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A Call for Joint Measures

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EDITOR'S NOTE

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1 It is unquestioned that the transit corridors crossing through the Alps are of great importance for European economic and social linkage as well as for the economic, social and cultural development in the Alpine region itself. It is also unquestioned, that the continuously increasing transport, especially road transport, on these corridors affects negatively environment, health and quality of life. The negative effects become even more important against the background of the specific territorial and ecological framework conditions of the Alpine region. Even if the effects have been investigated and discussed for some time in the relevant regions and countries, according measures and strategies have not been coordinated and remained isolated. Therefore transport still or even more represents an essential challenge for the Alpine countries and requires both, supra-national solutions and internationally-harmonized action.

Development of Transalpine Freight Transport and its Driving Forces

2 In the last two decades transalpine freight transport[3]has been growing continuously, with road freight transport playing a dominant role. Between 1984 and 2005 freight transport via the crossings between Mont-Cenis/Fréjus and Brenner almost doubled and amounted 2005 to 106.3 Mio tons (ARE, 2006)[4]. This increase was principally absorbed by road transport, which registered a remarkable growth (+ 124.2 %), and to a much lesser extend by rail (+ 46.5 %), whereby the unaccompanied combined transport (UCT) registered the main proportion.

3 Within this period of time railways were continuously loosing market share. In 1984 still 48 % of goods have been transported by rail, in 2005 only 37 %, a trend which can be noticed in all countries even if the modal split shows a quite different picture in each country. Road transport is clearly dominating in France (77 %) and Austria (77 %). In Switzerland the proportion is, despite a constant declining of rail freight transport, vice versa; moreover, the trend of decline could be reversed in 2004.

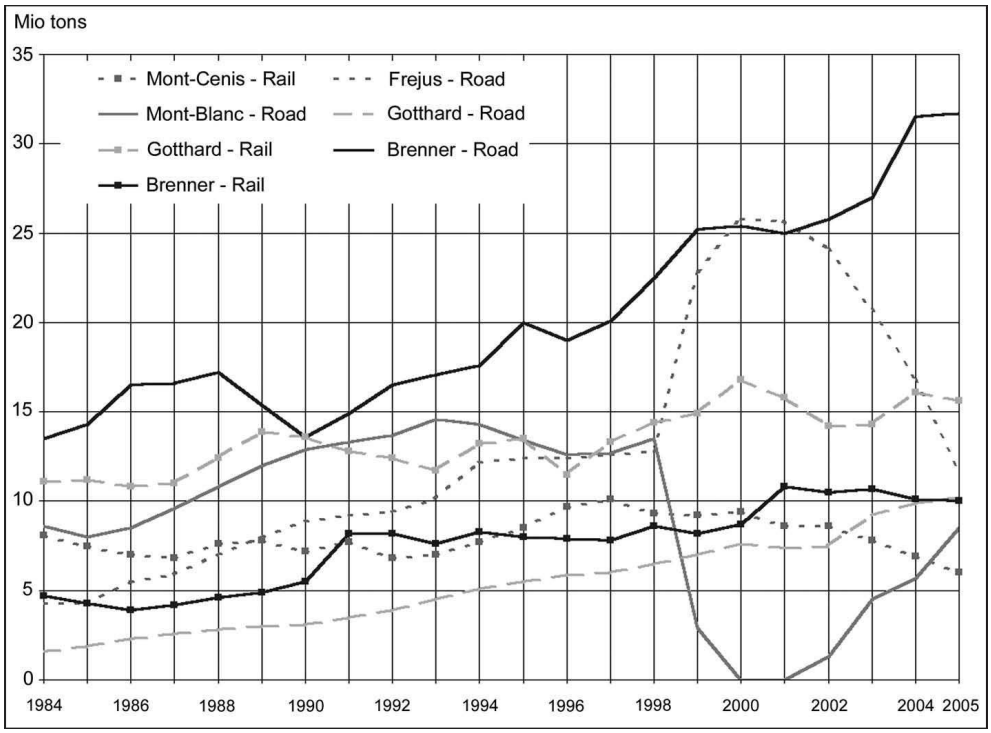
4 Reasons for the continuing increase of transport and the modal split evolution can be found in the change in economic and political framework conditions, for example the liberalisation of the markets, the increasing spatial division of labour, and the specialisation of production as well as the process of the EU eastern enlargement. Moreover, railways compared to roads have some strategic disadvantages such as longer transport times (e.g. loss of time due to loading or reloading), a lack of reliability (e.g. frequent delays), capacity bottlenecks (e.g. with regard to locomotives and their drivers) and the small extent of interoperability of European railway traffic (Alpine Convention, 2006). Another important reason for the railway's bad competitive position is the lack of cost-reflectiveness of freight transport, especially on the road, which is not required to cover all external expenses caused by it (noise, health impairment, accidents)[5]. According to forecasts made by renowned institutions, traffic will further increase in the future (European Commission, 2006; ProgTrans AG & Rapp Trans AG, 2004; ARE, 2002) and the trend towards road freight transport will continue as well unless the competitiveness of the railways will be improved markedly[6].

