Chapter Eleven

SAFETY AND ENVIRONMENT INLAND

INTRODUCTION

Despite efforts to revitalise the railways and to develop inland waterways, roads still account for over four-fifths of intra-EU passenger transport (inclusive of air) and three-quarters of inland intra-EU movements of goods. It is no coincidence, then, that Community policy towards both safety and the environment within the inland transport sector stems largely from the use of road vehicles. Not only do accidents on roads lead to around 50,000 fatalities in the EU each year, compared with around 100 annually as a result of railway accidents, but vehicles are also far more polluting, in every sense, than either trains or barges.

Predominance of measures aimed at road safety and vehicles

Consequently, the Community has built up an impressive stock of legislation aimed at vehicles, to improve their safety and to reduce their potential to pollute. Historically, most of this has been based on type approvals (such as for frontal impact, seat strength and safety belts for safety, and exhaust gas and noise emissions for the environment). More recently, though, the Commission has developed a wider range of instruments such as promotional campaigns for road safety, and voluntary agreements among manufacturers to reduce CO_2 emissions. On road safety, in particular during the 1990s, two important Communications from the Commission, enthusiastically backed by the Parliament and the Council, have underpinned the Community's policies in this area. Nevertheless, there are a number of politically controversial proposals over which a consensus has been less easy to find. These include two proposals dating from the 1980s - Community speed limits and maximum blood alcohol levels for drivers - and, much more recently, an initiative for roadside checks on lorries.

Although there are scores of Community rules aimed at the safety of road users, there are rather few directed at the other two inland transport sectors, notably rail and inland waterways. The 1996 Community law on harmonised minimum conditions for boatmaster certificates does have a safety element, but is dependent on single market objectives (Chapter Seven). The Commission did say, though, in the short "Perspective for the future" paper in December 1998, that it would propose harmonised rules for rail safety along with a cost-benefit evaluation. There are, however, two existing policy areas in which important safety laws do exist for all three sectors: dangerous goods (which is also linked to environmental objectives) and working time (which also has a significant single market objective).

Very specific laws are in place at Community level to improve the conditions under which dangerous goods - such as inflammable solids, toxic or infectious substances, and corrosive agents - are transported by road, rail or inland waterway. The aim is to ensure a high standard of protection for human safety and the environment. These rules cover the transport of the materials themselves, the equipment used for carriage, checking procedures, and the conditions under which safety advisers are trained. There are also more specific regulations which govern transportable pressure equipment (and also the transport of radioactive waste, which is not within the remit of this report).

Community rules on driving time and rest periods have existed for around 30 years, largely as a consequence of safety considerations. Only during the 1990s has the control of general working time and conditions become a much broader Community policy. Whereas bringing the rail sector within the remit of the main Working Time Directive rules has proved a relatively simple process, the application of modern working time rules to the road and inland waterway transport sectors has proved more difficult, mostly because of the large number of owner-operators within both industries.

There are two main environmental problems stemming from transport use - air pollution and climate change (Chapter Eight) - although the leaching into the earth of oils and metals from old cars is also considered a problem. The Community has developed policy responses to all three directed at road transport vehicles: mainly the auto-oil programme with regard to urban air quality; the voluntary fuel efficiency agreements with regard to climate change; and the end-of-life Directive with regard to old cars. There are, though, no important EU environment laws or policies covering railway and inland waterway transport (other than the dangerous goods legislation, included in the safety section above). Indeed, much of the Community's environmental strategy in the transport sector is to promote a modal shift from road to rail and inland waterway (Chapter Thirteen).

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Increasingly, and especially since the accession of Austria to the EU, the environmental problems stemming from the use of heavy goods vehicles (HGVs) - particularly in alpine areas - have been a target for the EU's policy-makers. The Commission presented a working paper on the subject in 1998. The idea of electronic fee collection, a road sector scheme for implementing the more general policy of fair and efficient charging, was one of the concepts discussed in that paper, and one which is likely to become more important in the coming years. The negotiations in the Council, over a new Eurovignette Directive and an agreement with the Swiss, also brought the alpine transit issue into sharp relief.

Taking as its guide the Commission's successive action programmes, this chapter looks first at the thicket of regulations and schemes aimed at road safety. Two further sections survey the Commission's efforts to apply parallel objectives on dangerous goods and working time to the road, rail and inland waterways transport sectors. The second half of the chapter is devoted to a range of environmental laws - increasingly tough pollution and fuel efficiency limits for engines, and fuel quality standards - and to a closer examination of the HGV question. A final section looks briefly at the end-of-life Directive, to be adopted in 2000, which will insist on manufacturers taking responsibility for recycling a high proportion of used cars.

