

Alpine Crossings: Challenges for Policy and Research

Conclusions from the first ALP-NET Workshop

1-2 October 2001, Brussels

Final Version

ALP-NET looks into the challenges and opportunities facing policy and research on trans-Alpine transport. In view of important upcoming policy decisions, ALP-NET was established to synthesise, concert and co-ordinate ongoing-work and to deliberate open questions.

The first ALP-NET workshop comprised four round table discussions addressing the following issues:

The first session focused on the recent policy developments in the Alpine area, laying particular emphasis on the land transport agreement between Switzerland and the EU, the ongoing negotiations between Austria and the EU and the development of the Common Transport Policy.

The second session dealt with the potential of intermodal and combined transport for solving the environmental and capacity problems in trans-Alpine transport. It also addressed the issues of technical, operational and legal differences between the national transalpine networks, the problems associated with border crossings and strategies and problems of intermodal operators.

The third session considered the possibilities and challenges associated with the introduction of transport infrastructure pricing and the possibilities for cross financing. It reviewed the state of the art and revealed the problems and the needs for further co-ordination in this area.

The final session of the workshop addressed the question of data requirements and availability in the Alpine areas. The discussions focused on the currently conducted data surveys by the various Alpine countries and EUROSTAT.

Below we summarise the roundtable discussions and subsequently draw conclusions.

Summary Roundtable Discussions

Policy Developments in Alpine Transport and the Decision Making Context

Chair: Alain Rathery, ECMT

Alain RATHERY of the European Conference of Ministers of Transport (ECMT), and the Chairman of this session, gave a brief introduction about the current political context of trans-Alpine transport, reminding participants that we are here confronted with various levels of intervention. At the national level, the four major themes are related to the recent land transport agreement between Switzerland and the EU, the Austrian Ecopoint System, the re-opening of the Mont-Blanc tunnel and the expected German tax on heavy goods vehicles. Yet the problems faced by trans-Alpine transport cannot be resolved alone through national strategies, especially if these are not co-ordinated and in view of enlargement. Even though there is no specific Alpine transport policy at European level, several of the proposals of the new CTP are particularly relevant for trans-Alpine transport, especially in the context of existing bilateral agreements and transport protocols (like that of the Alpine Convention).

Statements from representatives of the European Commission and Alpine countries followed.

John Hugh Rees of the European Commission, DG TREN presented the new White Paper *European Transport Policy for 2010: Time to Decide*. From the 1992 White paper onwards, the objective of the Common Transport Policy (CTP) has been the completion of the Common Market and the establishment of a sustainable transport system. In order to achieve both those objectives a decoupling of economic growth and the growth of transport should be achieved. In the past, efforts to achieve such a decoupling have failed, not least because of the failure to achieve the liberalisation of the transport market and market integration in a harmonious way. Instead, traffic volumes have tended to grow much faster than either the economy or investment in transport infrastructure. Congestion and environmental degradation have been the result. Currently there is an imbalance of modes with road transport occupying a major share of the market. The current growth rates of 10% for road transport and 30% for air transport will be unsustainable in the near future. At the moment one third of the CO₂ emissions in Europe can be attributed to the transport sector; of this, 82% are produced by road transport. Should the current trends continue, the European Union will run the risk of losing its competitiveness.

In order to overcome these problems, a re-balancing of the modal shares to the levels of 1998 by 2010 is intended— to achieve this a set of 60 measures is proposed. A new orientation in infrastructure charging towards a harmonisation of road pricing, allowing the internalisation of external costs and the use of revenues for investment in infrastructure that is environmentally friendly (i.e. rail or in environmentally sensitive areas) is at the core of the Commission proposals. Additionally, the Commission will launch a new programme for the development of multimodal transport called MARCO-POLO and will increase efforts to improve the link between the aviation sector and the European high speed rail networks. For the Commission proposals to bear fruit, it is important that the Member States work towards integration and implement the proposed measures. If this is not realised, then the abandonment of the free-market strategy that has guided the development of the CTP till today cannot be excluded.

Jean Arnold Vinois, responsible for rail policy at the European Commission, DG TREN, gave a presentation on the development of rail transport in Europe. The development of rail transport is considered key to the development of the trans-Alpine transport and for overcoming the problems faced by the latter. The policy of the European Commission aims at avoiding a further decline in the modal share of railway transport. This it expects to achieve through first, the better integration of rail transport in the internal market through primarily the liberalisation of the railway market; second the optimisation of infrastructure use and the modernisation of railway services (also in order to support the development of multimodal transport); and third, investment in railway infrastructure.

With regard to the liberalisation of the railway market, one major step was taken in the year 2000 with the adoption of the so-called infrastructure package aiming at opening the access to infrastructure for international rail freight services from March 2003 onwards. This rail infrastructure package consists of three directives – 2001/12, 2001/13, 2001/14 – which create a new regulatory framework for railways in Europe, asking for more transparency in the accounts of the railway undertakings and for neutrality in the performance of essential functions to ensure fair and non discriminatory access, such as allocation of capacity and charging rules. The implementation of these directives into national legislations should lead to an improved efficiency of service by allowing newcomers to enter the market and pressing the incumbent operators to offer better services. IKEA was mentioned as an example of a company that has decided to take its own railway operations into its hands by designing directly its rail operations: having obtained a EU wide licence in Sweden it concluded a contract with the Swedish, Danish and German infrastructure managers to obtain paths on which a consortium of railway undertakings of the three countries, chosen after a tendering procedure, will be able to ensure the traction of its wagons. IKEA plans to open several lines throughout Europe with the aim to carry out 40% of its transports by rail by 2006 instead of 18 % today.

The focus should be on enhancing the quality of railway services through competition and innovation. Settling the problems of safety and interoperability is another major task to perform at European level and that is the purpose of the next railway package, to be proposed later this year, dealing with a proposal of directive on safety and a European agency to promote interoperability and safety rules at European level. The establishment of a dedicated freight network will be sought in order to optimise rail infrastructure use and give freight a better priority than it has today vis à vis passenger transport. This, in turn, is expected to contribute to the improvement of the quality of combined transport, as the major weakness of the railways concerns its punctuality, as shown recently by a UIRR study cofinanced by the PACT programme. In order to further support such developments, the Commission will launch the MARCO POLO programme in 2003. Currently there is a lack of reliable data on quality for railways. The observatory created by Directive 2001/12 to monitor the evolution of the railway market will work out such indicators and publish them regularly.

While Directive 2001/14 deals with the common principles to be applied for charging railway infrastructure, the issue of internalising external costs, particularly for road, remains a key for the future of rail. That is why the Commission will come back with

proposals in this respect. . Also there will be a new run on financing transport infrastructure in order to eliminate bottlenecks on the rail network but it should be made carefully on the basis of coordinated investments to improve the efficiency of major corridors. In a recent proposal, is the Commission proposed to raise the percentage of EU co-financing from 10% to 20% on cross border projects or located in sensitive areas. In addition, it proposed to revise the 1994 Essen list of European priority projects , to add new cross border rail projects. . Accession countries will be integrated into the trans-European network, beginning with the so-called TINA network, while a major revision of the TEN guidelines will be launched in 2004.

Noël Lebel of the "Mission des Alpes" of the French Ministry of Transport provided an overview of the current policy context of trans-Alpine transport including the Alpine Convention and its transport protocols, the EU-Swiss agreement on land transport, the Austrian Ecopoint system and the European legislation on charges for heavy goods vehicles. Also of importance are the recently enacted French memorandum for Alpine transport and the new 2001 White Paper of the European Commission on the Common Transport Policy. The effects of some of the more recent agreements are yet to be seen, especially since some of them have not yet been implemented (e.g. Alpine Convention).