Influencing the System "Transport"

5 The current transport situation is not given by god but expression of specific political and economic framework conditions. Further the system «transport » reacts on incidents, which could be natural origin (e.g. rockfall on the Gotthard), man made accidents (e.g. fire disaster in the Mont-Blanc tunnel) or transport policy measures (e.g. road pricing, driving bans). Examples for this «reaction » will be presented in the following, focusing on road freight transport (Fig. 1).

6 An evident reaction represents the fire disaster in the Mont-Blanc tunnel on 24-03-1999, which led to a complete relocation of transport to the Fréjus (Fig. 1). The tunnel reopened after 3 years of closure in 2002 and traffic shifted back to the Mont-Blanc corridor, slowly and finally not in that extend, attributed to the then introduced dosage system on the Mont-Blanc corridor.

Fig. 1. Development of transalpine freight transport on road and rail on the main alpine corridors: Incidents and their impact (Source: ARE, 1985-2006).



7 Another example constitutes the revocation of the Eco-Points regulation[7] on 01-01-2004 in Austria and the enlargement of the European Union as of 01-05-2004. Until that time, vehicles from the new member countries moving in Austria with an admissible total weight of over 7.5 tons were subjected to a contingency system (BMVIT, 2005). In consequence between 2003 and 2004 the highest annual growth on the Brenner corridor (road) was registered and vice versa a slight decrease on the railway (in fact the percentage of the "rolling motorway" was cut in half in 2004 which could be partly compensated by an increasing UCT) (BMVIT, 2005). Since November 2005, however, the "rolling motorway" has been showing a marked growth. The portfolio was similarly extended, at the relation Wörgl-Brenner for instance the offer has been raised from 2 to 10 train pairs on 06-112005 (Köll, 2005). The attractiveness of rail freight transport depends also on accompanying transport-policy measures such as road tolls or the ban on driving at night. If these transport-policy measures should be abandoned, the competitiveness of rail freight transport would be reduced.

8 The Gotthard corridor still displays an increase in transported tons by road, which is largely due to the raise of the weight limit from 28 tons to 34 tons in 2001 and than up to 40 tons in 2005 (according to the Land Transport Agreement with the EU) and not to an increasing amount of trucks. Actually the Gotthard was the only Alpine crossing that was able to reduce the number of trucks crossing it by 16 % between 1999 and 2005 (for comparison: the number of trucks crossing the Brenner increased by 28 %), result of the Swiss transport policy, which aims consequently at shifting transport from road to rail. This modal shift policy consists of a combination of different measures – most important are the distance related Heavy Vehicle Fee (HVF), the subsidisation of combined transport and the modernisation of the railway infrastructure[8]– and based on a broad societal consensus (in 1994 a clear majority of the Swiss population accepted in a People's

initiative the constitutional basis for the HVF[9]). The aim of the modal shift policy is also manifested in the federal law for relocation of transport, accepted 1998 and entered into force 2001. The dosage system[10]introduced at the Gotthard crossing as a result to the fire disaster of October 2001 similarly had a concrete influence on the road freight transport.

9 These examples of measures respectively incidents show that the system of transport through the Alps is a "communicating system" and therefore influenceable. Three fields to be influenced, with different sensitiveness on measures, can be identified: the development of transport, the choice of mode of transport and the choice of route.

10 Regarding road transport, the choice of route is carried out in a much more flexible and influenceable way as the choice of mode of transport. The choice of routes taken has been analysed in more detail by Helmut Köll in a study on transport flux through the Alps and the amount of detour transport, an often discussed issue in transport research and policy (Köll, 2005)[11]. More difficult to change are the mode of transport (despite efforts to shift transport from road to rail, railways are continuously loosing market share) and the development of transport (which was not even to slow down). This is not surprising as the development of transport is determined by extra-alpine framework conditions, which hitherto did not cause a diminishment of transport but enabled for its enlargement.