European Union road and railway fatalities

	Aus	Bel	Den	Ger	Gre	Fin	Fra	Ire	Ita	Lux	Net	Por	Spa	Swe	UK
Road fatalities															
1990	1,391	1,976	634	11,046	1,737	649	10,289	478	6,621	71	1,376	2,321	6,948	772	5,402
1995	1,210	1,449	582	9,454	2,411	441	8,891	437	7,020	68	1,334	2,711	5,751	572	3,765
Rail fatalities															
1990	54	20	6	249	34	36	188	14	204	2	43	131	34	18	78
1995	68	20	10	275	33	117	129	7	12	2	35	95	33	9	28

Source: Transport DG

ROAD SAFETY - DEVELOPMENT OF AN INTEGRATED APPROACH

A major set of type approval Directives, many of them safety related, dealing with the approximation of Member States' laws - covering the construction of motor vehicles and their trailers, exhaust systems, measures to be taken against polluting emissions, liquid fuel tanks, steering equipment, doors, braking devices, rear view mirrors - were put place in 1970-72. Most of these have been amended numerous times, and others (safety belts and headlamps, for example, in 1976) have been added since then (Chapter Five). A similar, but less extensive, set of laws exists for two-wheeled motorised vehicles.

Type approval laws in place since the early 1970s

In mid-1993, at the request of the Council, the Commission brought forward a major general paper on road safety. It contained a list of existing legislation, a summary of proposals already on the table of the Council, and a first ever programme, covering short and medium-term legislative actions (including dangerous goods and working time).

The Community databank on road traffic accidents

Among the first of the programme's actions was the Community databank on road traffic accidents resulting in injury or death (CARE). However, the idea of CARE dated back at least to the mid-1980s. In 1984, the Council adopted a Resolution calling for Community action in road safety. In 1986, the Parliament requested an accident database. Then, in a 1989 Communication "Road safety: a priority for the Community", the Commission announced it would develop such an initiative. A feasibility study and detailed discussions with Member States' experts finally led to the 1993 road safety paper highlighting the issue as a priority, a formal proposal a few weeks later, and a Council Decision in November that same year.

The CARE database uses statistics collected by the Member States in their original form, but with safeguards to ensure confidentiality, where necessary, and careful transformation rules to make sure the figures are as comparable as possible. However, evolution of the system is still ongoing. The Commission hopes that it will not only be an increasingly useful tool for accident analysis, but that also it will facilitate the exchange of information and serve as a platform for advisory bodies, institutions, industry and authorities at every level of government.

From figures collated over the 1991-94 period, for example, the CARE database demonstrated that the accident death rate in Portugal, with over 300 persons killed per million inhabitants, was around four times that in the UK. Over 200 persons were killed per million inhabitants in Greece, Spain and Austria, while Sweden and the Netherlands had figures only slightly worse than the UK, at well below 100 deaths. It also revealed, for the first time, age group figures at Community level. For the most dangerous age group, 20-24, there were approximately 230 deaths per million inhabitants with 150 of them drivers, and about 75 of them passengers (with the small remainder being pedestrians). The figures for the 30-34 age group show an accident rate less than half that of a younger age group.

CARE figures show Portugal to have the worst road death rate

Technical harmonisation for different types of vehicles

The 1993 action plan outlined a raft of stronger technical harmonisation rules for various types of vehicles, most of which were achieved during the mid-1990s:
- all vehicles: Directives on electromagnetic compatibility (1995), and alarm systems (1995);
- cars: separate Directives for side impact, frontal impact, seat strength, retractable safety belts for rear seats, adjustable upper anchorage (all in 1996);
- buses/coaches: a Directive on fire resistance (1995);
- HGVs: a Directive on coupling devices (1994).

Furthermore, the 1993 plan proposed the extension of a Directive, dating from 1977, on the roadworthiness of vehicles. This led to the addition of minimum standards for the testing (as opposed to the manufacture) of braking systems in 1994. And, in 1996, the 1977 Directive and its amendments were consolidated with a new law including rules on the testing of tachographs and speed limitation devices. The consolidated Directive requires each Member State to ensure that registered motor vehicles (and their trailers) undergo periodic roadworthiness tests (with specifications on the frequency and content of such tests). It also ensures that one State will recognise the proof of roadworthiness issued in another. Although the Directive provides only a minimum basis for the harmonised tests, it does also allow States to impose much stricter and more frequent tests if they wish.

Mandatory periodic tests for roadworthiness

One other vehicle safety action signalled in the 1993 paper concerned the harmonisation of the maximum authorised weight and dimensions of certain vehicles. One of the key aspects of this was the extension to domestic freight of the standards already applied for international freight vehicles (Chapter Five).

Although the Council had adopted in 1991 a Directive establishing a Community model for driving licences carrying harmonised codes recognisable across the Community, the Commission advised, in the 1993 paper, there was a need to amplify the amount of information available through the harmonised codes, and to simplify the procedure for carrying out technical amendments. Thus, following a proposal in 1996, the Council adopted an amending Directive in June 1997. A year earlier, in July 1996, the Council had approved another amending Directive to allow for a credit card type format as opposed to the paper model laid down in the original law.

A Community model for driving licenses

In addition, the Commission announced during 1993 that it would undertake a number of studies and non-legislative measures to reinforce its road safety action plan. The subject of studies undertaken during the period included: an illuminating pictogram for public transport of children; the link between the working time of professional drivers and road safety; criteria for the visibility of road markings; and an impact test procedure for protection in frontal impacts. There was also a series of pilot projects for testing and checking telematics systems on site (guidelines for traffic safety analysis and evaluation, for example, and a prototype for monitoring driver behaviour).

