefit Analyses are needed to avoid unnecessary fragmentation and to enhance Europe's competitiveness. Strategic Environmental Assessment of such projects could also shed light on potential alternatives.

Regarding air quality, the Commission should propose a coherent policy to enable Member States that want to go further than minimum EU requirements.

In the field of noise, the EU should transfer responsibility for noise standards for vehicles, tyres and asphalt/rails to the Environment Council, and propose general noise targets as soon as possible, as announced in the Directive on environmental noise .

National governments should be prepared to make maximum use of current flexibility in EU legislation and implement it in an unambiguous, non-discriminatory manner.

Friedrich Schwarz-Herda, Austrian Federal Ministry for Transport, Innovation and Technology  
**Toll Collection in Austria – a contribution to sustainable freight transport**

For more than 10 years Austria has been working on basic plans for the introduction of a user-oriented system that will see users of the country's high-level roads assuming a share of road costs. The main motivation behind the decision to introduce a road-charging system was primarily the aspect to involve as much as possible those drivers using the network's toll roads in a fair cost coverage system. The Federal Highways Financing Act of 1996 and several amending statutes provided the first legal basis for the collection of tolls on motorways and similar roads such as expressways. In 2002 this law was replaced by a revised law which defined the toll collection system in more detail.

All vehicles above a permissible gross weight of 3.5 tons - in other words primarily commercial vehicles - are obliged to pay this distance-related toll. Light vehicles are obliged to pay a time-related user fee by having a Vignette.

2,000 km of the high-level road network (motorways and expressways), the responsibility of the state-owned Austrian Motorway Company ASFINAG, are subject to the new toll collection system. From 1 January 2004 toll collection took place with an fully electronic microwave-based toll-system, that allows payment in proportion to the distance travelled without obstructing the traffic flow (free flow, multilane).

The main objective of the toll system is to ensure a sufficient financial basis for maintenance, operation and upgrading of the motorway network in Austria. The additional revenue for the first year of operation is expected by ASFINAG to be about €600 million. All the revenue from tolls and Vignettes is earmarked for use on the toll road network.

But there are several secondary effects expected, as

- the growth of road freight traffic could slow down as the distance travelled becomes financially more important, which could lead to reactions within the transport sector:
- better logistics, reduction of empty trips
- better use of loading capacities
- use of other transport modes

As the actual EU Directive 1999/62/EC (Euro-Vignette directive) permits tolls in relation only to the infrastructure costs, it has been decided that these costs will at least be credited on the basis of the distance travelled.

The toll-rates, graduated in three classes according to the number of axles, were fixed in November 2002 by a decree by the Minister of Transport on the basis of the law concerned. The average toll rate represents €0.22 per km (exclusive of VAT).

The range goes between €0.13 per km for a two-axle vehicle and €0.27 per km for a vehicle with four axles or more.

Higher rates have been fixed in the road sections crossing the environmentally-sensitive areas of the Alps, which cause higher costs and had been tolled already in the past.

The experiences of 9 months of operation show that the system is almost well accepted by the users. More than 400,000 vehicles are equipped with the electronic On Board Unit – the "GO-Box"- and the average number of toll transactions per working day reaches 1.8 million. Although local and regional traffic was partially diverted to parallel roads, the overall percentage remained below 2% of the total traffic performance on motorways.

The introduction of a kilometre-based electronic toll system in Austria is a significant step towards achieving a more just distribution of costs in the road transport sector. As an additional benefit the

electronics used for the toll system and better financial sources may allow ASFINAG to improve also traffic information and provide more effective traffic management in the future.

Examples are a system for automatic speed limitation depending on noise pollution already in operation on the A2 in Styria, and a new traffic management system on the A12 and the A13 in Tyrol which is under implementation.

Barbara Schär, Swiss Federal Office of Spatial Development, Berne

## **The Swiss Heavy Vehicles Fee (HVF): How fair and efficient pricing works in reality**

### 1. Swiss freight transport policy

Over the last decade, moving goods from road to rail was a core element of the Swiss transport policy: The Swiss federal parliament has taken several decisions for a solid framework to effectively shift freight transport from road to rail: acceptance of the Alpine Initiative, bilateral agreement between Switzerland and the EU, construction of new Alpine rail links, heavy vehicles toll and rail reform.

### 2. Swiss Heavy Vehicles Toll (HVF)

The Swiss HVF is the core of the Swiss freight transport policy. It was introduced on 1 January 2001 and replaced the flat-rate heavy vehicle toll.

It's main objectives are

- The HVF shall aim towards the user and polluter pays principle and allow for fair competition between road and rail
- The HVF should contribute to shifting freight transport from road to rail
- The HVF should contribute to financing the new Alpine rail links..
- The HVF should contribute to reducing environmental impacts from transport

The HVF applies to Swiss and foreign heavy goods vehicles with a maximum laden weight of more than 3.5 tons. The HVF is payable on the entire road network within Switzerland. The toll amounts to 1 cent per ton-kilometre. This level will be increased to 1.7 cents on 1 January 2005. This amount is based on the uncovered costs of the heavy road transport and the corresponding ton-kilometres. The toll is differentiated according to three emission classes. Not more than two thirds of the revenues are used for the new Alpine rail links. One third can be used by the cantons (federal entities). Swiss vehicles must be equipped with on-board units for automatic recording. Foreign vehicles are charged by a simplified declaration system.

### Conclusions

The three years of experience since the introduction of this system demonstrates the first effects intended by the HVF. First of all, the road haulage sector has been changed by a renewed fleet with less polluting trucks or by improved logistics and increased load factor. The desired modal shift from road to rail has not happened yet. One reason might be that the infrastructure (new Alpine rail links) has not yet been accomplished. The example of the Swiss HVF demonstrates that the application of market-based instruments contributes to the modal shift, but that this instrument alone is not sufficient. In order to achieve the objectives, it is crucial that the individual instruments such as HVF, construction of new Alpine rail links and rail reform, are linked together. Furthermore, the Swiss transport policy must be embedded in the European framework.

Per Kågeson, Nature Associates

### **The Eurovignette Directive. How to turn the Commission's proposal into a useful tool?**

The Transport Council has three times failed to honour the commitment to the internalisation of all costs of transport made by the heads of state at Gothenburg and Barcelona. Several of the transport ministers obviously do not accept the principle of marginal cost pricing and the inclusion of the costs of traffic accidents and environmental degradation.

In this situation, the Community could either stick to the current Directive and allow Member States some freedom under the principle of subsidiarity, or make a new attempt to come to an agreement on the revision of the Directive. Would the Commission or any Member State, in the case of a permanent failure to revise the Directive, challenge a Member State who wants to include all roads in its toll system?

There is currently no consensus concerning the inclusion of costs other than those of the infrastructure. To get things started one would for the moment have to accept this delimitation. The definition of infrastructure cost, however, should be broad enough to include the costs of traffic surveillance and investment in improved traffic safety. Charges should be allowed to vary to the degree needed to reflect true differences in road wear, exhaust fumes and congestion.