11 Manfred Perlik (2006) analyses in a study three fields relevant for traffic growth (political logic, economic logic and logic of spatial development) in their internal coherence and interprets them under the approach of the regulation theory. These three logics constitute a certain social compromise, a so called regime, result of a societal negotiation process about how will be produced and how the emerging chances and strains will be distributed. These regimes are a man made rapport between contrary positions, which can for example emphasize regional hierarchy or balanced conditions in all regions. Consequently as a man-made relation and not a mechanical process a regime can be changed over longer periods of time. As shown the system "transport" can be influenced on all fields, and the knowledge of this mechanism is important to evaluate existing measures and develop new ones.

The Effects of Freight Transport in the Alps

12 The continuous growth of transalpine freight transport and the unfavourable modal split led and still leads to growing negative side effects of transport, in particular road transport. The various transport-related effects are generally known: consumption of open space, landscape fragmentation, accidents, air pollution, and noise. They affect the health and quality of life of the residents in this region[12].

13 These transport-related effects on quality of life and health need to be assessed against the background that the Alps are one of the most sensitive regions in the whole of Europe. Only a small fraction of the Alps is suited for year-round settlement, in which the railway and road infrastructure was developed as well. Consequently, transport-related effects are concentrated in the same area that also includes all other functions – life, work, retail, recreation, tourism and agriculture. Furthermore, all these functions compete with each other for the available land. Thus, for instance, consumption of open space and landscape fragmentation by building transport routes needs to be assessed differently within the Alps than in areas which are to 100 % suitable for settlement. Due to the specific climatic and topographic conditions in the Alps air pollution and noise

underlie a completely different propagation pattern. As a result, air and noise pollution is much higher than in other landscapes such as in the flatlands or the low mountain ranges [13].

14 Another specific dimension of the Alpine region is its division by state borders, which caused a specific cultural and historical development in each country. Factual problems are perceived and assessed quite differently and different demands and legal orders are implemented for the protection and utilisation of the Alpine region. In order to solve large-scale transport problems, these varieties need to be considered, thus lending central importance to international cooperation. The strains on the Alpine region are not exclusively dominated by the increase in transalpine freight transport and the small overall share of the railways; it is the sum of this strains and the regional and climatic conditions that call for action.

The Need for Action

15 The European Union and its member countries responded to the continuous increase of freight transport in the Alpine region with different policies and programmes (such as the EU's priority programme on Trans-European networks, national strategies for a sustainable development, and infrastructural programmes). All countries in the Alpine region, especially Austria and Switzerland developed different measures to cope with continuous traffic growth and taking this issue to an increasing extent into account in their national transport strategies and strategies for sustainable development. In Switzerland the objective of a more sustainable transport development is even anchored in the federal constitution (as mentioned above).

16 The EU also deals with the strains resulting from the increase of transport. The current position of the EU in regard to transport is more differentiated than before and not only directed to the consolidation of the EU single market, for which mobility and exchange of goods are important elements. The more recently published EU texts reflect the demand for sustainability to a greater extent, for example the EU White Paper on Transport[14]. The Alpine Convention and its transport protocol[15]as well as the Zurich group[16]and several other trans-national working groups (Arge Alp, Cotrao, Alpe Adria, IQ-C group[17]) are similarly developing approaches with regard to transalpine freight transport.

17 Beside these political programmes, the scientific approach also emphasises the importance of a sustainable transalpine transport policy. Within the Swiss National Research Programme (NRP) 41 "Transport and the Environment" several research projects have been carried out, analysing e.g. interdependencies of transport and spatial planning, effects and perspectives of transport as well as transport policy. Transport related research projects, promoted by the EU within e.g. the Alpine Space programme or the 6thFramework Research programme (e.g. Alpnap, AlpFRail, Alp mobility, Alpencors, Mobilalp, BRAVO) have also been developed.