The unacceptable human, social and financial cost of road accidents

A follow-up Communication, in April 1997, which set out a new programme of action for 1997-2001, also looked back to the 1993 road safety action plan. It concluded: "*Almost all of the announced legislative actions were undertaken and resulted in the adoption of Community legislation or Commission proposals that are still under discussion . . . In addition, all planned studies were carried out and several additional projects undertaken. Studies and research have focused mainly on the vehicle (passive safety), telematics applications and analysis of behaviour. The spin-offs of these efforts are essential for the years to come.*"

Assessment of the 1993 road action programme

In presenting the policy paper, the then Transport Commissioner, Neil Kinnock, noted the unacceptable human, social and financial cost of road accidents: "*The human cost of this carnage which shatters lives and plunges entire families into misery is obvious and beyond measure. And it*

is accompanied by a very heavy financial cost - arising from medical care, emergency services and lost output - which is estimated to be about Ecu45 bn/yr - Ecu1m for every person killed." The paper itself pointed to some gruesome statistics. Despite the undeniable progress made in recent years, it said, the number of victims of road accidents was absolutely unacceptable: 45,000 killed in 1995 and 1.6m injured. The current figures demonstrated, it added, that approximately one European in 80 would die on the roads; and one in three would be hospitalised, at least once in their life, as a result of an accident.

Objectives of the Community's road safety programme

In the paper, the Commission outlined the general objectives of its road safety policy as follows:

"*- Creating a proper balance between freedom, safety, social objectives and environmental concerns in transport;*
- *changing the ways cars are used, so they take their appropriate place as useful but not too dominant or dominating forms of transport;*
- *ensuring that whenever people travel on Europe's roads, they will find that vehicles meet high safety standards; that the roads themselves are easy and safe to use; that there are clear, well-enforced rules governing dangerous and anti-social behaviour by road users; that drivers are well instructed in order to master the variety of driving situations;*
- *using new technology, where appropriate, to provide travel and traffic information, driving aids and traffic management systems so as to increase road safety and comfort and influence modal choice.*"

The 1997-2001 action programme for road safety

While stressing that it would follow an integrated approach, the Commission divided its programme into three broad areas. Firstly, it said, it was necessary to develop a genuine European information system designed to monitor the following: road safety developments in the EU; target areas; target groups; codes of good practice and efficient transfer of information throughout the Union; and the implementation and application of legislation.

Secondly, the Commission said it would launch and promote measures designed to prevent accidents, the accent being placed on the human factor and links with the environment. This would include mutual recognition of measures to withdraw driving licences; harmonisation of the maximum blood alcohol level; effective control of the driving time of road hauliers; and support for research activities into devices to be fitted into the vehicle to measure driver fatigue.

The third part of the programme, it said, would be aimed at treatment and reduction of the consequences of accidents. The Commission proposed measures such as the protection of users by means of safety belts, helmets and vehicles with better impact resistance; and the drafting of European standards and recommendations to design infrastructures which would be more "sparing" in the event of an accident.

Potential benefits of the road safety action programme

In attempting to justify a new road safety effort, the Communication listed the following potential benefits:

- the number of victims could drop by 15% if wearing seatbelts throughout the EU reached the level found in the Member States with the best rate of usage (95% in the front and 80% in the back);
- the number of fatal accidents could decrease by 7% if vehicles were designed to reduce the extent of the impact for pedestrians;
- there would be a marked reduction in the number of accidents if vehicles were fitted with collision warning systems or "smart" speed governors to allow drivers to react better in dangerous situations;
- the number of fatalities would be reduced by 25% if, through road modification and computerised information systems, the average speed of vehicles was lowered by just 5km/hr;
- the number of people killed could drop 5-40% if, through obligatory, application of telematics, or educational measures, the 5% of drivers who regularly drive under the influence of alcohol were persuaded or forced to drive with a blood alcohol level no higher than 0.5mg/ml;
- there could be 5% fewer fatalities (2,250 people) if daytime running lights were introduced for all vehicles.

The Council and the Parliament demonstrate road safety sense

Under the Dutch Presidency, in June 1997, the Transport Council responded to the Commission's Communication with a public debate (in which ministers focused largely on their own national measures) and with agreement on Council Conclusions. The ministers noted that, despite progress made because of the 1993 programme, the situation with regard to road safety was "far from

satisfactory". They endorsed the new action programme, agreed to step up cooperation under the CARE project, and stressed "the importance attached by the action programme to dialogue and close collaboration between all parties involved in road safety at the European, national, regional and local levels".

Council Conclusions in support of road safety actions

The Council Conclusions stated that "the application of the principle of cost-effectiveness could be a factor, among others, in helping to select schemes that will contribute to promoting road safety in the Community". A number of specific ways of improving safety were also defined in the Conclusions, and these included: Europe-wide development of the Euro-NCAP programme (European New Car Assessment Programme); the improvement of frontal, side and rear protection of HGVs; the improvement of the front design of private cars; the improvement of standards for safety equipment, such as child seats, and extension of their use; and the improvement of coach construction standards.

Some nine months later, the Parliament adopted a lengthy and emphatic Resolution on the action programme. The Parliament said improved safety for all modes of transport should be a major political goal, with the allocation of the necessary financial resources. However, it also noted with concern "that the cut in 1998 of almost 50% in the transport safety budget line could mean that the new programme is slowed down before it even begins". The Resolution drew attention to a number of "shortcomings" in the programme.