Mr. Lebel presented some figures on the development of traffic on the main crossings of the Alps. The volume of traffic on these crossings has multiplied four times during the last 30 years. Across the western part of the Alps between the Vintimille and the Gotthard crossings nearly 80 million tonnes of goods were transported in 1998. It is expected that this number could increase to 170 millions in 2020 if the current trends continue. In Switzerland, the modal split is much more favourable for railway transport than in France and Austria. There is a serious need for new initiatives and for an improvement of co-ordination between the countries to avoid a mere shifting of traffic from one crossing to another. At the French-Italian summit in January 2001 it was agreed to sign a bilateral agreement on new rail links and to co-ordinate various details of planned rail projects. With Switzerland there is an understanding to move towards the harmonisation of policies and on improving the utilisation of the rail capacities on the Dijon-Vallorbe-Lausanne-Simplon route. On the southern side of the Alps greater safety for transport infrastructure regarding protection from avalanches, landslides etc. is an important issue. The options of using maritime transport between Italy and France as an alternative to land transport should be seriously considered. Regarding multimodality the quality of combined transport will be crucial. Switzerland plays a major role in establishing new multimodal schemes across the Alps. In the light of the re-opening of the Mt. Blanc road tunnel, France and Italy need to agree on new rail links as an alternative to road transport. The Italian situation is quite different from the French situation because nearly 80% of all Italian exports and imports are currently moved by land transport across the Alps.

Concerning the French crossings of the Alps the emphasis is at the moment on the planned re-opening of the Mt. Blanc road tunnel. A decision on this matter will be taken by the French-Italian summit at the end of November 2001. After the re-opening of the Mt. Blanc there will be a new system to improve the safety and air quality in the tunnel. The number of trucks will be limited to 220 per hour for each direction. This will guarantee

a sufficient distance between the trucks. Technically, the system will work by stopping all trucks 20km before the entry to the tunnel and letting them "trickle out" one by one in certain intervals. France plans a substantial increase in road tolls for the Mt. Blanc tunnel following the reopening.

Andreas Weissen of CIPRA International stressed the environmental impacts of transport in the Alpine regions. At the moment the pollution caused by road transport is a serious danger for the health of the Alpine population and the environment. Among other factors, this is due to the special characteristics of the Alpine valleys. Due to meteorological reasons the atmospheric pollution during night time is six times higher than during the day. Noise emissions in valleys are several times worse than in flat areas. The European Union, the Alpine Convention and the OECD Environmentally Sustainable Transport Programme (OECD EST) focus to a great extent on establishing an environmentally friendly transport system. Yet the growth of road freight transport in the Alpine regions (+60% during the decade) has been three times as high as the economic growth in the region during the same period of time (+20%). The World Health Organisation (WHO) estimates that in France more than 17,000 people die as a consequence of air pollution each year (Switzerland 1762 people, Austria 2411 people).

In order to overcome these problems, a policy package is needed that builds on full cost liability, night time / weekend bans on lorry traffic, bans for dangerous goods freight and the improvement of the railway offer – all in the context of regional economic development and activities (rather than alone with respect to transit needs for international traffic). Several of the measures proposed by the new White Paper of the European Commission on the Common Transport Policy for 2010 point in the right direction. However, the key question is whether and how the proposed measures will be adopted and turned into binding legislation. The implementation of the 1998 White Paper on *Fair and Efficient Pricing* is, according to the 2001 White Paper, still incomplete. Statements of intent are clearly not sufficient. What is needed is the strengthening of regional economies to reduce the demand for transport, the introduction of fair prices, the harmonisation of driving restrictions across countries, restrictions on dangerous goods transports and the improvement of the quality of rail transport. ALP-NET should address the need for reliable data on transport activities and their environmental impacts, albeit should focus on underlying what is lacking in existing databases (and not alone on reviewing what already exists). Especially useful would be comparable data on the air quality along the different transport corridors in the Alps.

Ueli Balmer of the Swiss office for spatial development explained the historical background of the high modal share of railway transport in Switzerland. Until 1980 the modal share of rail in trans-Alpine freight transport was above 90% due to the inadequate road connections. Since the opening of the Gotthard road tunnel the share of road transport has increased. As a consequence, the Swiss population decided in a referendum to reduce the number of trucks in trans-Alpine transport from currently 1.3 million per year to 650,000 per year. This goal should be achieved mostly by a modal shift from road to rail.

An important step towards this reduction is the recent introduction of the Swiss road pricing system for heavy goods vehicles (Mileage Related Heavy Vehicle Tax - MRHVT). The MRHVT is distance-related and has to be paid by all freight vehicles above 3.5 tons for using any part of the Swiss road network. The fees in this new system are on average five times higher than in the previous system (before the year 2001) and they are related to the level of emissions a vehicle produces. Parallel to the introduction of the MRHVT, Switzerland also started to raise the weight limits for trucks, first to 34 tons and eventually in 2005 to 40 tons. Two thirds of the total revenues of the road pricing system (750 Mio. SFR per year) will be channelled through the federal government for improvements of the Swiss rail system. The remaining third will be absorbed by the Cantons.

The introduction of the MRHVT as a part of the land transport agreement between Switzerland and the EU became possible because of the specific interests of the actors involved; the European Union was eager to see the weight limit increased to 40 tons, the Swiss government was interested in the economic advantages of an agreement with the EU and the Swiss population wanted to protect the environment. The important factors to gaining public support for the MRHVT were the "polluter pays" principle, the use of the revenues for rail transport, the overall political situation and the fact that it covers the full road network and not just the motorways.

A first assessment of the new system shows some positive effects yet it is already now obvious that alone the MRHVT system will not be enough to achieve the desired reduction in road transport.

Eugenio Borgia of the Frech-Italian Commission for the Lyon-Turin rail project stressed the complexity of the problems in trans-Alpine transport. Many of the important problems are currently not addressed sufficiently and it is in this respect that ALP-NET should aim to make a contribution. There has to be a common understanding about the nature of the problems and the contents of the policies to be employed. The decisions taken will rely on political judgement and as such are a reflection of values. In this constellation, the role of the technician or researcher is to specify the possible options and the advantages / disadvantages of each.

In the case of the assessment of the Lyon-Turin rail project, which contains a base tunnel of 53km at the centre, there were very specific objectives: to avoid a situation in which the demand for rail transport can not be met and thus the traffic is transferred to road transport; to eliminate congestions at the Alpine border crossings; but also to avoid unnecessarily large investments which are not efficient.

Any assessment of a transport infrastructure project must take into account the overall context as given by the geographical location, the time of planning / construction and the actors and areas of influence; the long delays between the first steps in planning and the completion of the project and the environmental sensitivity of the project.

A good methodology for the assessment of the external effects of the project is vital. Those include the ecological dimension, the cultural / aesthetical considerations and the socio-economic impacts. Not all effects can or need be translated into monetary costs. Greater transparency and clarity in the presentation of the results of an assessment and

the consequences of the possible choices would help to distinguish the political positions of the various actors and would provide a clearer picture about the advantages and disadvantages to certain groups. This would also help in finding adequate compensations for those disadvantaged by new transport infrastructure projects.