18 This overview shows that effects of transport through the Alps have been investigated; but the discourse was kept along national borders and until now measures have only been discussed and put into action very selectively and on a regional level. Too often, the strategies and measures are characterized by regional and national interests, which take into account only marginally the whole alpine space. The lack of harmonisation of these measures ultimately led to truck transport mainly being shifted from one corridor to the

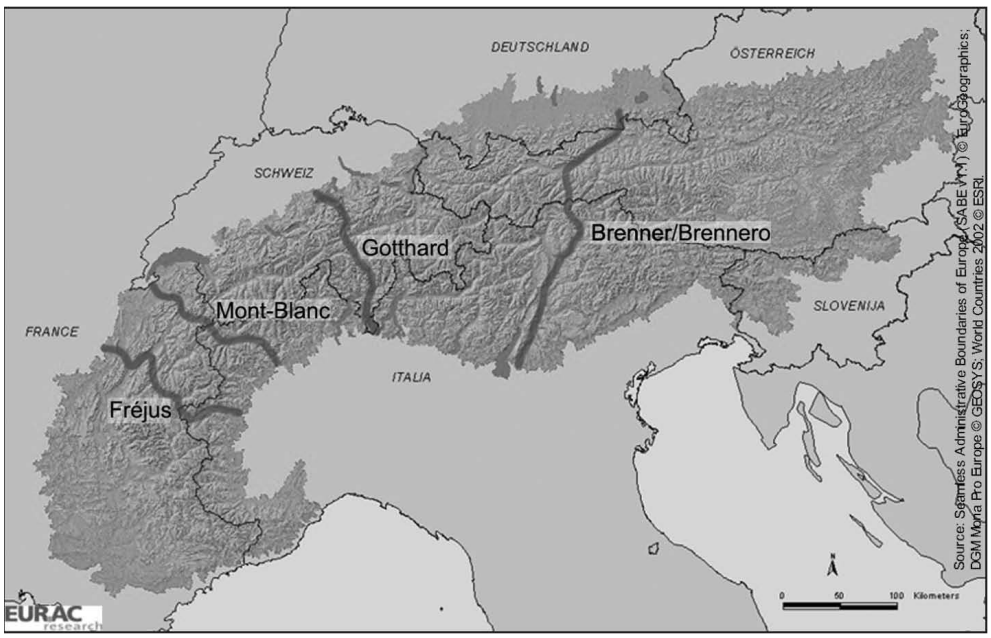
next, and not a real decrease. At the same time, the Alpine regions have only a few opportunities to act in favour of a sustainable transport development on the international plane, due to which they lose momentum and become unable to achieve a real success.

19 The concerns of the Alpine region and its residents can only be supported efficiently if the countries cooperate with each other on a trans-national level. Approaches as the one of the Alpine Convention lead in the right direction and have to be followed more radical. Furthermore the existing approaches have to be coordinated and followed by action – action which needs to be internationally harmonized.

Cooperation and Action in a Common Project

20 The need for collaboration between the alpine regions and the need for action provided also the basis for the evolution of the project MONITRAF, which involves the regional administrations of four severly threatened alpine transit corridors (Fig. 2). The countries particularly affected by traffic started to work together in a transalpine cooperation pursuing mainly two aims: identify and analyse the effects of transalpine transport and develop common measures for improvement of quality of life and provide the basis for their implementation.

Fig. 2. MONITRAF project area.



21 An important point with regard to the development of measures is that none of the regions will be adversely affected somehow and problems will not be shifted from one transport artery to another. To achieve this goal, the partners cooperating within the framework of this project are also authorised to prepare decisions and implement measures later on.

22 Before assessing the task of joint measures and common action, a network of the regions has to be built, the effects of transport in each region analysed, dependencies and interrelations to be identified and the linkage points between the regions to be

determined. This will ensure that successful measures are placed and implemented at the right location.

First Results

23 Similarities and differences between the regions have been analysed in a comparative analysis of the effects of transport on the air and noise situation in the alpine transit valleys by Jürg Thudium (2005). It is shown that, even if the values differ, the emission characteristic of the four transit valleys under investigation is quite unfavourable compared to the flatland. Regardless of structure and alignment of the individual valley, all valleys have proved to be sensitive regions. The specific climatic conditions, which are tightly related to air concentration of NOx, differ much according to each region (frequency and distribution of inversions) and have to be taken into account when developing measures.

24 Also quite important for developing measures are the dependencies and interrelations between transport and economy/society, a field where transport related effects differ very much according to each region, depending on the single frame conditions (e.g. general economic development, reserve of area ready for settlement) (Bruns, 2007). Respectively the same measures can have different effects in each region. The region more dependent on road transport suffers also more by measures which affect road transport. And if transport related effects and potentials lastly lead to economic and social effects, depends moreover on the behaviour of actors. Therefore when developing an indicator set to display and investigate the interrelations between transport and economy/society explaining variables have to be taken into account, which are the potentials of a region and the actors within a region.