Selected items from 1997-2001 road safety programme

Information gathering and dissemination

Integrated information system

- Regular up-to-date publication of overall EU accident figures, compared to predicted trend
- Ongoing development of CARE. Evaluation of first three years subject to separate report
- Homogenisation of accident data within CARE database
- Ongoing collection of in-depth data on accident sites to improve information and analysis
- Feasibility study into EU information system on national implementation of road safety measures
- Feasibility study into integrating all available information into independent EU information system built around CARE

Additional activities

- Cost-benefit analysis of road traffic safety measures to be undertaken as part of Fifth FP
- Analysis of results of survey collecting car drivers' attributes and reported behaviour in 13 EU countries (not Denmark or Luxembourg)
- Setting up of information network between traffic police forces and enforcement authorities. Financial support for network envisaged
- Discussions on independent accident investigation bodies in road traffic. Orientation discussions with International Transportation Safety Association

Accident avoidance

Licensing

- Creation of a network between Member States for management of licences (application of Directive 91/439/EC). Review during 1998 of appropriate means for information exchange
- Proposals relating to evaluation of differences in application of existing rules by Member States
- Report followed by proposals on possible inclusion of microchips on driving licences
- Working group to look at improved policies for licensing novice drivers
- Judicial cooperation (third pillar), with observer status for Commission, regarding mutual recognition between States of disqualifications

Physical condition

- Proposal in 1999 to harmonise requirements on medical checks for professional and elderly drivers
- Harmonisation of maximum permitted blood alcohol level at 0.5% for road users
- Research ongoing into car systems to assess physical condition of driver and compliance with traffic rules, and initiate warning systems or devices that prevent driving
- Studies into methodologies for roadside checks to detect usage of drugs and medicines

Awareness

- Promotion of shift from car driving to use of public transport. Citizen's network and follow-up
- Follow-up work on a code of conduct stimulating advertising that promotes road safety
- Dialogue with insurance firms and States on improving the internalisation of costs of accidents

Environment of user

- Possible extension of compulsory speed limiter fitting to all vehicles over 3.5t
- Research into possible installation of variable speed limiters for all vehicles
- Exchange of information and pilot projects towards providing variable speed messages on motorways and in-car displays
- Encouragement of pilot introduction of obstacle detection systems
- Proposal for roadworthiness test rules to be extended to two-wheel vehicles
- Pilot trial with interested States for daytime lights

Reduction of consequences of accidents

- Proposal to extend rules on wearing of seatbelts to some types of minibus and coach
- Publicity campaigns/information on promotion of use of helmets amongst cyclists and motorcyclists
- Use of market forces to promote high crash worthiness standards; consumer information
- Development of vehicle design standards which minimise damage to most vulnerable party in an accident, including proposals on pedestrian-friendly design and side guards for trucks
- Preparation of Recommendation to apply covers to crash barriers to protect motorcyclists
- Development of guidelines to help identify and remedy accident 'black spots'
- Exchange of information on installation of intelligent traffic surveillance systems
- Commission support for guidelines to establish best practices, information exchange and research into post-accident care

Source: COM/97/131

The EP argued, for example, that a ranking of road safety measures "according to their casualty reduction value" was missing, and it suggested that a clear list of priorities should be established "to strengthen the operational character of the programme". The EP said there should be "legislation to ensure the production of safer cars, lorries, coaches, minibuses, motorcycles and pedal cycles", and proposed making daytime running lights mandatory, banning the fitting of bull bars, and the establishment of a rating system for new cars. The Resolution also argued for "legislation to reduce excessive speed and to harmonise speed limits for the various categories of motor vehicles and roads".

EP calls for rankings by casualty reduction value

Since the 1997 Communication, there have been few legislative developments emerging out of the action plan. However, the new law on tachographs (see below), approved in September 1998, clearly has road safety as one main objective. Similarly, a Directive adopted in October 1998 revising rules, dating from 1996, on access to the road haulage and road passenger transport professions also concerns road safety. Apart from widening the scope of the original Directive to cover most vehicles with a maximum laden weight of over 3.5t and insisting on minimum capital and reserves for operators, it also lays down stringent requirements in terms of probity and professional competence (Chapter Five).

Recent legislative measures on road safety

Roadside safety and environmental checks on HGVs

One proposal of interest, which should complete its legislative process in 2000, concerns a harmonised regime of spot checks for HGVs which would be designed to complement the annual roadworthiness tests provided for under the 1996 Directive. The draft Directive, put forward in March 1998, was justified by the Commission on the grounds that many HGVs undergo very high mileages between annual inspections, and that unscrupulous operators save money by preparing vehicles for tests with good parts and then replace them with unroadworthy or worn parts afterwards.

When the Directive is approved, by both the Parliament and the Council, Member States will be required to organise a system for regular roadside inspections covering, each year, a large and representative cross-section of all relevant categories of HGVs, including passenger vehicles with more than eight seats.