The following points were raised by the discussion that followed:

- 1) *The question of public acceptability* – **Renate Zauner** of the Initiative Transport Europe doubted the adequacy of the public debates surrounding the re-opening of the Mt. Blanc tunnel. In response, **Noël Lebel** noted that so far six consultation meetings with the local population have been held. The French government is aware of the opposition of the local population to the re-opening, however in their view, the local population and their representatives wrongly identify the problem as being solely one related to the Mt. Blanc tunnel and trucks: the 2000 lorries crossing the Mt. Blanc area per day have to be seen in relation to the 60,000 tourist passenger cars crossing the same area per day. In the winter one of the main sources of air pollution in the valleys is heating oil. Another problem is that France can and will not move unilaterally on the question of the re-opening – there has to be an agreement with Italy. There are regular consultations between the two countries but at the moment there seems to be differences in the perception of the urgency of the matter.
- 2) *The problem of the Austrian Ecopoint system* – **Renate Zauner** criticised the representatives of the European Commission for not addressing this issue. **Jean Arnold Vinois** replied that the responsible persons in the Commission, like Mr. Van Vreckem, would be better suited to answer this question. Unfortunately he could not participate at the workshop due to a last-minute meeting taking place that day on the Ecopoint system with the Austrian government. **Alain Rathery** had already noted at the onset of the meeting that a representative of the Austrian government was invited to participate at the workshop but could unfortunately not take up the invitation (probably for the same reason).
- 3) *The new French policy regarding restrictions on trucks using the Mt. Blanc tunnel* -- **Philippe Tardieu** of NEA asked Mr. Lebel for a clarification on the figure of 220 trucks per hour through the Mt. Blanc tunnel. Is this figure higher or lower than the number of trucks before the tunnel was closed? **Ludwig Schmutzhard** of the Tyrol Regional Government asked whether the limit in the number of trucks was only planned for the Mt. Blanc or also for the Fréjus. Will this measure decrease the emissions of NOX only inside the tunnel or also on the roads leading up to the tunnel? Will the overall number of trucks per year be reduced by this measure? **Noël Lebel** answered that what is especially new about the new system is the differentiation of tariffs depending on the level of emissions from the vehicles. The new limits on the number of trucks in the tunnel are primarily a measure of safety and will guarantee a distance between lorries of at least 150-200m. In addition to the new limit of 220 trucks per hour in each direction there will also be a global limit of the number of trucks which will be allowed to pass through the tunnel each year. These

measures will limit the NOX emissions in the tunnel but are not expected to have a major effect outside the tunnel.

- 4) *The role of maritime transport in coping with the problems of trans-Alpine transport* – **Philippe Tardieu** made a comment on the IKEA example presented by Mr. Vinois. Rather than shifting all cargo only from road to rail maritime shuttles could also be used efficiently. However, this would require an even higher degree of intermodality. **Jean Arnold Vinois** agreed.
- 5) *The definition of an 'environmentally sensitive area' and the role of monitoring* – **Michèle Lepelletier** of the European Commission asked Mr. Weissen of CIPRA about his definition of such an area. In his answer, **Andreas Weissen** stressed that the Alpine areas are not at all homogenous with regard to their sensitivity to specific impacts. Further studies would be needed for a precise assessment of this issue. **Françoise Dubas** of the Swiss agency for the environment pointed out the need to introduce a monitoring system of the impact of transport on the environment in the Alps (in general and also in connection with the specific policy measures of the new White Paper on CTP). She recommended using ALP-NET to co-ordinate the efforts to build up such a system, which should be trans-national thus helping move away from the narrow definition of interests along sectoral or national lines. Policies are generally much more easily acceptable by the public if they can be shown to be environmentally friendly. It would be interesting to find out from the European Commission whether there are any plans on establishing such a monitoring system.
- 6) *The feasibility and real implementation potential of the road pricing proposals of the new White Paper on CTP especially regarding passenger cars* – **Heike Aghte**, of the European Initiative for the introduction of distance-related road vehicle charging, stressed the contradiction between the policies on road pricing suggested by the EU White Papers and measures actually taken. Currently it is planned to pass a new framework directive on transport infrastructure charging for passenger and freight transport. In theory this is a good idea but in practice it is unlikely that the charging of passenger cars will be politically feasible in the short term. The linkage of passenger and freight charging will only lead to a delay in the introduction of the latter. In order to avoid this problem there should be a two tier strategy; first, a simple amendment to the existing charging principles of the EU for heavy goods vehicles should be made to allow for the inclusion of external costs and later, in a second step, a new framework directive including passenger transport could be passed. The Alpine regions could serve as a first positive example of such a new charging system, however it should be remembered that for such pricing systems to have a real effect, they must ultimately be implemented everywhere and not only in specific regions or sections.
- 7) *The spatial distribution of impacts from trans-Alpine transport and the possible unavoidability of absolute limits* – **Ludwig Schmutzhard** of the government of Tyrol voiced his concerns over the recent developments in France and Switzerland. If France is going to reduce the number of heavy goods vehicles by 400,000 – 500,000

per year and Switzerland by 650,000 per year where does that leave Tyrol? Already now 80% of the air pollution in the Austrian Inntal is caused by transport and more than half of this figure is from heavy goods vehicles. In the light of these developments there will have to be an absolute limit in the number of lorries per year.

- 8) *The definition of measurable performance indicators, in particular the choice of 1998 as the reference year regarding modal split* – **Ludwig Schmutzhard** of the Government of Tyrol voiced his disagreement with the goal of the new White Paper on the Common Transport Policy to bring the modal split back to 1998 levels because the current modal split (at least in Austria) is actually much more favourable to rail than it was in 1998.

Influencing the Modal Split: The Potential of Intermodal and Combined Transport *Chair: Christian Reynaud, NESTEAR*

Antonio Musso of the University of Rome "La Sapienza" gave an introductory presentation on the development and problems of trans-Alpine intermodal transport. During the last decades there has been a strong increase in the volume of trans-Alpine transport. This growth has been almost entirely due to an increase in road transport while the volume of rail transport has been stagnating. The share of intermodal and combined transport across the Alps has been largely constant during the past years. The main problems of intermodal and combined transport are technical problems including issues of interoperability; the capacity optimisation of the existing systems; the treatment of combined/intermodal transport in transport models; organisational and operational problems and the design and evaluation of the political process for supporting the development of combined/intermodal transport.

It is important to note that currently approximately 50% of all combined/intermodal transport in Europe is carried out across the Alps. One of the crucial factors for the use of combined/intermodal transport is the price of the service as compared to other modes of transport. On the other hand, road is often prioritised because of being providing a more flexible service and displaying shorter delays. Thus it will be important to improve the reliability of the railways.

In his introductory remarks the Chairman, **Christian Reynaud** of NESTEAR emphasised the importance of the Alpine regions for the development of intermodal transport. He also noted that the further development of intermodal transport cannot be achieved without taking better account of the role of ports (and of maritime transport more generally). The quality aspects of an intermodal transport chain must not be neglected.

Klaus Ebeling of the European Intermodal Association praised Switzerland as a good example for the successful development of an intermodal transport network. Austria is supporting the rolling road (accompanied transport) across the Alps through subsidies and has committed itself to the further development of this system. In terms of efficiency this does not make sense. When the Brenner base tunnel is built it will not be possible to

run the rolling road through the tunnel. The emphasis will then be on unimodal rail transport if alternatives are not considered early on. It is doubtful whether an increase of 50% in the price of road transport, which would be needed to make the current intermodal services economically viable, is actually realistic. The main problems are the interoperability between the existing systems and organisational problems. The MARCO POLO programme of the European Union is a positive initiative but there will be serious problems with the confidentiality of commercial secrets. An ongoing study of the UIC deals with the problems of border crossings for the European railways. This study should be considered by the ALP-NET project.

Erwin Wieland of the Swiss Federal Office of Transport emphasised that most of the problems in trans-Alpine intermodal transport can only be solved through co-operation between the Alpine countries. The current Swiss measures for the support of rail and intermodal transport have to be seen against the background of a dramatic increase in road freight transport and the recent national and international policy initiatives and agreements aimed at reversing this trend (Alpine Convention, EU-Switzerland Land Transport Agreement, Swiss legislation on reduction of road freight transport). The construction of new railway infrastructure and the reform of the Swiss railways play a major role in this respect. The railway reform largely follows the developments of the European Union legislation on this subject. Other measures include the new distance related heavy vehicle charging system, restrictions on road transport (night and weekend bans), improvements of interoperability and improvements at border crossings. The success of those measures is constantly monitored and the first report is expected towards the middle of 2002. From the government perspective it is important to provide a non-discriminatory framework and the financing for infrastructure projects and the networking between the actors. Eventually, however, the market will decide which routes to use and how to allocate the resources in the transport sector. Additional supply of combined transport services in Switzerland is regularly tendered by the Swiss government but the choice of routes is left to the operators. In the future it would be desirable to agree on a common regulatory framework for trans-Alpine transport in all Alpine countries. The monitoring of the interrelations between transport across the different trans-Alpine crossings is absolutely vital. Finally, on a personal note, Mr. Wieland pointed out that it is important to realise for the railway companies that their main competitor is not another railway company but rather the road transport operators.