25 The evaluation of the interrelations between transport and tourism has shown that local people in the tourism sector perceive heavy load transport mainly negative, but as necessary (Pechlaner, 2006). A resignation about negative transport related effects and also a fear of the negative side effects of transport reduction measures on tourism can be recognised. This relates to the study elaborated by Manfred Perlik (2006) which has shown for the European level that there is on the one hand the will to reduce traffic (e.g. White paper on transport) and on the other hand the fear to gain negative impacts from this reduction (especially negative effects on the political and economical integration process).

Further Steps

26 On the basis of the present results an indicator system for the monitoring of road traffic related effects, which is able to display similarities and differences between the regions as well as interrelations between transport and other sectors, will be developed within the MONITRAF project. For the final development of common measures, current and future measures with regard to transport will be reviewed for similarities, efficiency, and effectiveness. MONITRAF will not stop with the development of joint measures but also prepare their implementation. A network of all institutions and regional administrations involved will be created, which is particularly necessary in order to ensure that

cooperation will be maintained beyond the duration of the project and that measures can be jointly implemented.

General Conclusions and Prospects

27 The project MONITRAF corresponds with the concept of regional governance, which gained importance in the discipline of spatial development within the last years. Regional governance means governance within and between regions and implies that regions are not only governed by national rules and policies but by mutual cooperation with a common complex objective (Hansen, 2006), as this is also the case in the MONITRAF project.

28 Networks between relevant regional actors provide the basis for regional governance and have to be integrated into institutional structures which provide again the basis for stability of networks and long-lasting cooperation. This institutional and societal framework is called in the sense of the regulationist approach a "regime". Both approaches can be seen in fact as complementary – Mayntz (2004, cited in Fürst, 2006) also emphasizes that when establishing networks which are capable of acting the question of the institutional framework plays a major role due to the relatively weak developed institutional character of the networks.

29 The concept of regional governance and the regulationist approach are accompanying each other and provide some conclusions for future cooperation regarding transport in the Alps and projects in this context. Regarding the project MONITRAF, the integration into the structure of the INTERREG Alpine Space programme provides the motivation for the creation of a network and the cooperation. But to assure cooperation and implementation of measures also after the duration of the project something else has to fill these shoes, which means that to guarantee future work the project has to be integrated into an institutionalized and efficient structure. The Alpine Convention could be such a structure.

30 Networks developed by the regions suffering from transport support also another fact, mentioned in the contribution of Manfred Perlik in this issue (chapter 5). These networks strengthen the regions ability to act and to implement their interests against national and European concerns. Against the background of the regulationist approach efficient networks can also contribute to provide a basis for a change in regime, which is required for a reduction in the volume of transport as discussed at the beginning. As this change of regime has to be prepared, to the point of a regime which assesses social, cultural and ecological costs higher than now, the negotiating position of regions fighting against the negative effects of transport can be enforced.

31 It seems that the new European context could provide a basis for more cooperation within the Alps and, thinking a step further, a change of regime which balances the needs, benefits and negative effects in a more sustainable way:

32 Regional cooperation and establishment of networks is supported by the EU through diverse programmes;

33 In the larger European Union with 27 member countries, commonalities between the different parts of the Alps become more evident which could be a positive sign for the success of the cooperation;

34 The EU White Paper on Transport (2001) aims at a long-lasting sustainable transport system and provides measures for the adoption of the common transport policy to the requirements of sustainable transport (shifting transport form road to rail, intermodality, internalization of external costs);

35 The renewed EU Sustainable Development Strategy (2006) calls among others for the decoupling of economic growth and the demand for transport with the aim of reducing environmental impacts, reducing pollutant emissions from transport and achieving a balanced shift towards environment friendly transport modes;

36 The EU Road Charging (Eurovignette) directive[18]addresses directly the Alpine region and takes into account the specific situation of transalpine transport when charging road transport. The new directive allows a differentiation of the road charges (according to emissions or time of day) and aims also at more fair road charges on the basis of the polluter pays principle combined with the internalization of external costs.