Where sensitive areas are concerned, there is a need to make clear the character of the proposed mark-up of 25%. If the aim is to recover construction costs, there is no need for a special paragraph as the Directive allows the recovery of all infrastructural costs. If the purpose is to reduce demand, there is no cause to earmark the revenues for any particular use.

The draft Directive says that differentiation of road tolls must not result in a charge being more than 100% above the average toll. But what happens in a case where a toll simultaneously needs to be varied for environmental class, axle weight, congestion and regional sensitivity? Is 100% enough? What about the 25% mark-up? Should it be included in the 100%?

The details are already a problem in the current Directive. One should try to avoid regulating details in the revised Directive when the effects are not well known. An example is the proposal from the Dutch Presidency that all roads must be "well maintained" to be allowed to be covered by a toll system. What is the definition of well maintained? And who is going to control this maintenance? Is this not just a way of preventing Member States from allowing the scheme to cover the entire national road network?

The Directive must function regardless of whether a Member State chooses to include all or only some roads or to have different regimes for differing parts of the network. It should also work well for existing as well as new privately operated toll roads.

Why earmark the revenues? Is it not sufficient to rule that the charge should be based on the average weighted cost from a defined period of a certain length? Recovering historic costs does not mean that the same amount of money can in the future be usefully invested in new roads.

## **Alpine Crossing Exchange – Tradable Permits for Transalpine Road Freight Transport**

The Alpine Crossing Exchange is an instrument to cap the number of trucks crossing the Alps or to manage scarce road capacities. A consortium of Ecoplan and Rapp Trans Ltd has investigated on behalf of the Swiss Federal Road Office within the framework of a research project how such an exchange could be implemented. It also analyses the legal and economic aspects of such an instrument.

There are two models:

- “Cap-and-Trade” represents a mandatory system of tradable permits to cross the Alps with the objective to limit the amount of Alpine freight transport on the road in an economically efficient way. The permits could be allocated free, or for a fixed price, or by an auction. The auction represents the most efficient allocation form. After the allocation, the permits can be traded either directly between transport operators or by intermediaries or on a special platform. The transit permits will be printed as electronic tickets before the actual journey takes place or could be transmitted by mobile telephones. At the waiting area, all trucks will be checked for their transit permits. The target of 650,000 trucks at maximum crossing the Swiss Alps per year could be achieved with the Cap-and-Trade model. This target is fixed in Swiss law to shift freight transport from road to rail by 2009. Alpine crossings in other countries could be capped at an equivalent level. However, the experiences with international environmental agreements show that negotiating quantitative targets is a very difficult challenge.
- “Slot management with dynamic pricing” represents a voluntary system with tradable and priced reservation permits. The objective of this system is to improve the use of the existing road capacity and the reduction of congestion. On the Gotthard motorway, the main Swiss Alpine link, such a system could ensure that, per hour, a maximum of 60 to 150 trucks, or per day, a maximum of 2000 to 5000 trucks, in both directions, use the Gotthard tunnel. These are the levels of trucks currently allowed for safety reasons by the so-called ‘drip-feeder system’. Transport operators could buy a reservation right which would give them the permission to use the Gotthard motorway in a certain time slot. This system would allow transport operators to better plan their journeys and to reserve a place in the Alpine crossing for time-sensitive goods. Before the Alpine crossing, all trucks must leave the motorways and join the waiting area. They can continue their trip as soon as their reservation number is called. Trucks without a number have to get one in the reservation area. The proof of a reservation can be provided by an electronic or a paper ticket. Reservation rights can be sold on an electronic platform. The price can be either fixed or depend on demand. Reservation rights can also be traded but cannot be reimbursed. The number and the time of the slots must be defined by the operator, based on experience and prices. It might be sensible to offer short and long slots under the condition that the system will not become too complicated.

Both models of the Alpine Crossing Exchange could be implemented from a technical and operational point of view. Most of the required road side infrastructure exists already. Control and selling points could be added with limited effort.

The Cap-and-Trade model will increase the price of road freight transport and will shift goods from road to rail. The level of these effects depends on the quantitative target and the accompanying measures. If the instrument is applied in Switzerland only, traffic diversion to other Alpine links in neighbouring countries will be the consequence. This effect could be avoided if the instrument was implemented by all Alpine countries. One crossing permit would amount to about €130 in 2009 with a target of 650,000 trucks per year. This would generate revenues of about €90 million per year which could be used to reduce potential negative impacts for certain sectors or regions or to improve rail services through the Alps. The reduction of road freight transport on Alpine links would

reduce congestion, accidents and environmental costs. The cap-and-trade model does not lead to a significant increase in costs for the economy. Transport-intensive sectors already use mainly rail for their Alpine crossings.

Slot management with dynamic pricing allows transport with time-sensitive goods a faster crossing of the Alps whereas vehicles without reservation rights have to wait longer. The system would provide substantial time gains with today's transport volumes. On days with less significant time gains the supply of reservation rights could be higher than demand. No important economic effects are expected from the slot management system with dynamic pricing.

Both models would increase the cost of short distance freight transport proportionally more than long distance traffic. However, a differentiation between short- and long-distance transport creates several problems. The system should not give incentives for artificial short distance transport merely to benefit from such a differentiation between short and long distance transport.

Conclusions and recommendations

The Alpine Crossing Exchange represents a feasible, efficient and effective instrument of transport policy. As a market-based instrument, it gives the right incentives to use existing infrastructure efficiently, generates valuable information and helps to achieve the political objectives most cost efficiently.

Cap-and-Trade could achieve the modal shift target efficiently and without discrimination.

However, this model will probably require a change in the land transport agreement between Switzerland and the EU which does not allow for this contingency. The system should preferably be implemented in co-operation with neighbouring countries. This would avoid undesired traffic diversion and synergies could be used with regard to the electronic trading platform. Finally, a co-ordinated approach would simplify the political implementation.

Slot management with dynamic pricing could be implemented unilaterally by Switzerland as it conflicts less with the land transport agreement. It allows for a more efficient use of road capacities and improves the organisation and predictability of transports. However, time savings would be limited to a few peak days. If a system for regulating the use of capacity at Alpine crossings be introduced, it should in any case include a price mechanism.

Susanne Ortmanns, Stockholm regional branch of the Swedish Society for Nature Conservation  
**Charging, trading or subsidising? Necessities and options to reduce air pollution from ships in Europe**

### Necessities

Emissions from land-based sources are coming down, while those from ships show a continuous increase. In 5-10 years, ships in the seas surrounding Europe will emit more sulphur and nitrogen oxides than all land-based sources in EU15 combined. To protect health and the environment, considerable further reductions in emissions are needed. Ships (2.6% sulphur) emit 30-50 times more SO<sub>2</sub> per ton/km than a truck (300ppm sulphur). By 2005 sulphur in road diesel will go down to 50 ppm, and by 2009 to 20 ppm.

A ship releases about twice as much NO<sub>x</sub> per ton/km, compared to a modern truck. This difference will increase as stricter NO<sub>x</sub>-standards for trucks enter into force in 2005 and 2008 (from 5 to 3.5 to 2 g/kWh).

### Options

Measures to reduce air pollution from ships are cost-effective. A main reason is that the easiest and least expensive measures have already been taken ashore in most EU countries, but not yet at sea.