Stefan Tostmann of the European Commission (DG TREN, Unit for Intermodality and Logistics) spoke about the primary conditions for achieving a modal shift. First, the infrastructure for intermodal transport has to be in place and, second, the train services have to become competitive as compared to road transport. The obstacles for a further development of intermodal transport are the lack of reliability (50% of all intermodal transports are late), the interoperability of rail services and the insufficient construction of new terminals. Intermodal transport consists of a complex chain of actions and it is not the railways that are always to blame for problems. Possible solutions for the current problems include an increase in the efficiency of border crossing operations, improvements of existing terminals and an increase in their number and improvements in the organisation of the rolling road. The level of services will also have to be improved by

better planning procedures, the introduction of corridor quality teams, the reduction of peak loads and by having lead carriers as managers of certain corridors. An important study commissioned by the UIRR on the quality of combined transport has just been completed in the framework of the PACT programme. A grant from the European Commission (of the amount of 900.000 EURO) was given to the new company "LOKOMOTION" which is soon going to operate combined transport services all the way from Munich to Verona.

Soren Rasmussen of the IRU rejected the idea that road transport operators were not willing to embrace a well functioning combined transport system as an alternative to unimodal road transport. During the first half of the 1990s the share of combined transport between Denmark and Italy and between Sweden and Italy was up to 50%. Today this share is much lower due to the lack of quality of combined transport. The members of the IRU are quite aware that they will not be able to cope much longer with the enormous growth rates of road transport. At some point they will have to use the rail infrastructure to carry out their business. This is also one of the reasons why they founded the UIRR. What the members of the IRU do not believe in is the notion of decoupling and the central planning approaches to the transport sector. The reason why combined transport is currently unattractive is connected to the complexity of the system (at least eight different actors involved). This leads to low quality as characterised by huge delays on the railway leg of the journey (up to 24 hours). Currently the road operators are not reimbursed if a train makes only 200km per day. In many places there is also a lack of terminal capacity, like e.g. Verona. As long as there is no confidence of the road operators in the system they will be reluctant to use it. It is hard to imagine that the existing state owned railways will be able to create this kind of confidence as long as they continue to abuse their dominant positions. The rolling highways across the Alps are currently highly subsidised by the Swiss and Austrian governments. While the Swiss system is transparent by directly subsidising the tickets, the Austrian system is complex and not at all transparent. The IRU welcomes the new proposals of the European Commission to support combined transport by making the road leg more attractive (44 tons weight limit, exclusion from night bans, tax incentives). In terms of weight efficiency unaccompanied transport is to be preferred as compared to accompanied transport. The current plans to raise the price of unaccompanied combined transport from Italy to Austria by 10% are unacceptable for the members of the IRU.

Eugenio Muzio of CEMAT provided a written statement for the workshop. Mr. Muzio In trans-Alpine transport the countries are guiding the modal choices of the operators. This is partly done by the provision of a certain transport infrastructure and the limits to its use. If the objective is to meet the demand for trans-Alpine transport it is important to consider the supply side early on. The rail transport system should be designed in a way to be able to absorb the expected higher future demand in addition to providing its current level of services. Appropriate policies at the level of the European Union should ensure a better integration of road and rail services. Furthermore it would be important to expand the interoperability of land transport in Europe.

Eric Peetermans of the UIC presented the work of the combined transport group in the International Union of Railways (UIC) which was established in 1994 to promote combined transport among member railway undertakings. The main purpose of this group is the work with its 21 members on the technical, operational, commercial and legal aspects of combined transport. The growth of intermodal transport will largely depend on the conditions for access to the European rail infrastructure network and the quality of the services offered. Furthermore there should be a long term allocation of capacities and rail corridors and investments in rail infrastructure to increase capacity and remove bottlenecks. Improvements can only be achieved by close co-operation between all actors in the integrated transport chain. The entrance of new players to the market of intermodal transport has to be facilitated and further investments in locomotives and personnel are needed.

The following issues were raised by the discussion that followed:

- 1) *The suitability of base tunnels for rolling road transport* – **Johann Herdina** of the Brenner Base Tunnel Company disagreed with Mr. Ebeling that the Brenner base tunnel would not be suited for rolling road transport. **Christian Reynaud** of NESTEAR mentioned the problems of safety in long road tunnels of more than 20-30km.
- 2) *Accompanied vs. unaccompanied combined transport* – **Alain Rathery** cautioned against placing too much emphasis on the rolling road systems. In fact, the unaccompanied combined transport is much more important and it currently faces big problems; the railways are simply not efficient enough and can not guarantee a sufficient quality of service. ALP-NET should contribute to understanding the choices and their consequences.
- 3) *The effects of higher weight limits for trucks* – **Christian Reynaud** inquired into the experiences of Switzerland with the introduction of higher weight limits for lorries. **Ueli Balmer** of the Swiss Office for Spatial developments reported that only 30% of the available permits for heavy goods vehicles up to 40 tons had been used during the first nine months of the year 2001. It seems that the increase of the allowable maximum weight to 34 tons is sufficient for many operators. **Soren Rasmussen** doubted that the quotas for the European Union countries had not been fully used during the first half of this year. According to his information, Germany and Scandinavia had used up their permits. **Walter Züst** of the Swiss Federal Office for Spatial Development confirmed the general information provided by Mr. Balmer. Only 23% of the 40 ton quota for EU trucks had been used between January and August 2001. **Alain Rathery** of the ECMT questioned whether the weight of a lorry was actually the most important factor or whether volume should be considered as well.
- 4) *Co-operation between road and rail* – **Philippe Benninger** of the Swiss Federal Office for Roads spoke about the need for road transport to co-operate with rail. Road transport has a future but it is also clear that there are not enough roads to cover the increase in traffic. For this reason considerable volumes will have to be shifted to rail.

Eugenio Borgia of the French-Italian commission for Lyon Turin pointed out a crucial difference between road and rail. While road transport can be directly useful from any part of Europe rail transport is generally intermodal transport and only functions well as a part of a network. The only exception may be long tunnels where rail transport is to be preferred to road transport even if it is just a point to point connection and not a network.

- 5) *Regional co-operation* – **Ludwig Schmutzhard** of the government of Tyrol stressed the need for an intense exchange of information. The conditions for trans-Alpine countries have to be harmonised across countries because any traffic which is diverted away from one country by certain measures will inevitably end up using a crossing in a different country.
- 6) *The limits of combined transport for overcoming the problems of trans-Alpine traffic: limits to trips or alternative routes?* – **Heike Aghte**, of the European Initiative for the introduction of distance related road vehicle charging, demanded to limit the total number of trips by road across the Alps. The modal shift that is achievable improving the rail infrastructure will not be sufficient to solve the problems. In addition there has to be a reduction in the total volume of transport across the Alps. **Christian Reynaud** pointed out that this may cause serious problems for Italy which depends on the Alpine crossings for its foreign trade. **Eugenio Borgia** suggested to explore alternatives to trans-Alpine transport for the Italian foreign trade. **Tamas Fleischer** of the Hungarian Academy of Sciences pointed out that drastic measures for reducing the flow of transport across the Alps are likely to increase the transit traffic through Hungary. Several routes through Hungary are viable alternatives for transport operations currently using the eastern crossings of the Alps.
- 7) *How flexible can railways be?* – **Maurizio Rotondo** of AISCAT mentioned the inflexibility of the railways. The users of the rail service are very flexible and demand this flexibility also from the transport operators. The changes in the railways will have to be quite dramatic to achieve any real improvements in terms of flexibility. The harmonisation of legal norms is equally important as the technical harmonisation. Also there is an urgent need to improve the interoperability of various systems, not only in rail transport. The European Union has to become more active to harmonise various areas of the transport system like for example the interoperability of road toll systems, the night time driving restrictions in various countries, etc.
- 8) *The interests of road operators* -- **Stefan Breuer** of the Swiss Federal Railways questioned the motives of the IRU for embracing accompanied combined transport. In his opinion the reasons are the lower costs because of subsidies and the advantages in terms of driving time restrictions for the drivers. It is also not at all obvious that the record of road transport regarding reliability and punctuality is better than that of rail transport. **Soren Rasmussen** responded by clarifying that unaccompanied transport was to be preferred in principle but that there were distortions of the markets through subsidies. The reliability of road transport is proven by the ability to carry out just in time deliveries all the way across Europe. For delays