37 • The Council of transport ministers of the EU signed on 12-10-2006 the transport protocol of the Alpine Convention, which forces the countries to the "abandonment" of new roads through the Alps, to reduce transport-related pollutants, and implement costreflectiveness according to the polluter-pays principle. This shows that there are some background conditions to act for a more sustainable transport policy in the Alpine space. But although national and European policies recognised its relevance and started to deal with this topic successful ; efficient action and implementation are still to come. For successful measures regarding transalpine transport concrete cooperation between the alpine regions is essential which has to be institutionalized (cooperation needs commitment) and has to take also into account European principles.

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NOTES

1. MONITRAF est l'acronyme anglais de *Monitoring of road traffic related effects in the Alpine Space and common measures* (monitoring des effets du trafic routier dans la région des Alpes et élaboration de mesures communes). Il s'agit d'un projet de recherche financé par l'Union européenne dans le cadre du programme INTERREG IIIB Espace alpin. L'UE vise ainsi à promouvoir un développement transnational durable dans les Alpes. Pour plus d'informations sur ce projet, qui s'étend de janvier 2005 à juin 2008, consultez le site www.monitraf.org.

2. MONITRAF stands for «Monitoring of road traffic related effects in the Alpine Space and common measures » and is a research project funded by the European Union within the framework of the INTERREG III B Alpine Space Programme. With this programme, the EU aims at promoting a sustainable, trans-national development within the Alps. For further information about the project, which runs from January 2005 until June 2008, please visit **www.monitraf.org**.

3. Transalpine freight transport comprises internal, import, export and transit transport and refers to the following elements: Freight transport by road, wagonload transport by rail (without combined transport), unaccompanied combined transport by rail (UCT) and accompanied transport by rail («rolling motorway »).

4. Unless stated otherwise, the following analyses focus on the inner arc of the Alps, between Mont-Cenis/ Fréjus and Brenner and are based on the data compilations on transalpine freight transport carried out and published on an annual basis by the Swiss Federal Office for Spatial Development (ARE) (ARE, 1985-2006).

5. An analysis of the Alpine Convention's workgroup on «Transport » showed that less than the half the external costs of road transport arising in the Brenner corridor (Rosenheim-Bozen) are covered with proceeds from the road toll. For the computation of external costs, different cost factors were taken into consideration, such as the average PM10 concentration, medical expenses, the number and severity of accidents and the percentage of persons exposed to road transport noise (Alpine Convention, workgroup on «Transport », sub-group on «Costs », 2006). New studies in Switzerland show that at least some external costs may be internalized by transport policies (ARE, ASTRA, 2006). Further insight into this topic give also: INFRAS, IWW University of Karlsruhe, 2004; Nash, with contributions from partner, 2003.

6. The European Commission assumes that road freight transport within the European Union (EU-25) will increase by approximately 55 % and transport by rail by approximately 13 % in the period between 2000 and 2020 (European Commission, 2006).

7. In conformance with Protocol No. 9 of the Austrian Accession Agreement to the European Union, freight transport moving on the Austrian roads was regulated by a so-called Eco-Points system until the end of 2003: For each transit tour, Austria was allowed to collect «eco points » from the relevant truck. The number of the required eco points depended on a truck's NO^x emission. Only a limited amount of eco points was distributed, which was reduced from year to year.

8. The decrease in truck tours can be attributed to two thirds to the HVF and the raise of the weight limits and to one third to the measures accompanying it, including the subsidisation of combined transport and the intensification of controls with regard to heavy-load transport.

9. Art. 84 paragraph 2 BV (Alpenschutz-Artikel).

10. Until the end of September 2002, heavy-load transport was guided through the Gotthard Tunnel under very strict safety conditions (alternating one-way traffic). As of October 2002, this dosage system was replaced by a «drip-feed » traffic controlling metering system, guiding heavy goods transport through the tunnel on both ways at regular intervals.

11. Within the MONITRAF project studies on the transport flows, framework conditions and effects of road transport (e.g. on society, economy, health, air and noise) have been elaborated, whose selected results will be presented in this issue of the RGA.