Emission abatement is also necessary for the environmental credibility, and thus the future competitiveness, of shipping.

### Initiatives so far

o International convention for the prevention of pollution from ships: MARPOL 73/78, Annex VI on prevention of air pollution.

Differentiated fairway and port dues in Sweden (since 1998): economic incentives to use low-sulphur fuels and to reduce NO<sub>x</sub> emissions.

EU strategy on air pollution from ships (2002): EU regulations: S in fuels + special emission standards in different sea areas and ports.

### Market-based mechanisms

#### 1) Trading

Trading based on credits provided to ships that voluntarily reduce emissions below business-as-usual levels, could then be sold to land-based sources. Legal/political/timing problems: EU must first agree trading program for land-based sources, system will not internalise external costs, land-based sources will pay for ships' emissions reductions.

Benchmark trading requires average emission rates not to exceed benchmark level. Allows shipowners or operators to buy and sell credits between themselves.

Cap-and-trade will require an aggregate cap for a given year and a given sea area. Each emission allowance (given to individual ships) provides its owner with the right to emit a unit of emissions and to trade allowances amongst each other. Will set a limit to total emissions, but who will set the cap?

#### 2) Charging

Taxation aiming at reduction of ships' emissions, not to raise revenue. Alternatives are a fuel sales tax, a fuel-use tax or an emissions tax. To avoid fuel sales taxes big vessels operating in European and other seas can buy fuel outside EU.

En route charging based on the distance travelled, and thus on the level of emissions from each ship. In principle, authorities could collect charges from all vessels using European waters. There is a potential problem with UNCLOS Art. 26, which guarantees innocent right of passage for foreign-flagged vessels without being subject to charges except for services received.

Port or/and fairway dues are differentiated according to a ship's emissions of various pollutants. If voluntary, it is very difficult to foresee outcome. Difficult to agree on a mandatory port due system. Very few EU countries currently have fairway dues.

NGOs favour options that

- \* are a complement to regulation, speed up emission abatement measures, and attain emission reductions going beyond agreed and foreseen regulation

- \* can be quickly implemented;

- \* provide the best means of targeting emission reductions in particular geographic areas;

- \* are reasonably compatible with existing legislation and policies;

- \* promote innovation and practical application of environmentally sound techniques and operational practice.

Most promising options:

En route/emission charges

Mandatory port/fairway dues

Cap-and-trade

Nicoleta Ion, Policy Officer T&E

## **The risks and limits of big infrastructure investments, or, small is beautiful**

### A European framework

EU transport infrastructure is in continuous expansion. Earlier this year, the European Parliament and the Council gave their agreement to a list of priority projects worth about €220 billion. These projects should be completed by 2010. Many of them (such as the Brenner tunnel and the Danube corridor) pass through sensitive areas.

### Risks and limits

Transport infrastructure projects, especially those involving massive investment, like the TENs priority projects, tend to carry a lot of hidden risks. Such risks are rarely accounted for in the initial project proposals, but result in huge cost overruns, delays and damage.

From an environmental point of view, such projects should all be subject to EU environmental legislation – such as the SEA and EIA, the Birds and Habitats Directives, the Water Framework Directive or, indirectly, the Air Quality Directives. All these directives result in environmental reports that identify, describe and evaluate the likely effects of implementing the planned project (and reasonable alternatives) on the environment.

Research has shown that it is necessary to define very clear environmental goals and set up efficient internal mechanisms that can audit and modify the project when goals are not met. SEAs should have more feedback on the decisions.

Other issues that affect the viability of a project are frequent cost overruns, faulty demand forecasts and, in general, the lack of accountability.

### Small is beautiful

Funds might be better invested in small-scale projects or the maintenance and improvement of existing infrastructure which often lacks sufficient resources. Shifting investment to other areas – for example investing in local health and education infrastructure - can yield better results and ultimately save money, avoid environmental impacts and improve quality of life, especially in areas already identified as sensitive.

### Recommendations

1. Independent and audited Cost Benefit Analyses (CBA) AND better monitoring of projects.
2. Enforce SEA for all TENs projects. Improve the conditionality of EU funds depending on the result of SEA and improve the feedback from SEAs into the decision on the designs.
3. Don't make the same mistake as with the TENs, e.g concentration on huge projects with doubtful viability while funds for small projects or maintenance are lacking again with regard to EU neighbouring policy.

Wolfgang Rauh, VCÖ

## **Investing in regional and local railways**

To minimize the negative impact of transport on “sensible areas” there is one solution to bypassing the area or digging a tunnel underneath it. Every non trivial solution will have to cope with the problem of reducing the negative impacts of transport in general. One of the possibilities for reducing negative impacts of road traffic on the environment is to increase the market share of railways by making them more competitive. The market share of goods transport on rail is largely determined by the density of the rail network.

### An excursion into network economics

The benefit of a transport or communications network is closely related to the number of possible connections which depends on the number of users squared. This means that the marginal network benefit of connecting a new user to the network is twice the average network benefit. An extension of a network like a regional railway, for example, which connects 5% more users to the network, will increase network benefit by approximately 10%. Under the aspect of benefit cost analysis this means that the specific infrastructure cost per ton-kilometre and passenger-kilometre of a regional line can be up to about twice as high as the average specific infrastructure cost of the whole network. Within these limits the regional line will always improve the benefit-cost ratio of the whole network.

Looking at regional railways in Austria one can see that most regional railways fulfil this condition. Regional railways could contribute even more to an attractive rail network if they were in the right place for the settlement structure of today. We would need many new local railways in new post-war agglomerations.

### Deficit of regional and local roads is never a problem

Cost coverage has to be seen in relation to additional network benefit created. It seems that road builders have understood this lesson perfectly. With 11% cost coverage by lorries, the deficit of local roads easily rivals the “deficit” of local railways, despite the fact that 59% of public funds for road building and maintenance in Austria go to local roads. On the other hand only 7.3% of the expenditure for rail infrastructure goes to the “Nebenbahnen” or “C-network” for regional rail access. Nobody can seriously expect that shutting down “Nebenbahnen” would “save” the railway even if network benefits of these lines would not exist.

### Efficient use of funds for infrastructure

In Austria each year several hundred million Euros are invested in rail infrastructure projects. Some of these projects are very important and useful. Others were proven highly inefficient. Projects which were classified among the least efficient and most expensive are “Koralmbahn” and “Untereinntal”. Investment in “Untereinntal” alone is higher than the annual infrastructure cost of the total C-network of 1600 kilometres. This example shows how much a fraction of the funds spent on less efficient mainline projects could do for regional railways. We have every reason and every possibility to improve regional and local rail access by New local railway networks following the “Karlsruhe-model” or the “Saarbahn” Promoting direct rail access for existing trade and industry areas

Zoning laws requiring direct rail access for new industrial developments  
Housing developments only within public transport corridors  
New technologies for shunting operations via rail sidings  
(automatic shunting, automatic coupling)

Béatrice Hertogs, ETF

## **A European social framework in the direction of fair competition between transport modes and inside each transport mode**

Sustainable transport has three dimensions: an economic one, an environmental one and a social one. The latter includes access to mobility, users' rights and better employment and working conditions for transport workers as well as safety for the users of transport

Is Europe sick of its lorries? Why do we have this freight transport mode instead of another? Even in urban and mountainous areas?