penalties are paid to the customers. **Johann Herdina** of the Brenner Base tunnel company added that "LOKOMOTION" will also pay penalties to customers for delays.

Pricing and Financing of Transport Infrastructure

Chair: John Hugh Rees, DG TREN

Felix Walter of ECOPLAN gave an introduction on the background of transport infrastructure pricing, the controversial issues and the most important studies carried out recently in this field. According to the CAPRI study there is a consensus that short run marginal social cost pricing (MCP) should form the basis of a pricing system to be introduced. Surprisingly enough the internalisation of external costs may not always lead to an increase in the price of road transport. Case studies for the Alpine area as carried out in the PETS study even suggest that in some scenarios the charges for road transport could decrease with the introduction of MCP. Depending on the scenarios used in the PETS and STEMM case studies there are changes in the volume of road freight transport between 0% and minus 22% for certain areas. The earmarking of funds from infrastructure pricing may increase the acceptability but it also creates inefficiencies.

The controversial issues surrounding the introduction of MCP are connected to the values of social marginal costs, the ability of a MCP system to recover the costs for infrastructure, the use of the revenues, the expected problems with the implementation, and the question whether the level of charges should be determined by purely "scientific" considerations of "real" costs or rather by political objectives.

The main issues in currently ongoing research projects are the calculation of social marginal and average costs for different European countries, the use of revenues and the issues connected to the acceptability and implementation of various systems. Across Europe there are currently a wide range of different systems for charging and limiting road transport (Ecopoints, motorway charges, Swiss MRHVT, etc.). In the European Union, the Eurovignette Directive limits the maximum charges to the actual costs for infrastructure. Nonetheless the new Swiss charges for road transport are not higher than the ones currently charged in Austria. The European Commission is working on a new framework directive on transport infrastructure pricing. It remains open, however, whether this will change only the tax structure or also the overall level of taxes from different modes of transport. There is room for further co-operation among researchers (impacts of pricing systems, feasibility, implementation, monitoring of effects), among policy makers (common approach for the Alps, harmonised introduction of taxes, monitoring and financing systems) and between researchers and policy makers (effects of various taxation and financing schemes, monitoring of effects, implementation scenarios).

Esko Niskanen of VATT reported on three major ongoing research activities connected to the introduction of transport infrastructure charging in Europe. The UNITE project deals with the creation of transport accounts for all modes of transport (passenger and freight) for all Member States plus Switzerland, Norway and several Central and Eastern European Countries. These transport accounts will contain specific information on the

social and infrastructure costs of each country and could form the basis of a common infrastructure charging system. The recently started IMPRINT-EUROPE project is a forum for discussion and dissemination of research results on transport infrastructure charging. The MC-ICAM project deals with the issue of the implementation of possible charging systems.

The chairman of the third session, **John Hugh Rees** of the European Commission, stressed the need for practical and realistic solutions. The discussion should focus on the two key questions: how can pricing lead to a reduction of emissions in the short term and how can the revenues from pricing alleviate the problems of infrastructure financing in the long term? Practitioners are not interested in economic theory and the logic of marginal social costs but rather in practical advice on how to design a pricing system in order to achieve very concrete political goals.

Tom Howes of the European Commission gave a brief historical overview of the development of the ideas on infrastructure charging on the European level. The 1995 Green Paper and the 1998 White Paper on this subject were the first important steps towards the introduction of a common charging system for Europe. The approach of the European Commission is very pragmatic and not only concentrated on marginal cost pricing. Ongoing studies are currently developing a base for infrastructure and social costs. This is important however charges are then to be calculated. A new framework directive is planned that will apply the same charging principles to the whole transport sector in Europe. The revenues of such a system could be bigger than originally expected, mostly because of congestion charging (several billion Euro per year). This will improve the flows on the network and increase the average speed of transport. An open question to be solved is the one about the price elasticity of transport. This will be necessary in order to raise the prices to a sufficient level to achieve the desired effects. Some of the issues which are now discussed in theory will soon become relevant questions for policy making as well. The most important are the questions of cross financing from one mode to another, the introduction of variable charges for infrastructure use, and the definition of sensitive areas which could not only include mountainous areas like the Alps but also densely populated areas.

Gianni Carbonaro of the European Investment Bank (EIB) addressed the issue of transport infrastructure financing. Important for the assessment of infrastructure projects is an economic analysis (e.g. Cost-Benefit Analysis) as well as a test of the financial viability of a project. The interest of the EIB in the Alpine regions is mostly on the modernisation of the Brenner route. In 1994 a survey on the Alpine crossings was carried out. This study has been updated several times since then and the next major study is currently being carried out by Gruppo Clas. A preliminary assessment shows the general need for support of transport infrastructure financing in the Alpine regions. In the short term there may still be excess capacity but the growth rates of transport suggest that capacity increases may be justified. It is essential to carry out studies that focus on full corridors rather than just on single projects. Externalities, and the possibilities of cost recovery from pricing should be considered in the assessments. ALP-NET could contribute by providing a better understanding of the development of traffic, the

environmental tradeoffs, the regulatory framework and the problems associated with the implementation of infrastructure policies.

Markus Liechti of Transport and Environment (T&E) spoke about the need to establish a sustainable transport system. This should be based on cost-benefit analysis for the construction of infrastructure projects and marginal social cost pricing for traffic on the network. Transport prices should be based on the internalisation of external costs the polluter pays principle, user pays charges and a pay as you go system. Costs to be priced include air pollution, accidents, noise, congestion and maintenance costs of the transport infrastructure. For introducing such a system it is important to consider reality and not some idea about perfect competition. Optimal solutions may include some rules and regulations especially in the area of transport safety. The optimal quality to be achieved by the transport system should be defined politically and only then should a decision be made on how to create the necessary conditions.

Ueli Balmer of the Swiss Office for Spatial Development stressed the importance of sensible rather than theoretical solutions. The calculation of the amounts to be charged for heavy goods vehicles in Switzerland originated from an assessment of the total costs of transport including noise, damage to buildings, infrastructure costs, health care, accidents and an annual flat compensation. The total costs were simply divided by the total amount of ton kilometres to arrive at a figure to be charged for each ton kilometre. The final amount to be paid depends on three factors; distance, weight and emissions. With the new system, the rate for the Gotthard route is still somewhat lower than the rates for the Fréjus and Brenner crossings. The main challenge for the future will be to introduce similar charging systems across Europe instead of just in the Alpine regions. In order for this to be possible, however, the current EU legislation on infrastructure charging will have to be changed. The new Swiss cross financing schemes for improving the quality of rail infrastructure are popular among the general public but not among the road freight transport operators. The first visible effects of the heavy vehicle fee are a reduction in the number of vehicle kilometres from heavy goods vehicles along the lines predicted in advance by transport experts.