The inspections, which will be aimed at checking both safety and environmental aspects, will be based on a three stage approach. Firstly, a trained examiner will make a visual inspection of a vehicle as it passes on the road. If he believes it to be poorly maintained, then it will be stopped at the roadside. At this stage roadworthiness documents will be examined, and a cursory inspection of the vehicle carried out. If, following such a check, the inspector still has doubts over the roadworthiness of the vehicle, a more detailed inspection will be carried out. If a serious deficiency is found, or continued suspicions remain which cannot be solved at the roadside, the vehicle can be sent to an approved testing centre for further inspection. If a serious deficiency is found at any stage, the vehicle can be immediately banned from public roads. Member States, meanwhile, will be expected to cooperate with one another in implementing the Directive.

Procedure for roadside inspections of HGVs

The Council reached agreement on its Common Position in mid-1998 but decided that some parts of the spot check inspection could be dispensed with if a vehicle had been tested within the previous two months. The Parliament did not complete its first reading until early 1999 (and then later in the year inherited codecision powers on the proposal). It said it wanted the conditions under which a vehicle could be removed to a testing centre clarified. More radically, it also demanded that the Directive should not enter into force until proper arrangements were in force "for the training of examiners, the availability of technical and human resources to carry out the checks, and the uniformity of penalties".

EP Opinion on roadside checks proposal

Community speed limits and blood alcohol limits - not yet

Finally, as the 1990s draws to a close, it is worth drawing attention to two proposals, put forward by the Commission in 1988 and which remain on the Council's table (they have neither been agreed nor withdrawn). One of these suggested the imposition of Community speed limits, as follows: 100km/hr for lorries and buses and 80km/hr for all vehicles with a trailer on motorways; 80km/hr for lorries and buses on other high speed roads; and 80km/hr for buses and 70km/hr for HGVs and vehicles with trailers on other roads outside built-up areas.

The second 1988 proposal concerns a maximum Community rate of 0.5mg/ml of alcohol in the blood - at the time, the most common limit in the Member States was 0.8mg/ml. The Council looked at this proposal again in 1997, and two of the eight Member States still with levels higher than 0.5mg/ml - UK and Ireland - said they would reexamine it carefully.

INTERNATIONAL AGREEMENTS UNDERPIN DANGEROUS GOODS LAWS

International rules on dangerous goods date back to 1957 with the "United Nations Recommendations on the Transport of Dangerous Goods", and these are complemented by sector-specific regulatory regimes: the European Agreement concerning the International Transport of Dangerous Goods by Road (under the UN-ECE), commonly referred to as the ADR; the similar RID annex to the Convention on International Carriage by Rail (COTIF) in the case of rail; and, for waterways, the Central Commission for Navigation on the Rhine's Regulation on the Transport of Dangerous Goods on the Rhine (ADNR).

Four principles for EC control over transport of dangerous goods

The European Commission's 1992 white paper on transport policy said that these agreements had been successful in providing internationally-acceptable solutions to many problems. However, it also noted that there was an increasing public perception of the risks associated with the transport of dangerous goods and it suggested action at Community level based on four essential principles:

- plugging the gaps in existing international rules;
- the legal enforcement of the international rules at national level to achieve genuinely harmonised standards;
- the avoidance of technical barriers to trade;
- ensuring the coherence of dangerous goods legislation with other Community laws, such as those on environmental protection and on the safe containment of genetically modified organisms, for example.

Group of laws for dangerous goods carried by road

A first important piece of legislation on the approximation of the laws of the Member States with regard to the transport of dangerous goods by road, proposed by the Commission in 1993, was adopted in November 1994 (although Spain and the Netherlands abstained from voting on the Common Position). The Directive, which had to be transposed into national legislation by January 1997, basically brings the terms of the ADR into Community law for national as well as international transport. It follows the ADR rules on which dangerous goods should be banned from transport by road, and on which goods can be transported according to certain conditions, concerning packaging, labelling of the goods in question, and the construction, fitting out, and proper functioning of the vehicle.

Some provisions on the road transport law delayed until 2001

The Directive provides for a number of derogations. For example, it allows Member States to authorise vehicles constructed before January 1997, so long as they are maintained according to the required levels of safety. Furthermore, many of the provisions in the Directive did not come into force fully until 1999. Indeed, in 1999, the Commission proposed that implementation of some specific provisions should be delayed for a further two and half years (i.e. to June 2001), because the necessary technical specifications were not yet ready. A further derogation allows Member States to impose less rigorous conditions on the transport of "small quantities of dangerous goods" after consulting the Commission.

A special committee made up of Member States' experts, set up by the Directive, assists the Commission in implementing the Directive's provisions. It also approves amendments required as a result of changes to the ADR itself - indeed, technical amendments, discussed and agreed in the committee, have so far led to two Commission amending Directives, in 1996 and 1999.

Checks on consignments of dangerous goods

There are two companion Council Directives to reinforce the above law. The first, adopted in 1995, requires Member States to ensure that a representative proportion of consignments of dangerous goods transported by road is subject to certain checks, in order to ensure their compliance with the relevant legislation. The Directive states that the checks must not exceed a reasonable length of time, that they should be random, and that they should, as far as possible, cover an extensive portion of the road network. It also provides for samples of goods to be taken for examination, and for Member States to assist one another, especially in the event of serious or repeated infringements.