Fragmentation of the market in road transport

Result is low cost in comparison with other transport modes

Very low wages and working conditions

Lack of interoperability and/or of navigability of other transport modes

Exacerbated by liberalisation

Fragmentation of control authorities

Pressure of freight forwarders for financing infrastructure

What kind of unfair competition exists today in road freight transport?

Between the new and old Member States

Between >3,5t and < 3.5t vehicles

Which kind of policy could promote sustainable transport and break the unfair competition?  
in general

user tax on all transport modes reflecting the external costs

European social legislation for all transport workers

European collective agreements

Better coordination of all control authorities related to social legislation of road and inland waterways, including dangerous goods

Financing of infrastructure for the navigability of inland waterways and interoperability of rail  
in urban areas

Congestion taxes

More infrastructure for urban local transport

More pedestrian zones

More incentives for employees to use rail and/or public local transport/mobility plans for companies

In mountainous areas

Better control on implementation of dangerous goods and social legislation

Sylvia Leodolter, Vienna Chamber of Labour  
**Sustainable freight transport operation**

'The key for fair competition between transport modes is to be found on the road'.  
'Sustainable Transport' can be achieved only if working and social conditions are taken into account. Working and social conditions are a key factor of competitive conditions in transport. Most urgent action is needed in Road freight transport (road haulage) as it is characterised by:  
the highest share of external costs  
increasing number of accidents on motorways  
huge price decreases over the last years  
systematic breaks and by-passes of existing legislation  
bad working conditions

Enterprises which do not go against existing legislation are not competitive.

A recent study for the Chamber of Labour demonstrated:  
Road hauliers reduce costs by illegal practices which threaten drivers and transport safety. Transport prices would be 50% higher if only the most important legal provisions (concerning maximum driving periods, breaks and rest periods, speed limits and loading) were followed. Labour costs represent on an average 30 to 50% of transport costs in the old Member States of the EU, whereas they represent only 15% in the new Member States

External costs (from accidents or environmental damages) are about ten times as high for road freight transport as for rail freight transport. Internalising these costs would increase the costs of road transport again by 50%.

Fairer pricing in transport charging and strict enforcement. The current discussions on the revision of the Eurovignette directive for charging heavy goods vehicles and the revision of the driving and rest time directive are not sufficient.

Working conditions and better protection of the drivers with effective sanctions for the entrepreneur creates also fair competitive conditions for the 'white sheep' (=enterprises abiding legal conditions).

Only a consequent road freight transport policy will enable fair competitive conditions for railways and level the playing field between transport modes.

Stefan Eriksson, Chairman FFI Overland Committee

## **How to reduce the potential of improved logistics to reduce negative impacts of freight transport?**

### FFI Background Information

Freight Forward International (FFI) is an interest grouping representing the leading freight forwarders and logistics service providers at global level. FFI was created in 1994 under the name Freight Forward Europe by leading freight forwarders operating in Europe with the aim of addressing common industry issues at a European level. The name change was effective from January 2004, and was the answer of FFI members to the globalisation trends which cause numerous transport-related regulatory and industry initiatives.

Freight Forward International (FFI) represents the interests of nine of the largest global freight forwarders and logistics service providers, which together employ more than 210,000 people, transporting volumes in excess of 466 million tons with a turnover of over €37,7 billion. FFI consists of: ABX Logistics, Dachser, DHL Logistics and Freight, Exel, Geologistics, Kuehne + Nagel, Panalpina, Schenker and UTi.

FFI companies have no vested interest in any particular transport mode and they are in this capacity constantly evaluating all possible transport solutions in order to be able to offer best value to their customers based on the elements of service, quality and price.

### FFI's vision of sustainable mobility

FFI members are committed to offering sustainable transport solutions, which contribute to economically viable business operations and also take into consideration environmental and social concerns.

#### FFI solutions to sustainable freight transport

FFI members can be promoters of sustainable freight transport in a number of ways, by, for example, assisting customers to evaluate all possible solutions, by applying emission calculation systems, by optimizing loading degrees, by promoting inter-modal solutions when competitive and accepted. FFI has expressed its commitment to support environmental and sustainable developments through tabling a number of examples of steps taken by individual member companies in its FFI Environmental Code of Practice.

#### European Transport Policy must support European competitiveness

FFI sees a number of ways in which European legislators can support both the competitive development of the economy and the protection of the environment. Implementation of a pan-European infrastructure charging system, a speedy liberalization of rail freight and adequate investment for infrastructure developments could all contribute to reaching sustainable mobility without compromising the European competitiveness. Additionally, policy outside the transport area could lessen the impact of freight transport on the environment, such as fuel quality improvements and alternative fuel supporting measures.

Christian Schramm, via donau

### **Improving the Danube waterway in line with ecological needs and with the help of information technology**

The volume of traffic along the Danube corridor has been rising steadily as a consequence of EU enlargement. The flows are expected to grow the strongest in freight traffic on roads. The integration and economic development of the Danube region hinges on high-capacity transport infrastructure and transport systems. Coping with traffic volumes in a manner that is environmentally and socially-friendly calls for a more intense use of the free capacities of the Danube waterway. This can be ensured by upgrading and improving the infrastructure and services for Danube navigation.

The Integrated River Engineering Project on the Danube to the east of Vienna

The section of the Danube between Vienna and the Slovak border represents the weakest link within Austrian territory in a potentially efficient East-West transport axis. Fairway depths that are either not deep enough or subject to broad fluctuations over the course of the year greatly hinder navigation's reliability and competitiveness. The risk of accidents due to low water levels, in addition to extended waiting periods, availability of water transport [is that right? lighterage doesn't exist in Eng] and the necessity of other means of transport as a substitute limit the market potential of shipping on the Danube to certain kinds of goods and transport relations.

The free-flowing section to the east of Vienna creates problems not just for navigation. Due to a series of power stations between Regensburg and Vienna, the riverbed has been affected by a continual erosion of up to 3.5 cm annually. This means that less and less water is able to flow into the adjoining floodplains of the Danube Floodplain National Park, endangering indigenous flora and fauna, as well as the area's ecological balance. In the long term, the floodplains are threatened with drying out, and the areas along the river banks will become less dynamic. In implementing its current General Transport Plan for Austria, the Austrian Federal Ministry of Transport, Innovation and Technology, together with the Austrian Waterways Authority, has launched an Integrated River Engineering Project on the Danube to the east of Vienna aiming at improving the nautical and ecological conditions on this section of the Danube. This project represents a key contribution for creating and ensuring an environmentally and socially compatible transport system in Austria.

The classification as a priority TEN project implies a considerable subsidy for the planning stages and the pilot experiment as well as for the engineering work. The Integrated River Engineering Project's interdisciplinary and integrative approach, conjoining both economic and environmental interests, set a prime example for future projects to emulate.