Henk Kramer of the Dutch Transport Operators Association emphasised the main goal of his organisation with regard to trans-Alpine transport: a smooth transit through the Alpine regions. Currently road transport across the Alps is restricted in many ways; quotas, tolls, taxes, etc. The Dutch transport operators accepted the "user pays" and the "polluter pays" principles already some time ago. However, the former is contradictory to cross subsidising rail transport with revenues from road transport. Any form of cross subsidies is unacceptable for the Dutch transport operators.

As a result of considerable investments by international road hauliers in Europe, the objectives of the Austrian Ecopoint system – to effect a decrease of NOx emissions by 60% -- will be nearly met in 2001. Other success stories include the reduction in noise emissions and the slow growth of the number of journeys on the Brenner route of only 8% during the period from 1991 to 2000. Compared to other routes in Europe, like for example the connection Rotterdam/Antwerp with nearly 30,000 lorries per day, the

volume of heavy goods vehicles across the Brenner is rather low (less than 6,000 lorries per day). Furthermore, freight transport in transit through Austria is just a little over 10% of the total domestic and international transport in Austria.

Due to its low quality, accompanied combined transport is currently not a viable alternative to road transport. The main problems are the long waiting times at terminals, the bad quality of the accommodation for drivers and the economic inefficiency of the system. Even from an ecological point of view the system is inefficient by carrying 15 tons of dead weight for each lorry. Unaccompanied transport is ecologically more efficient but the low quality of the railway services make it unattractive. Switzerland seems to think that long waiting times at customs are a good way of reducing the volume of road transport but this only leads to longer journeys across Austria and France which are economically and ecologically inefficient. Several recent studies in Germany, Denmark and the Netherlands found no general advantage of rail and combined transport over road transport in terms of CO₂ emissions.

The European transport policy should be based on the following principles: A common charging system for external costs; no subsidies; no restrictions in the volume of traffic; the liberalisation of road transport; the use of revenues within the mode from which they were raised.

The discussion that followed raised the following points:

- 1) *The question of the base and method of price estimation* – several comments concerned clarifications on this issue, making clear that we are still some distance way from achieving consensus on this matter (whether scientific or political):

Antonio Musso of the University of Rome "La Sapienza" asked for more details about the basis of the new Swiss charging system. Are the fees based on actual accounts of transport costs? **Felix Walter** explained that the calculations were originally based on transport accounts but not strictly according to the principles of marginal social cost pricing. The final decisions were based on financing needs.

Ludwig Schmutzhard of the government of Tyrol pointed out a mistake in the Swiss calculation of the fees for heavy goods vehicles across the Brenner route. Journeys across the Brenner are in fact considerably cheaper than across the Gotthard. **Ueli Balmer** rejected the notion that there was a mistake in the Swiss calculations. Even if there was a discrepancy in the Austrian and the Swiss figures the important fact remained the general trend towards a harmonisation of the charges for the major French, Swiss and Austrian road crossings.

Thomas Spiegel of the Austrian Ministry of Transport asked whether the decrease in taxes as a result of the introduction of marginal social cost pricing in the Alpine case study of the PETS project took account of the specific properties of the Alpine regions. Was the PETS calculation only based on the short stretch across the Alps or on the complete journey from origin to destination? **Felix Walter** confirmed that the

PETS case study had taken the specific conditions of the Alps into account. However, following theory, the calculation was 'driven' by population density, and as this is low in the Alpine areas, the estimated social costs were accordingly also low. Likewise, the charges were estimated alone for a certain stretch of land: for a journey across Europe the case study would yield an increase in charges but for the stretch across the Alps there would be a decrease as compared to now. **Tom Howes** added that the PETS case study had presumed very high investments in transport infrastructure which subsequently lead to low marginal costs for the users.

Renate Zauner of the Initiative Transport Europe suggested the need for a common political strategy of the Alpine countries to raise the level of charges on all trans-Alpine crossings.

Related to the base of calculation were also the following comments:

- 2) *The spatial application of a charging system* – **Heike Aghte** of the European Initiative for the introduction of distance related road vehicle charging asked whether the European Commission planned to introduce a charging system just for the motorway network or for the whole European road network. According to the answer by **Maria Papathanassiou** the European Commission has not made a decision on this issue yet.
- 3) *How effective are charging systems* – **Maria Papathanassiou** admitted that the assessment of the impact of charging policies, including the Eurovignette Directive, often relies on a trial-and-error system. It is difficult to say whether even a doubling of the current charges would produce the desired effects in a certain area. Maybe ALP-NET could lead to a greater harmonisation of studies in this field.
- 4) *Short-term political decisions* – **Renate Zauner** of the Initiative Transport Europe asked the European Commission whether it intended to sue France for the higher charges in the Mt. Blanc tunnels should those be introduced. **Maria Papathanassiou** of the European Commission answered with a clear "yes". Based on the current EU legislation there would be no alternative. **Richard Seeber** of the government of Tyrol asked about the plans of the European Commission regarding the tolls on the Brenner route. Will absolute limits be continued to be allowed in the future? This is also an issue not yet clarified. Yet, according to **Tom Howes**, Austria is currently not able to provide adequate data for the construction of transport accounts.
- 5) *Additional effects to be considered in charging systems* – **Françoise Dubas** of the Swiss agency for the environment asked about considering the utilisation of the countryside in a common system for charging. How will the European Union proceed with the choice and harmonisation of environmental indicators to measure the impact of transport on the environment? **Markus Liechti** agreed with Ms. Dubas to consider the utilisation of countryside in transport charging systems. The specific properties of the Alpine regions should be taken into account. The Transport and Environment Reporting Mechanism (TERM) of the European Environment Agency could be used

in an integrated monitoring system for the Alpine regions. The benefits of transport are well known and do not have to be explored any further.

- 6) *The role of the users / operators* -- **Maurizio Rotondo** of AISCAT noted that following the closing of the Mt. Blanc tunnel several years ago the usage of the railways in the area did not increase significantly. This is quite mysterious and illustrates the fact that the real origin and destination of the traffic are largely unknown. A solid analysis of the users of the trans-Alpine transport infrastructure is vital.
- 7) *On the use of revenues* -- A representative of **ASECAP** said that the motorway operators were not generally opposed to the ideas of cross financing. What they are criticising, however, is the lack of transparency in decision making and the lack of clear concepts. There has to be a specific Alpine policy which follows a consistent path over a prolonged period of time. It is also important to specify guidelines regarding the use of revenues when private investment is involved.

Data, Methods, Modelling and GIS (Graphical Information Systems)

Chair: Carlo Lavalle, DG Joint Research Centres

Philippe Tardieu of NEA presented an overview of the field of methods, models, data and GIS for trans-Alpine transport. The key question is how to produce synergies and co-operation between the various levels of policy making (EU, national, local). A large number of projects on the European and national levels deal with the assessment of methods/models, the estimation of impacts of certain policies or the assessment of projects and programmes. Data on trans-Alpine transport can be found in the CAFT, TREX, TRAINS and NEAC studies as well as in the national statistical publications. At the moment the transport data in these studies is highly inconsistent. This is due to many factors including the use of different zoning systems. An attempt to establish an integrated approach was made by the ATIS project (Alpine Transport Information System) which was carried out in connection with setting up a full scale European Transport Information System (ETIS). Data on the environment is provided by the TERM (Transport and Environment Reporting Mechanism) system of the European Environment Agency. GIS systems are currently mostly used for the visualisation of data and the results of models. The future challenges for obtaining reliable data on trans-Alpine transport will be to

- explain the differences in transport demand forecasts (differences in basic data? differences in methods/models? differences in scenarios?);
- improve the availability, consistency and quality of data through international co-operation;
- establish an Alpine monitoring system in connection with the EU- Swiss land transport agreement and the Alpine convention.