Rules on design and construction

The second Directive (which in fact is an amendment to a law dating from 1970 on type approvals for motor vehicles and their trailers) was approved by the Council and the Parliament in December 1998, and must be implemented in Member States by 16 January 2000. It lays down special provisions for the suitable design and construction of the base vehicle intended for transporting dangerous goods, and establishes technical specifications regarding electrical equipment, braking systems, fire risk prevention and speed limitation. Like all other separate Directives relating to type approvals for commercial vehicles (see above), except those on air pollution and noise emissions (see below), this Directive follows the optional harmonisation

approach; i.e. Member States can require that only the prescriptions of the EC separate Directive apply; however, they can also maintain national legislation leaving manufacturers to choose between the two systems, but Member States can oblige a manufacturer who has not followed the EC type approval to comply with national requirements.

The transport of dangerous goods by rail

A law on the approximation of laws relating to the movement of dangerous goods by rail, based on the RID annex of the international COTIF agreement, was adopted by the Council in July 1996, and came into force in January 1997. It takes account of the potential risks associated specifically with the transport of dangerous goods by rail, particularly given the fact that such goods often pass through urban areas and that accidents may occur during manoeuvres carried out in marshalling yards, which are often situated in the middle of towns. As with the rules for road transport, the Directive extends the remit of the international rules to cover national transport as well. Moreover, with a view to the gradual opening of the rail market, it sets uniform safety rules so as to avoid distortions of competition between transport modes.

Derogations from rules on transport of dangerous goods by rail

There were a large number of derogations agreed at the time, some of which, in effect, ensured the Directive did not become mandatory until January 1999. One very specific derogation allows the UK and France to impose more strict conditions on the transport of dangerous goods through the Channel Tunnel, and also for other Member States to apply to the Commission for a tougher regime in the case of tunnels "with characteristics similar to the Channel Tunnel". Also, because of unexpected delays in the development of standards for certain tanks (and the relevant RID procedures), the Commission proposed, in mid-1999, that the derogations relating to such tanks be extended until the end of June 2001. Unlike the 1996 base Directive, however, the amending Directive will need to be approved by the Council and the Parliament (as a result of the Amsterdam Treaty).

The transport of dangerous goods by inland waterways

In July 1997, the Commission proposed a draft Council Directive for harmonising Member States' rules covering the carriage of dangerous goods by inland waterways. The ADNR rules were of limited legal effect and of limited geographical scope, it said in presenting the proposal, and did not apply to transport within a single country. As with the road and rail Directives, the Commission's aim was to ensure a high level of safety and a single market in the provision of transport services for dangerous goods. It proposed that vessels carrying such goods should be issued with a Community certificate, provided by a Member State's competent authority, attesting that it had been inspected and fulfilled necessary safety criteria. Vessels carrying certificates issued according to the ADNR would be able to operate across the Community as a whole. A number of derogations were also proposed.

The Council of Ministers discussed the proposal briefly, soon after it was put out, and, under pressure from those Member States through which the Rhine runs, decided to stall it until after the conclusion of a new European agreement. The Parliament did not reach an Opinion on the proposal until December 1998. It argued that the ADNR should be replaced with a new legally-binding agreement and that a new EU Directive should not follow until then. In 1999, the EP inherited codecision powers on this proposal, and its Opinion, therefore, became more significant.

Council and Parliament prefer to wait for UN-ECE development

In January 1998, the Commission tried another tack. It put forward a proposal for the Council to allow it to negotiate, within the UN-ECE framework, for a new European agreement concerning the international carriage of dangerous goods by inland waterway. Once again, though, the Rhine Member States opposed the proposal. Nevertheless, the Commission remains an important observer to the negotiations. An agreement was expected in autumn 1999, with a diplomatic conference scheduled for May 2000. Thereafter, the Council is likely to return to discussing the proposed draft Directive.

Mandatory use of safety advisers for dangerous goods

The Council adopted, in June 1996, a Directive requiring all companies involved in dangerous goods transport by road, rail or inland waterway, to appoint at least one "safety adviser" to assist them as of January 2000. The Commission's original proposal was much opposed by the UK and Sweden, and was, consequently, weakened significantly during the five years or so it took to reach the statute books - the Commission had, for example, proposed the post of "safety officer", and included air transport companies. The Directive stipulates that the advisers must be specially trained, examined and subsequently granted a training certificate valid for five years throughout

the EU. The annexes contain detailed lists of the advisers' duties, and the subjects to be covered in training exams, and they dictate the form and content of the certificates.

Subsequently, in March 1998, the Commission put forward a draft 'daughter' Directive setting out more detailed and harmonised provisions for the actual examinations to be taken following the initial training. This was quickly approved in principle by the Council, although a formal Common Position was not adopted until March 1999. The law will ensure that the examinations must be drawn from a catalogue prepared by either the Member State's competent authority or the examination body. Such questions will have to conform to strict criteria in terms of subject matter as laid down in the annexes to the 1996 Directive. They must cover a broad range of subjects including, inter alia, general preventative and safety measures, classification of dangerous goods, labelling and marking, and traffic or navigation regulations.