Further information: [www.donau.bmvit.gv.at](http://www.donau.bmvit.gv.at)

Donau River Information Services (DoRIS)

A very important requirement for the integration of Danube navigation into modern business logistics is the safe, predictable and efficient handling of traffic and transportation processes. In addition to secure waterway conditions, the application of innovative information and communication systems is of special importance.

With the support of EU technology projects and national research initiatives, telematic systems and information services for European inland navigation – known as River Information Services (RIS) – have been installed in the past few years. Inland navigation information services increase the safety and efficiency of transport, and thus improve the competitiveness of inland navigation in comparison to other means of transport. RIS fulfil modern requirements in logistics and supply chain management and thereby enable the integration of inland waterway transport in intermodal

transport chains of the European industry. This will enlarge the market potential of inland waterway transport significantly.

In cooperation with the Supreme Shipping Authority, Donau worked out the concept for the Danube River Information Services – DoRIS. DoRIS will be put into practice for the Austrian section of the Danube in two phases. A testing system has been set up and optimised between the locks of Freudenau and Greifenstein. After an intensive testing phase, DoRIS will be expanded to cover the entire course of the Danube in Austria starting in 2004. The operational start is planned for 2006.

Further information: [www.doris.bmvit.gv.at](http://www.doris.bmvit.gv.at)

Stefan Duelli, Austrian Federal Ministry for Transport, Innovation and Technology  
Silke Frank, ARP-planning.consulting.research

## **Rail Research & Innovative Technologies – a substantial contribution to sustainable freight transport?**

Innovative transport technologies are able to make a substantial contribution both in achieving user-friendly, sustainable, safe and efficient transport systems and in improving intermodality between transport modes. The European rail supply industry, rail operators, the European Union and its Member States spend an extensive amount of financial resources in the field of rail research. In order to promote the co-ordination of rail research, the EU, Member States, and representatives of railway undertakings, infrastructure owners and railway industry established the European Rail Research Advisory Council ERRAC. Its role is to define the research needs and targets to be achieved to develop a railway system meeting the demands of sustainable mobility. In 2002, ERRAC presented their “Strategic Rail Research Agenda 2020” (SRRA), based on a vision for the future of rail in 2020. For freight transport, it has set the ambitious target of the rail mode capturing twice the freight market share and three times the freight market volume compared with 2000.

To achieve these goals the key priority themes for future rail research are: Interoperability (e.g. TMS, enhanced modularity of rolling stock), Intelligent Mobility (e.g. freight information flows, harmonised services for operators and costumers), Safety and Security (e.g. hazard reduction), Environment (e.g. improving noise performance, reduction of emissions and energy consumption) and Innovative Materials & Production Methods (e.g. enhanced vehicle/track performance). Therefore, new technologies will contribute to travel time reduction and reduced cost per tkm, and to improved quality of services and capacity enhancement in rail freight transport. Furthermore, they will strengthen the unquestionable advantages of rail in safety and environmental friendliness.

In 2002 the Austrian Federal Ministry of Transport, Innovation and Technology (BMVIT) started their rail research initiative “Innovative System Railway” (ISB). As well as pursuing Austrian technology policy goals, the programme considers the Austrian transport policy goal of shifting freight transport from road to rail, an important issue for Austria due to its geographical location. As a result of this, ISB promotes R&D co-operation in the Austrian railway sector aiming to increase the efficiency, sustainability and attractiveness of railways. The issues ISB addresses are in line with the key priorities of ERRAC’s SRRA and of the national sector. Additionally, by considering intermodality (combined transport) a long tradition of Austrian efforts will be continued.

Two calls for proposals with a overall funding budget of €8.4 million have already been carried out, which generated 40 projects (basic research projects, R&D projects, demonstration projects) with a total project investment of €18.9 million. A large number of these projects contribute to a sustainable freight transport in many ways, through new insights through basic research, with development of software tools, or with new technologies for vehicles, transshipment and track systems etc.

The basic research project “Freight on Rail Austria (FORA)” is financed by ISB. The background of the project is the reduction of the market share of the transportation of goods on by rail. It shrank from 21% in 1970 to 8.5% in 1998 (EU White Paper). This downward trend was particularly noticeable in rural areas. The project applies to work against this trend, and is based on the interface between technology, infrastructure and transport markets. With the further liberalisation of European rail traffic, the potential and requirements for rural areas have to be appreciated. The main question is: is the rail system prepared for transport service within the European railway network under conditions of the future market?

The project is made up of four phases. The first work package consists of an analysis of European transport and logistic market trends and also a look at the perspectives of European transport politics. Conditions of the transport sector will be examined in the second phase, focusing on the

influence of different developments such as the expansion of the Trans-European Network and the rail toll etc. The third phase contains an evaluation of the actual stock of goods (regarding its origin and destination) for relevant sectors in three regions (Innviertel in Upper Austria, Western-Lower Austria and Middle Styria). Road, rail and intermodal transport are not mutually exclusive; competition between these modes of transport has to be taken into consideration. It is also important to consider the interoperability of existing technology. The last phase deals with strategy identification. On the one hand it looks at the technical and organisational infrastructure for an optimal operation and operator, but on the other hand it considers what kind of strategy is best for the optimal use and security of the railway system, considering fair competition, which needs to be looked into.

[www.errac.org](http://www.errac.org), [www.bmvit.gv.at/tech/isb.htm](http://www.bmvit.gv.at/tech/isb.htm), [www.freightonrail.at](http://www.freightonrail.at)

Martin Burkhardt, UIRR

## **Cost-efficient investments for combined freight transport**

Combined transport is the most promising sector of rail freight, already representing 25% of the t/km of EU railways. One half of this is shifted from road to rail by members of the International Union of combined Road-Rail transport companies.

The advantages for society are mainly the much lower external costs of rail, in air pollution, CO<sub>2</sub> emissions (climate change), noise emissions, land use and accidents. A recent study on one of these aspects shows that unaccompanied combined Transport reduces energy consumption by 29% and CO<sub>2</sub> emissions by 60%. In total European combined transport reduces the CO<sub>2</sub> emissions by 1.8 million tonnes yearly, reducing environmental damage to society by approximately €180 million. If the polluter-pays principle is introduced, combined transport would have a real additional commercial advantage. In a transitional time until the EU policy of inclusion of all external costs is realised, these and other environmental savings justify measures in favour of combined transport.

To develop combined transport, investment is required in different areas and by different actors: rail infrastructure, terminals, locomotives, wagons, loading units and organisation. The Van Miert Group has defined priority TEN projects, with a certain focus on rail. In principle the intention of the European Commission to create and implement a long-term plan for a trans-European transport network is fully justified. International co-ordination is required to ensure that European interests take precedence over national interests. Infrastructure projects are very long-term and therefore require long-term planning. But UIRR has some doubts as to whether all projects concerning 'sea motorways', inland waterways, and airports are justified. There is a danger that on major rail and road corridors routes in peripheral countries have been added to achieve a compromise, and whether the concentration on major European projects is hindering the expansion of a multitude of smaller sub-routes which are also important for the European network. UIRR requires cost-benefit analysis for all sections.

UIC and UIRR have recently published a study on infrastructure capacity reserves for combined transport by 2015. Taking all planned infrastructure upgrades into account, the study analyses the foreseeable deficits in line and terminal capacity. Action is required now in order to provide the necessary infrastructure investment.