12. The effects of transport on health and quality of life have been documented by different studies: World Health Organization (WHO) Regional Office for Europe, 2005. – Programme on noise and health. Online in the WWW under http://www.euro.who.int/Noise [Withdrawn on 19-09-06]. UBA (German Federal Environment Agency), 2006. – Transportation Noise and Cardiovascular Risk. Review and Synthesis of Epidemiological Studies. Dose-effect Curve and Risk Estimation. Umweltbundesamt. WaBoLu 01/06. Berlin. UN/ECE & WHO Regional Office for Europe, 2002. – Transport, health and environment Pan-European Programme (PEP) adopted by the High-level meeting on Transport, Environment and Health, Geneva, 5 July 2002 (ECE/AC.21/2002/9, EUR/02/5040828/9). Huss A., Röösli M., 2007. – Gesundheitsfolgenabschätzung des Transitverkehrs im Alpenraum: Methoden und Grenzen. In MONITRAF (eds.) Verkehr durch die Alpen: Entwicklungen, Auswirkungen, Perspektiven. Haupt-Verlag, Berne/Stuttgart/Vienna, pp. 115-121.

13. Air pollution is favoured by frequently emerging temperature inversions in the inner-Alpine valleys which obstruct the exchange of the near-ground air mass, especially at night and in the winter months. In addition routes with more frequent ascents and descents serve to provide for a higher pollutant emission than in the plain. Noise pollution is favoured by thermal inversions, slope and wind. Weak-wind situations with temperature inversions prevent air pollutants from an effective dispersion and refract sound waves towards the ground. Long-range audibility is one consequence. For more information see: Heimann D., Seibert P., 2007. – Das ALPNAP-Projekt – wissenschaftliche Methoden zur Reduzierung von Luftverschmutzung und Lärmbelastung entlang alpiner Hauptverkehrswege. In MONITRAF (eds.) Verkehr durch die Alpen: Entwicklungen, Auswirkungen, Perspektiven. Haupt-Verlag, Berne/Stuttgart/Vienna, pp. 89-94.

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15. The Alpine Convention, a framework agreement signed by the Alpine countries in 1991, aims at protecting the sustainable development of the Alps. The implementation of measures in the field of transport is emphasised as early as in the framework convention and with the goal to «reduce the volume and dangers of alpine transport to a level which is not harmful to humans, animals and plants and their habitats, by switching more transport, in particular freight transport, to the railways (...) » (Alpine Convention, 1991). With the signing of the transport protocol (one of seven implementation protocols, signed by the states on 31 October 2000) by the Council of transport ministers of the EU on 12-10-2006, an important step in this direction was taken.

16. Starting point of the Zurich group was the declaration «concerning the improvement of road safety, in particular tunnels in the Alpine zone », signed on 30thNovember 2001 by the transport ministers of Switzerland, Germany, Austria, France and Italy. The implementation of the declaration has developed to identify measures to be coordinated between the signatory Alpine countries for regulating road traffic and encouraging a shift to an alternative mode of transport.

17. International group for improving the quality of rail transport in the North-South-corridor.

18. Directive 2006/38/EC of the European Parliament and the Council of 17 May 2006 amending Directive 1999/62/EC on the charging of heavy freight vehicles for the use of certain infrastructures. Published in the L 157/8 edition of the Official Journal of the European Union from 09-06-2006.

ABSTRACTS

Freight transport in the Alpine space is an ambivalent issue: on the one hand it brings great benefits for individuals and economies on the other hand it brings many negative side effects on quality of life and health. Even if the effects of transport have been investigated and programmes, policies and measures developed, transport still represents an essential challenge for the Alpine countries and requires internationally harmonized action. Against this background the project MONITRAF[2] has been elaborated, which aims at developing common measures to reduce the negative effects of road transport and improve the quality of life in the affected transit valleys. This paper addresses central questions of transalpine freight transport: its development and framework conditions, the resulting need for cooperation and action and the responses already given and need to be given for a more sustainable transport within the Alps.

Le transport de marchandises dans l'espace alpin présente un double visage : d'un côté, il est très bénéfique pour l'homme et l'économie ; d'un autre, il a de nombreuses répercutions négatives sur la qualité de vie et sur la santé. Si les effets des transports ont déjà donné lieu à des recherches, à des programmes, à des politiques et à des mesures, le transport reste un défi majeur pour les pays alpins et nécessite une action harmonisée à l'échelle internationale.C'est dans ce contexte que le projet MONITRAF[1] a été mis au point. L'objectif est de définir des mesures communes visant à réduire les effets négatifs du transport routier et d'améliorer la qualité de vie dans les vallées de transit affectées. Cet article aborde des questions centrales du transport de marchandises transalpin : développement et conditions de base, besoin de coopération et d'action, et réponses présentes et à venir pour des transports plus durables dans les Alpes.

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Mots-clés: coopération, couloirs de transit, effets des transports, transport de marchandises
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