Daughter Directive to provide detailed specifications for exams

Advisers dealing with certain classes of goods - explosives, gases, mineral oil products and radioactive materials - will be exempt from these general provisions. Instead, they will be examined on matters relating only to their own fields of expertise. Examinations of this kind will be established with the approval of the Commission, which will be advised by the dangerous goods experts' committee (i.e. the one set up under the 1994 Directive on approximation of laws relating to transport of dangerous goods by road). Certificates awarded will be clearly marked as valid only for certain types of transport.

Special rules for transportable pressure equipment

More detailed rules were adopted in April 1999 for transportable pressure equipment (TPE). The Commission explained, in putting forward its proposal, that the existing rules on road and rail (both at international level and at Community level) already provided safety standards for dangerous goods, including TPE, but that the free circulation of such equipment was prevented because safety inspections carried out in one Member State were often not recognised elsewhere - a container transported from one country to another could not be refilled for a return journey until it had been retested in the second country. Moreover, new equipment also needed to be type approved in every country in which it was to be sold.

The Directive, which must be implemented in the Member States by July 2001, will introduce a mark of conformity for all new equipment which fulfils the necessary safety standards, as required by the road and rail dangerous goods Directives, thus enabling the approved TPE to be easily identified throughout the EU. The mark will be provided by "designated inspection bodies". The Directive also sets rules for harmonised procedures for the periodic inspection of existing TPE. Some TPE, for which technical specifications do not yet exist, are exempted from the provisions beyond July 2001.

COMPROMISES ON WORKING TIME CONDITIONS DIFFICULT TO FIND

Common rules on driving hours and rest periods have existed at Community level since 1969, but they were superseded in 1985 by a Council Regulation (3820/85), commonly referred to as the Driving Time Regulation, which ensured a more comprehensive approach and allowed more stringent rules than those laid down in the UN-ECE European Agreement concerning the work of crews of vehicles engaged in international road transport (AETR for short). The EC law, which only applies to intra-EU operations (those to and from third countries remain subject to the AETR) provides, inter alia, for maximum daily driving time to be limited to nine hours, for breaks of at least 45 minutes to follow each 4.5 hour driving period, and daily rest periods of at least 11 hours, with a margin for flexibility, subject to limits on average driving hours over a two week period. It also allows Member States to implement a host of possible exceptions and derogations nationally (or in other Member States with their agreement), for particular uses of vehicles, especially regarding short journeys (under 50km).

The EU's Driving Time Regulation

The Commission had originally planned for the inclusion of the road sector in the 1993 Working Time Directive but, as with the other transport sectors, it was excluded by the Council. In 1997, following extensive consultations with unions and employers (not least in the road sector), the Commission published its white paper on the excluded sectors (Chapter Eight). It stated: "*Regulation 3820/85 does not stipulate maximum hours for activities other than loading and unloading, which can form an important part of the daily working time of drivers but which are not covered by the Regulation. This may in certain circumstances lead to extremely long working times. Furthermore, there are many exclusions and possibilities for further exceptions from the Regulation. As a result, a variety of rules is currently applicable in the Community leading to significant distortions of competition.*" Later the same year, in December, the Commission

expanded on the topic in a report on the functioning of the Regulation. It suggested that several Member States had been discriminating between national and non-national operators, in their application of the Regulation's rules (such as deciding which operators should be targeted for checks).

In the white paper, the Commission further argued that there was no reason why the provisions of the Working Time Directive - on paid leave and health assessments, on guarantees of adequate rest and on maximum annual working hours - should not be extended to all mobile workers in the road sector. It said it would bring forward proposals aimed at amending the Driving Time Regulation, among others, to integrate new provisions on loading and unloading as well as driving times, and to set out more uniform checking rules and procedures.

EP call for immediate strengthening of driving time rules

The European Parliament, too, was anxious about the driving time rules. In a Resolution, adopted during May 1997, the Parliament noted that serious coach and lorry accidents are "often the consequence of extreme fatigue and the unhealthy working conditions of HGV lorry drivers". It called on the Commission "to instigate new legislation immediately to reduce the maximum limits on driving time laid down by Regulation 3820/85". In addition, the EP said the Commission should give "due consideration to non-driving periods on duty", and it should "work towards incorporating all the occupational activities of drivers in social legislation in order to create uniform competitive conditions and to take account of the general safety of other road users and the health and safety of the workers themselves". A little later, in 1998, the EP also responded to the white paper with a Resolution supporting the Commission's approach to legislating for the excluded sectors.

Failure of the road sector Social Partners to find an agreement

During this period, the Commission's objective was to encourage the Social Partners - representatives of employers and trade unions - in the road transport Joint Committee (set up in 1985 by a Council Decision) to come to their own agreement on the relevant issues which could then form the basis of the Community's legislation. Talks between the two sides went on for over two years, and became more frequent in the autumn of 1998 when the Commission announced it would be presenting its proposals shortly. There were some areas of agreement but the negotiators failed to find a compromise over the key issue of introducing an average 48 hour working week. The unions accused the employers of "intransigence", while the employers emphasised that excessively strict regulation of working time would harm the industry, and blamed the collapse of the talks on the unions' inflexibility.