Michel Houée of the French Ministry of Transport explained the work of the Swiss/Austrian/French activities on data collection in the Alpine regions. These activities are known as the CAFT survey (Cross Alpine Freight Transport Survey). For designing a

multimodal freight transport observation system the data has to include information from rail operators and maritime observations. For the complete picture it would be important to have more information about passenger transport where tourism plays a major role. To learn more about passenger behaviour roadside interviews could be conducted. The spatial accuracy of the surveys should be improved as done by the French transit survey to validate the transport models. EUROSTAT proposes to use the data which is collected on the basis of the EU directive on road transport statistics instead of the data from the CAFT survey. There are serious doubts whether the EUROSTAT data is useful for this purpose. The ATIS could become a forerunner and example for an ETIS to be eventually established.

Walter Züst of the Swiss Federal Office for Spatial Development presented some details about the Swiss experience with the collection of data on transport. Switzerland carries out extensive data surveys on the basis of interviews every five years. Since 1999 these surveys are carried out in co-operation with France and Austria and therefore produce results which are largely consistent across the countries. In the in-between years smaller surveys are conducted to allow for a good estimation of the trends. Apart from those surveys, the most important sources for transport data are the household transport behaviour survey of the Swiss Statistical Office ("Mikrozensus"), the information provided by border crossing and customs offices, the automatic traffic counting systems, the road freight transport survey of the statistical office, a pilot study on combined container transport and the data collected for charging the heavy vehicle fee. The Swiss railway undertakings have excellent data but they are unwilling to provide all the details below the NUTS 2 level. Unfortunately this NUTS 2 data is too aggregated to be really useful. Other shortcomings of the currently available data are the lack of information on the "real" origin and destination of goods (only transshipment places are usually known), the content and weight of containers, the costs and prices of specific transport operations. Furthermore it would be necessary to include passenger transport in the detailed surveys and to agree on a common definition for the net weight of goods in road and rail transport. Improvements could be made with respect to the methodology and frequency of the surveys, the technical definitions and the accessibility of existing data. GIS systems are currently only used as a tool for the presentation of data. The establishment of an ATIS is an interesting topic and should include some thoughts about the models to be used from such a system.

Gianpaolo Basoli of the Italian Ministry of Transport presented the architecture of the Italian database containing the national transport accounts. This database will eventually contain macroeconomic, infrastructure, traffic flow and other relevant data. For an assessment of the transport system it is not sufficient to look at single corridors but instead O-D matrices have to be used. In the Italian case such a matrix was constructed during the preparations for the Lyon-Turin rail project. The new Italian transport master plan is based on a detailed network description using a GIS tool. Trans-Alpine transport is highly relevant for Italy as more than 70% of the Italian foreign trade are moved by land transport across the Alps. The remaining 30% are mostly carried by short sea shipping.

Thomas Spiegel of the Austrian Ministry of Transport pointed out that the data situation in the Alpine regions is excellent in comparison to other regions. Unfortunately the demand for information is even higher than the current supply. The large number of studies on trans-Alpine transport is sometimes a mixed blessing as many of them produce inconsistent and sometimes even contradictory results. The Cross Alpine Freight Transport Survey (CAFT survey) which is carried out in regular intervals in co-operation with France and Switzerland is based on samples of roadside interviews. The quality of the CAFT survey is partly due to the limited number of crossings through the Alps which facilitates the collection of data. Remarkable in this respect is also the high percentage of the total volume of EU freight transport which is moved across the few Alpine crossings. The Alpine Transport Information System (ATIS) should ideally consist of yearly updated freight flows on the basis of the CAFT survey, data on passenger transport, network data and data on the environmental impacts of transport. Such a system could feed different kinds of models which would all be based on the same network information and a set of common assumptions. The CAFT survey could be improved by increasing the frequency, improving the harmonisation between countries, better information on combined transport, new partners and more formal guidelines. The synergies between existing data collection systems should be better exploited through harmonisation and co-ordination. Passenger transport plays a major role in the Alpine regions and should not be neglected when thinking about data collection. ALP-NET could support the ongoing processes by enlarging the existing network of expertise and co-operation; improving the visibility and acceptance of existing data collection and models; formulating concepts and strategies for data collection; and by developing guidelines for data collection. The usefulness of ALP-NET will depend on the continuity of work which should not only take place during the workshops.

Josefine Oberhausen of EUROSTAT gave a presentation on the activities of her institution with regards to road freight transport. EUROSTAT collects information on road motor vehicles (age, weight, km per year, etc.) and their journeys (type, place of loading/unloading, etc.) and the goods transported (type of goods, weight, etc.). The legal basis for these activities is the EU Regulation 1172/98 which requires micro-data to be collected at the end of each quarter. The data collection is carried out by the Member States on the basis of questionnaires filled in by a sample of vehicle owners. All vehicle operators inside and outside the country of registration are monitored. Even though there are common methodological guidelines data is still collected differently in different countries and many optional variables are not supplied to EUROSTAT. At the moment the quality of the data is not yet satisfactory and the rules for the dissemination of data have yet to be clarified with the Member States. The main shortcoming of the EUROSTAT data with respect to its usefulness for trans-Alpine transport is the lack of routing information. In the future there should be more co-ordination in data collection activities across countries and institutions and the definitions should be harmonised.

Jan Francke of the Transport Research Centre of the Dutch Ministry of Transport presented the Dutch system for the evaluation transport policy. Starting from the transport policy objectives (safety, efficiency, etc.) certain problems (congestion, accidents, etc.) are identified. In a second step, the options for specific policy measures (e.g. pricing) are

assessed. After the implementation of the policy measures their effect on transport demand and transport supply is observed. In a feedback loop there is then the possibility to assess the changes in the originally identified problem.

Andreas Küchel of the German Ministry of Transport stressed the political nature of data, methods and modelling issues. Even the collection of data is not just a technical question but it is in fact highly political. This has to be explicitly taken into account when discussing about this topic. There has to be a political consensus on scenarios before they can be used in modelling. The political actors must first define the desired result and on that basis the path for achieving such a situation traced backwards to the current situation.

The following issues were raised by the discussion that followed:

- 1) *The question of the availability of the data* – **Renate Zauner** of the Initiative Transport Europe asked about the availability of the 1999 data from the CAFT survey for France. According to **Michel Houée** a summary of the data has already been published and the details will become publicly available within the next few months. The French part of the study also includes data for the Pyrenees. Hopefully there will be a common publication of the Swiss, the Austrian and the French study to cover the whole Alpine region.
- 2) *Is the data covered by the surveys adequate?* – **Eugenio Borgia** of the French-Italian Commission for the Lyon-Turin rail project pointed out that besides the standard data requirements covered in existing surveys, we should be looking into what other data there might be needed. One related issue in this respect is the question of monetisation of external costs which is relevant for pricing policies. What external costs are to be covered? What should (if any) be the basis of calculation? The representative of **ASECAP** also pointed out that it would be important to consider in this connection the use of revenues. **Françoise Dubas** of the Swiss agency for the environment asked about the monitoring of the impacts of transport on the environment. **Michel Houée** said that suitable data partly already exists in France but it is currently not incorporated with the collection and processing of transport data. A group on quantifying the environmental impacts of transport has been set up in the French Ministry of transport.
- 3) *Is the country coverage adequate?* – **Andreas Weissen** of CIPRA asked about the inclusion of Slovenia in the CAFT surveys. **Thomas Spiegel** clarified that the CAFT data is only collected for the main north-south Alpine crossings ("Alpenhauptkamm") and not for the Austrian-Slovenian border regions. **Walter Züst** added that the border crossing between Austria and Italy at Tarvisio is included in the CAFT surveys even though it is not considered one of the main north-south crossings. A representative of **ALPETUNNEL** mentioned that the studies undertaken by his company for the Lyon-Turin rail project are missing from the draft ALP-NET report and were also not mentioned at the workshop.