In parallel, the necessary framework conditions for a revitalisation of European rail have to be created. This means creating an integrated and liberalised European railway market without legal or technical borders. There will be no lack of capital for private investment in rail, if a free and competitive market creates a climate of confidence and limits the risk of investors to a normal extent.

But EU and Member States should not limit themselves to some legal initiatives; their objective must be to enforce vital competition.

All mentioned studies may be obtained at <http://www.uirr.com>

Karl Fischer, Logistics Competence Center

## **Innovative Concepts to move Alpine freight from road to rail**

For the first time, the Logistic Competence Centre (LKZ) in Prien, Germany, is managing a big international traffic project with subsidies from the European Union. A decision body consisting of representatives of Alpine states accepted LKZ's bid for the project "Alpine Freight Railway" (AlpFRail). The goal of this cross-national project is to shift more freight traffic in Alpine states to railways. The project, scheduled to run for three years, has a budget of €3 million. In the application process, LKZ competed successfully against several hundred applicants from all over Europe. For the business manager of the Logistic Competence Centre, Karl Fischer, the acceptance of the bid means a great success: "It is a big strategic project with pilot characteristics where the decision-makers are sitting around one table". Fischer is looking forward to it. "The traffic policy in Alpine space has left the thinking in national boundaries behind."

### What is AlpFRail?

Ministries of state, provincial governments, provinces, regions, chambers of commerce and organizations from Germany, Austria, Italy, France, Slovenia and Switzerland are collaborating in order to reorganize the freight traffic on railways. In addition, Deutsche Bahn, Port of Venice and the organization of mid-sized logistic corporations in Italy are participating in the project. The overall management is assigned to the Logistics-Competence-Centre in Prien. It is analysing the freight traffic in the Alpine space and is elaborating on the proposals by using state-of-the-art technology for the overall concept. Afterwards, an international steering committee will decide on their implementation.

### Current situation

Every eighth ton of freight goods in the EU has to cross the Alps. The majority of freight traffic happens to be on roads. Due to the EU enlargement in the east of Europe, this traffic will increase drastically. The consequences are increased air pollution, more noise pollution for the population and dramatically more heavy traffic on roads. Different regulations and nationally grown structures in the respective countries complicate the freight traffic over railways even further. Bavarian locomotive drivers, for instance, are not allowed to cross the Brenner, and the already existing multi-system locomotives employed to overcome the different power systems are still not widely used. It lacks the product "railway" from a single provider, which is naturally for road traffic. There is no network of North-South and East-West relations on railways. The Adriatic and Liguric ports are as good as disconnected to the international freight traffic by rail.

### Goal of AlpFRail

The goal of the EU project is to organize freight traffic irrespective of national boundaries and to shift more heavy traffic to railways. Therefore, the LKZ business manager Karl Fischer and his team present a railway network in the Alpine space that allows an optimal freight transport and incorporates Mediterranean sea ports. "We have to stop thinking in terms of the Brenner route and Tauern axis," Fischer stresses. "What we need is a comprehensive railway hub network, which enables connections in every direction." By means of AlpFRail, so Fischer hopes, a great share of the expected traffic growth in Alpine states will be shifted to railways until 2005. Fischer intends to fulfil the goal of the Alpine convention not to build any more roads in the Alpine region.

Martin Ruesch, Rapp Trans AG

## **How to scan the potential for modal shift? Results from the SPIN Project**

SPIN is a research and development project within the 5th Framework Programme supported by DG Transport of the European Commission, the Swiss Federal Office for Science and Education and the canton of Zurich. SPIN aims at providing initial information to support a modal shift from pure road transport to more sustainable means of transport. To achieve this objective the SPIN project consortium has developed and applied a demand-driven approach and a toolbox for scanning the potential for a modal shift towards intermodal transport.

The tools developed for SPIN are the Quick Scan, the Advanced Scan and the Macro Scan. While the Quick Scan gives a first indication of the modal shift potential, the Advanced Scan is a tool that proposes alternative intermodal transport chains from origin to destination. The Macro Scan is a versatile tool, which assesses whether certain policy measures could affect a modal change in favour of intermodal transport. This can be done on a region to region or on a corridor level by converting the policy measures to be introduced into values related to transport costs, travel time, transshipments, border crossings etc. Also it assesses the present competitive position of intermodal transport and the potential for modal shift.

14 case studies have been carried out within the SPIN project with the aim of identifying modal shift opportunities in real existing cases under real business conditions. The case studies were conducted in close co-operation with industrial partners. The consulting process was supported by the SPIN tools developed in this project. The industrial partners have mainly been shippers and logistics service providers but also forwarders, combined transport operators and terminal operators. The selected corridors of all case studies cover nearly whole Europe, Western as well as Eastern Europe.

The 14 case studies showed that there is a potential for modal shift towards more environmentally forms of transport like intermodal transport. In nearly 50% of all investigated corridors a modal shift opportunity is given. In this case a clear shift potential has been identified, because lead times meet the requirements of the industrial partners and costs and/or prices are equal or even lower than the current transport mode. If prices/costs of intermodal solutions against the current road praxis are less and lead times correspond to the requirements of the shipper or logistics provider, then a modal shift can be assumed as possible. At this point it has to be noted that shipper and logistics providers will only shift towards environmental modes if their requirements are met and a clear benefit results.

The identified main barriers for modal shift in the case studies are too long lead times, logistical constraints, non-transparent services, lack of flexibility for short-term orders, insufficient quality level, too many partners involved, restrictions from loading units, investment costs for intermodal equipment, insufficient rail infrastructure, unbalanced flows and fixed tariffs in road transport.

The main opportunities for modal shift that have been identified in the case studies are short lead times provided by shuttle services, transparent and reliable services, high flexibility for short-term orders, high enough quality levels relating to time tables, limited number of involved partners, standardized and harmonized loading units, low investment costs in intermodal equipment, adequate rail infrastructure and niche concepts.

Suitable framework conditions which support the modal shift to intermodal transport are road pricing, the enforcement of driving regulations, the 44t limit for vehicles used in intermodal transport, restricted licenses for road goods transport, rail infrastructure investments, free access for railways, night and weekend delivery bans for road transport and increased competition in pre- and end haulage.

The demand-driven SPIN approach developed to identify the potential for modal shift at micro level has proven it's suitability to support the mode decision process. It can support the use of intermodal transport because part of the shippers are not aware of the opportunities provided by intermodal transport.

The SPIN Toolbox played an important role in the consulting process and provided an important part of the results in door-to-door lead times, costs, distances for various mode combinations and information about existing intermodal services and terminal locations. Nevertheless other analyses relating to organisational, infrastructural and technical feasibility and the influence of market prices and other constraints from regulations are important.

The interest of the industrial partners in analysing real existing transport connections regarding modal shift opportunities has been high. Within the SPIN project the tools have provided a clear added value to support shippers and logistics service providers in their assessment of modal shift opportunities, especially when internal company conditions (logistics concepts, markets, etc.) or external framework conditions (e.g. road pricing, new intermodal services) change.

But analysing the potential for modal shift under different framework conditions and transport policy measures lies in the interest of European and national authorities.

Within this context public authorities could support the development of communication and promotion of intermodal transport via information portals and/or by supporting business development initiatives. The result of the SPIN project has shown that the tools developed are not only able to promote intermodal transport; they can also be used to support decision makers in the transport business like shippers, logistics providers and political authorities.

Txabar Goiri, Port of Bilbao

## **Short sea shipping on the Atlantic Arc**

The aim of the presentation is to present a view of the current situation of this alternative transport in the context of the Atlantic Arc Regions, from the perspective of the European Commission, the Basque Government and the Port of Bilbao.

First, it is necessary to define the different concepts. What is Short Sea Shipping (SSS) and the emerging concept of “Motorways of the sea” and what is the picture of the Atlantic Arc Region from the geographical, demographic and transport-economic angles?

Once the concepts have been defined, one must assess the current state of SSS having, as a base, the different communications of the European Commission regarding the topic, and the pressures on European transport infrastructure. At the same time, from these communications, a list of obstacles to the development of SSS will be identified.

With the perspective of the European Commission in mind, the approach of the Basque Government is explained briefly; its specific initiatives, such as the Logistic Platform Euskadi-Aquitaine, and participation in different projects in order to promote sustainable economic development avoiding road congestion. It is important to remember that the Basque Country is not only a place for the import and export trade, but also for the transit trade of goods. A special mention is being made of the “Promotion of SSS on the Atlantic Arc” an INTERREG III projects, currently in development under the leadership of the Directorate of Ports of the Basque Country. Finally, from the point of view of the Port of Bilbao, in principal, well positioned for the development of new Short Sea Shipping services, it is intended to explain what are the strategies and actions being taken in order to meet the requirements of this trade? The strategy will be explained from three different angles. First, the provision of infrastructure - the new SSS dedicated terminal. Second, the Telematic angle – the development of the e-commerce platform “e-puertobilbao” for the port community companies. Finally, the Intermodal connections of the Port of Bilbao, mainly the road and rail connections and especially the inland terminals in Burgos and Madrid linked to the Port of Bilbao by specific railway connections.

In conclusion, Short Sea Shipping has now proven its competitiveness; there are a lot of examples of that. Nevertheless, expected growth in European goods transport makes it necessary for Short Sea Shipping to expand even further. At the same time, SSS will never substitute road transport, we have to see it as an alternative for specific traffic on specific routes. It is also necessary to highlight the issue of the efficiency of rail transport which is essential for the development of SSS projects. Finally, SSS is now accepted as a need and almost all sectors are making an effort to adapt to this new reality. The change in culture has already begun.



## Sensitive Areas Must Be Protected

Particularly sensitive areas, such as mountainous regions, wetlands or coastal zones, are extremely vulnerable to the impacts of transport. The rapid increase of freight transport in Europe has seriously deteriorated air quality, caused widespread noise nuisance and the ever-increasing spread of transport infrastructure is a major threat to biodiversity.

Sensitive areas include unspoiled natural or mostly-natural areas, rare landscapes and habitats, national monuments and nature protection zones. The 1997 Vienna Declaration of the UNECE Conference on Transport and the Environment defines sensitive areas as “areas where the ecosystems are particularly sensitive, where the geographic conditions and the topography may intensify pollution and noise and where unique natural resources or unique cultural heritages exist”. The Declaration explicitly asks that sensitive areas be protected from the negative impacts of transport on human health and the environ-

ment. It also recognizes the need to develop and implement additional and stricter measures for freight transport in sensitive areas.

### **Sensitive areas are valuable for several reasons**

They help maintain biodiversity, contribute to the purification of water and air and alleviate climatic impacts. Furthermore, sensitive areas have the potential for development focussed on sustainable solutions such as small-scale farming, environmentally-sound settlements and landscape patterns, “soft” tourism and recreational activities.

# Freight Transport is Endangering the Sensitive Areas

## When is an Area Sensitive?

When determining whether an area is sensitive, it is not enough to just examine the sensitiveness of the ecosystem. A criteria catalogue was developed in 2001 which recommends assessing the ecological and cultural value of an area, the fragility of the habitat and the potential for sustainable development, before deciding on major projects (e.g. infrastructure projects or traffic-inducing projects such as factories or shopping-malls).

Source: BMLFUW, 2001

## Freight transport

Transport growth has been particularly high the last ten years.

Although particularly sensitive areas must be protected against negative impacts, instruments such as higher tolls or night bans on freight transport, are rarely considered politically acceptable.

## No sufficient protection by existing legislation

The Treaty of the European Community states, in Article 2, that the EU must ensure a "high level of protection and improvement of the quality of the environment, the raising of the standard of living and quality of life". Several directives (e.g. the Habitats Directive 92/43/EEC) aim to maintain biodiversity and conserve wild flora, fauna and habitats of importance to the Community.

The Air Quality Framework Directive adopted in 1996 sets a general policy framework for dealing with air pollution. Air quality standards exist for four pollutants, namely: sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), particulate matter (PM10), and lead (Pb). With the aim of protecting human health, it specifies targets, which are to be attained within a specific deadline.

In spite of the above-mentioned legislation, sensitive areas are not sufficiently protected. The issue of protecting sensitive areas regularly collides with the interests of those who believe the myth that increased infrastructure and transport is a prerequisite of economic growth.

## The Current Transport System is Not Sustainable

Transport growth has been particularly high for the last ten years as freight transport growth rates exceeded growth of the European economy. Road transport, since 1990, has been growing at a rate of about 4 % per year on average. Short sea shipping has also increased significantly (2.6 % per year) while rail transport has stagnated. Therefore, road trucking now accounts for 43 % of total freight transport compared to 33 % in 1980.

## Unsustainable trends in freight transport

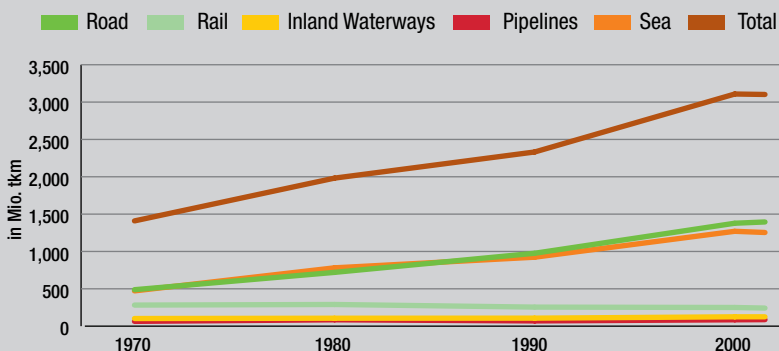
Transport represents a growing source of greenhouse gas emissions. Already 28 % of all greenhouse gas emissions are caused by transport. Road freight transport is responsible for 25 % greenhouse gas emissions from transport. Trucks consume significantly more energy per tonne-km than rail or ship transport and also cause comparably higher CO<sub>2</sub> emissions per tonne-km.