- 4) *The harmonisation of data collection and reporting* – **Michel Houée** stressed the importance of harmonised data collection across countries in order to avoid differences in the input to transport models. **Anna Panagopoulou** of the European Commission stressed the importance of the harmonisation of data. In this respect the research undertaken in the 4th and 5th Framework Programmes of the European Union has to be taken into account. ALP-NET should provide a framework for co-ordinating the ongoing activities including the Swiss observatory and the developments surrounding the establishment of ETIS.

Conclusions Drawn from the First ALP-NET Workshop

In what follows we document the main conclusions to be drawn from the first ALP-NET workshop with reference to the topics of the different sessions and in anticipation of the thematic workshops to be organised by ALP-NET in the coming year:

The policy and political context

- 1) No single policy instrument is sufficient on its own to overcome the problems faced by trans-Alpine transport. Thus whilst both combined transport and pricing promise to ameliorate the situation with regard to modal split, congestion and environmental externalities, their application needs to be combined and possibly also co-ordinated, spatially as well as temporally. The same is true for each policy instrument separately.
- 2) Temporal co-ordination involves considering the phasing of policies in such a way so as to deal with immediate and short-term problems to the maximum extent possible (besides resolving problems in the longer-term). This also applies to the political decisions that are or should be upcoming in the near future regarding how to deal with the higher charges being proposed by the French government on the Italian-French crossing and the possible extension of the Austrian Ecopoint system till that time that a European charging system is realised.
- 3) Spatial co-ordination involves a higher degree of collaboration among Alpine countries and regions so as to avoid the 'not-in-my-back-yard' syndrome whereby unilateral or bilateral decisions lead to an amelioration of the situation in a specific country or over one particular crossing but to no positive results, or indeed a worsening of the situation in another country or at another crossing. Such co-ordination should also consider the transport situation of specific countries – for instance, the higher current 'dependency' of Italy on the Alpine crossings for the transfer of goods.
- 4) It is also important to consider the limits of the current policy proposals with regard to coping with the problems of Alpine transport. Combined transport and pricing promise

to ameliorate the situation, yet they might not suffice even when combined and implemented in a comprehensive way. Both Switzerland and France have defined targets about the desired amount of traffic through their crossings and hope to achieve these through a set of measures, with pricing, rail development and combined transport at the core. Yet the question must be raised as to what happens if these targets cannot be met with the available policy options. What additional measures will (then) be necessary? The discussion suggested that additional measures could include

- a) the imposition of absolute limits (on the total amount of the transport volume across the Alps, or with regard to night and weekend bans);
 - b) the extension of pricing measures for heavy vehicles to cover the full European road network (rather than just the motorway network);
 - c) the extension of pricing measures to apply also to passenger cars;
 - d) the consideration of alternative routes either with regard to both road and rail across other countries (for instance through Austria or Slovenia/Hungary) or with regard to maritime transport. The latter would need to consider the role of the ports, in particular the Italian and Dutch ports.
- 5) According to the new White Paper on European Transport Policy, environmentally sensitive areas, like the Alps, might require the implementation of policy measures that go over and beyond those that apply to other regions. In order to justify such additional actions, it will be important to move towards a better definition of what comprises an environmentally sensitive area. This is in part a scientific exercise, but it is also a political one, as the definition of an environmentally sensitive area might involve the setting of standards and thresholds as well as decisions as to the monetary values of environmental effects, which will have to be agreed by all Alpine countries and regions and still be negotiated with other important stakeholders. Subsequently monitoring will be necessary to follow up on the success (or failure) of policies.
- 6) The question of public acceptability remains a difficult one for European and national policy-makers, especially in the Alpine regions. On the one hand it is argued that the introduction of, say, pricing is more likely to be met with acceptance if environmental effects are accounted for sufficiently and revenues can be used to invest in environmentally-friendly modes of transport. On the other hand, such proposals are often not enough to conciliate local populations facing serious problems in terms of health or quality of life at present. Such would seem to be the situation currently faced with regard the re-opening of the Mt. Blanc road tunnel. Better information policies and wider consultation practices are clearly procedures that need to be given greater attention in this respect in the future.
- 7) Policies are more likely to be successful in terms of implementation if they are accepted by the public but also by stakeholders – in this case road operators, railways and ports. This is no easy task as stakeholders will seek to defend their

interests and in that might not be open to new or innovative solutions that could include sacrifices or losses on their part, at least in the short-term, or alternatively gains for those they consider their competitors. This would still appear to be the case of road operators on the one hand and railway companies on the other. There is a need for the better involvement of stakeholders in the policy process – including a better understanding of their needs – yet if the policy outcomes are to yield wins for all involved or at least minimise the risks and losses for some, then stakeholders will have to accept rules of participation in policy discussions which move beyond confrontation towards consensus and compromise.

Intermodal and combined transport and the development of the railways

- 1) The main problems of intermodal and combined transport are technical and organisational problems including
 - a) The interoperability of rail services;
 - b) The capacity optimisation of the existing systems;
 - c) The lack of reliability which concerns primarily the railways;
 - d) The insufficient construction of new terminals;
 - e) Problems in efficiency of border crossing operations;
 - f) The organisation of the rolling road and in this connection the role of base tunnels.
 - g) The instalment of a supportive regulatory framework for the development of combined and intermodal transport which also allows for the financing of relevant infrastructure projects (railway, terminals, etc.)

The discussion of the potential of development of combined transport should technically distinguish between accompanied and unaccompanied transport.

- 2) Another major problem with regard the development of combined and intermodal transport concerns the notorious confrontational type of relation between rail and road.
- 3) Improving the quality and flexibility of the intermodal chain will be the only way to convince users and, in particular, shippers and road operators that combined transport is an alternative to road transport.

Pricing and Financing of Transport Infrastructure

- 1) Whether at the theoretical or more pragmatic and political level, there still exists no consensus with regard to the base and method of price estimation. This applies especially to

- a) the valuation of environmental externalities – in general but in particular in environmentally sensitive areas where additional effects might have to be taken into account;

but also concerns

- b) the spatial application of charges (over a limited distance or over a longer distance);
- c) the type of vehicles to which charges will apply (heavy good or also passengers);
- d) the level of harmonisation;
- e) the modelling of the price elasticity; or
- f) the incorporation of financing needs into the price estimation.

A new framework directive is expected to clarify matters, however for the latter to be accepted and implemented, prior consultation will be necessary.

- 2) How the revenues of pricing are to be used; whether these will be channelled to general revenues or not, and the possibility of cross-subsidising across modes, remain likewise open questions. How possible guidelines will be affected by the involvement of commercial interests also remains unclear.

Data, Methods, Modelling and GIS

- 1) The more pressing problems regarding Alpine transport concern data, less so methods, modelling and GIS. In fact issues relating to methods, modelling and GIS are not specific to Alpine transport, whereas the data requirements for Alpine transport might be more specific.
- 2) In connection with the existing surveys (especially CAFT and EUROSTAT), there are two main problems: the first concerns the lack of harmonisation in data collection and reporting – this concerns especially the EUROSTAT surveys; the second problem concerns data availability within Alpine countries and to independent researchers – insofar as CAFT is concerned, a serious problem is the failure to integrate Italy into the survey.
- 3) More generally, what needs to be explored is the scope of the data – thus it is important to inquire not only into what is covered by existing datasets but also what is not covered but should. Two issues arose as relevant in this respect: environmental data / monitoring and information on passenger transport. The former concerns also methods and modelling as much as data.
- 4) The country coverage in Alpine-specific data surveys might no longer be adequate in view of enlargement. Thus it is important to consider including not only the North-South traffic but also the East-West transport as it affects the Alpine crossings. In this

connection, Slovenia and possibly also Hungary would have to be covered by the datasets.

- 5) Origin-destination matrixes (thus also integrating ports) and considering the Alpine transport area as a network rather than a set of crossings or regions in terms of data coverage and collection procedures would be important for identifying policy measures for the future.