## The Variety of Sensitive Areas

- Areas which already have international protected status, such as Natura 2000 areas pursuant to Directive 79/409/EEC on the conservation of wild birds
- Areas covered by Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora
- Areas falling within the scope of the Convention for the Protection of the Alps (Alpine Convention)
- National parks in accordance with IUNC rules (Category II protected areas)
- UNESCO World Heritage Sites
- Areas covered by national protection provisions governing the soil, water, the atmosphere, flora, fauna, habitats, the landscape and cultural assets
- Areas which meet the criteria governing ecological and/or cultural value, the fragility of habitats and the potential for sustainable development

Source: Environment committee of the European Parliament as part of its opinion on the Eurovigette proposal (EP 2003).

## Freight Transport Growth



Source: Transport Development in EU15 (EC 2003) Chart: VCO 2004



Road freight transport is the most significant emitter of particulate matter (PM): more than 50 % of total PM emissions are due to trucks, a contribution which has slowly increased since 1990. Particulates seriously damages health, they can cause respiration problems, asthma and increased risk of cancer.

Road, rail and aviation are major sources of noise annoyance. More than 30 % of EU citizens (EU15) are seriously annoyed by road noise above 55 dB.

Land is under continuous pressure from new transport infrastructure. It is estimated that between 1990 and 1999 almost 10 ha a day were consumed by new motorway construction in the EU15.

**Impact of Transport on Sensitive Areas**

In ecologically sensitive areas, emissions from transport (including noise) can lead to a change in living conditions and even extinction of specific animals or plants. Transport is also a growing source of greenhouse gas emissions. The impact of climate change on sensitive areas is already visible: eight out of nine alpine European glaciers are retreating and ice in the European arctic is declining.

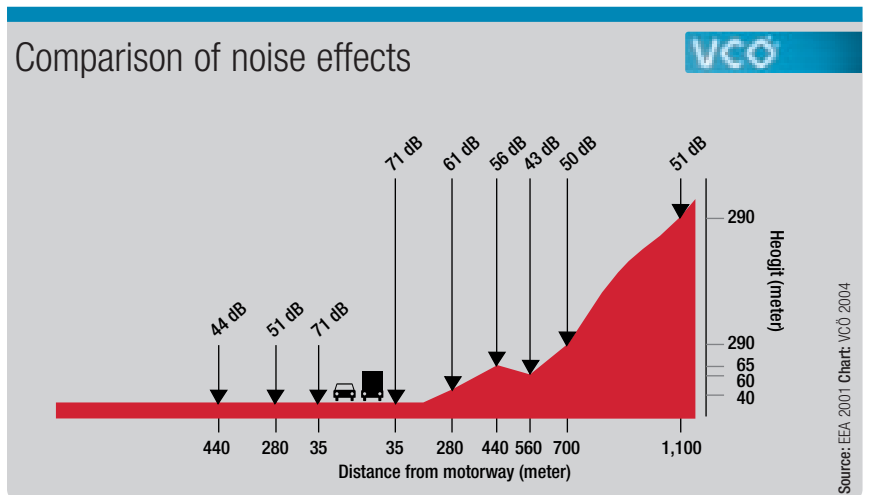
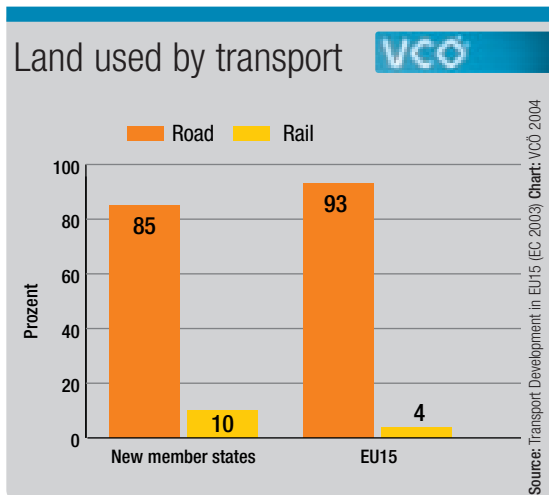
**Infrastructure**  
Road is the biggest land consumer.

The expansion of transport infrastructure networks and continuous traffic growth also pose a significant threat to biodiversity from direct impacts and by fragmenting and isolating habitats. In the new EU member states habitants stand a better chance as the average size of non-fragmented land is 174 km<sup>2</sup> compared to 121 km<sup>2</sup> in EU15. With the rapid creating of new roads, the question is, for how long?

Many sensitive areas have topographic characteristics, which intensify negatives effects. The specific topographic and meteorological conditions of mountainous valleys hamper the dispersion of air pollutants, thus increasing the harmful effects of pollutant emissions compared to non-mountainous areas. The direct effect on the concentration of pollutants in ambient air per unit of NO<sub>x</sub> emission is almost one order of magnitude higher than in low-land areas.

**CO<sub>2</sub> emission**  
The CO<sub>2</sub> emission rates for freight transport are larger than for passenger transport.

**Noise**  
Mountainous areas are suffering from traffic noise



# A Flexible EU transport Policy is Needed



## A scarce resource

In sensitive areas infrastructure should be seen as a scarce resource.

Transport policy needs differ across Europe. There are differences between peripheral and central countries, and between particularly sensitive and less sensitive areas – a “one size fits all” strategy is not appropriate. A flexible EU policy, based on an understanding of different national and regional needs, is urgently required.

The European Commission should propose a set of criteria to define what constitutes a sensitive area both ecologically and from the point of view of human health. Once sensitive areas are defined, the citizens, environment of the area should be effectively protected against the negative impacts caused by transport. Whereas targets for air quality already exist, targets for noise and fragmentation of land are

still lacking. The defined targets must be both ambitious and achievable by a set of instruments. One single instrument is not enough to achieve the targets.

Member States should be allowed to protect their sensitive areas by applying pricing instruments. Regarding air quality, the Commission should propose a coherent policy to enable Member States that want to go further than minimum EU requirements.

## • More Infos:

VCÖ: [www.vcoe.at](http://www.vcoe.at)

T&E: [www.t-e.nu](http://www.t-e.nu)

## • VCÖ and T&E Recommendations

### European Level:

- The Commission should propose a set of criteria to **define what constitutes a sensitive area**
- A **coherent transport policy** for such areas should then be developed. The policy should be **target-based**, and supported by instruments.
- Targets should be **non-discriminatory** and achieved in the most **cost effective** way possible, thereby favouring economic instruments over regulatory ones
- The Transport Council should appoint a representative to sign the Transport Protocol of the **Alpine Convention**, as promised in 2001
- In the field of European transport **investment** policy, audited Cost Benefit Analyses are needed to avoid unnecessary fragmentation and to enhance Europe's competitiveness.
- Regarding **air quality**, the Commission should propose a coherent policy to enable Member States that want to go further than minimum EU requirements
- The EU should transfer responsibility for noise standards for vehicles, tyres and asphalt/rails to the Environment Council, and propose **general noise targets** as soon as possible, as announced in the Directive on environmental noise

### National Level:

- Member States should be allowed to use **pricing instruments** to protect their sensitive areas
- National governments should be prepared to **make maximum use of current flexibility** in EU legislation and implement it in an unambiguous, non-discriminatory manner.

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