The Commission put forward a package of proposals for extending the working time rules to the excluded sectors in November 1997 (Chapter Eight). Although some of the provisions (maximum weekly working time, annual leave, and pattern of work, among others) of the original Directive are to be amended to include all workers in the transport sector, mobile workers in the road sector (and in the air and inland waterways sector) will continue to be excluded from key clauses (daily rest, breaks, weekly rest period, and length of night work). A draft Directive for the roads sector, included in the 1997 proposal package, was designed to be compatible with the existing Driving Time Regulation but to cover a much wider scope, defining working time to include activities such as loading and unloading; cleaning, maintenance and security inspection of vehicles; passenger supervision; administration; and standby time.

Details of the draft Directive on working time in the road sector

The Commission proposed the new law should apply to all mobile workers including self-employed and own-account drivers, and that road sector workers, like those in other sectors, should be restricted to a 48 hour week over a four month reference period. However, it also proposed that the maximum working week should be restricted to 60 hours, rather than the usual 78 hours. It included an exception for drivers carrying out non-regular international passenger transport services, who would be permitted to work up to a maximum of 65 hours, as currently provided for in the Driving Time Regulation.

In line with the more general rules, the Commission proposed a number of derogations: the reference period for calculating weekly working time could be extended (but only up to six months, as opposed to 12 in other sectors); reference periods of nine and 12 months could be applied, but only if the average working week were reduced to 39 or 35 hours respectively (this provision was introduced to facilitate operations in Member States, notably France, where some transport industries operate a 35 hour week).

However, the mobile road workers proposal is slightly less flexible than the general Working Time Directive, in some respects, because of safety considerations. It suggests the following: a

minimum of 11 hours rest must be given in every 24, although this can be reduced to 10 hours provided a compensatory period of 12 hours rest is provided within the following four weeks; a further weekly rest period of at least 35 hours must be provided; night workers may work no more than eight hours daily, extendible to 10, subject to an average of eight hours over a two month reference period.

Parliament's exclusion of public transport, and the Council's indecision

The Parliament, with codecision powers, responded to the proposal for the first time in April 1999. The most radical amendment it put forward concerned the exclusion of "mobile workers performing passenger transport activities on scheduled routes not exceeding a distance of 50km" which, if agreed within the Council, would effectively remove road-based urban and local public transport from the scope of the Directive. The Parliament also demanded the tightening up of some derogations, and in particular called for the removal of the 39 hour and 35 hour extended reference periods. In terms of the Commission's proposed slight derogations for night workers, the Parliament said it would like to see these accepted only if approved by the Social Partners. Finally, it is worth noting that the EP called for more checks: "*Member States shall carry out controls on working and driving times equivalent to at least 2% of all the working days in the sector.*"

Failure of the Council to make any progress

By late 1999, the Council had made no progress towards a Common Position. Two issues in particular were dividing the Member States: the question of whether independent and self-employed drivers should be covered by the Directive (Germany and France were insisting on an all-embracing Directive, while Italy, Spain, the UK, and Finland were calling for the exclusion of independents); and the provisions for night time workers.

Driving time to be monitored with a digital tachograph

In order to allow driving time to be monitored effectively, the Council adopted a second Regulation, in parallel to the Driving Time Regulation, in 1985, revising existing Community rules on the compulsory fitting of monitoring devices - tachographs - to commercial vehicles in order to record details of each journey, and setting out complex provisions on their construction, installation, use and testing. The tachograph rules were complemented by a Directive, adopted in 1988, setting out standard checking procedures for Member States to use in monitoring operators' compliance with them, and were also amended several times in the 1990s in line with technical progress.

However, by the early 1990s, it had already become apparent that the existing system - based on the recording of information on to a paper disc readable by Member State authorities - was vulnerable to tampering and fraud. As a result, the Commission put forward, in mid-1994, a draft Regulation for the introduction of a new device which would supplement the paper disc with a more versatile drivers' smart card. Following suggestions from the Council and the Parliament that such a device would still be open to tampering, the Commission submitted an amended proposal in late 1995 suggesting that the paper-based system should be replaced altogether with a digital device using an electronic memory. Subsequent feasibility studies confirmed that this would be technically possible, and also noted that it would be possible to include a digital device in conjunction with the paper disc system. Most delegations supported the wholly digital option while Germany (where most of the existing tachographs were manufactured), continued to argue for a development of the existing system.

The Council agreed its position in mid-1997, but the new Regulation, amending the 1985 (and 1988) tachograph rules, was only adopted in September 1998. It requires that a new generation of digital tachographs be made mandatory in all new lorries and coaches from July 2000. Drivers will be required to carry individual microprocessor cards, to enable the tachograph to record details of all their activities aboard the vehicle and store them for a one year period. Vehicles will need to be fitted with a printer to allow data to be accessed.

Concerns over tampering may delay introduction of tachographs

Because some Member States were anxious over the security of the system, a clause was inserted during the Council negotiations requiring that recording equipment would only be given type approval after resistance to modern tampering equipment had been demonstrated. Thus, if the technical specifications for type approval of the recording equipment were not formally published in time (by July 1999), the Commission was to submit a proposal for an extension of the July 2000 deadline. In fact, the deadline was missed, and, in late 1999, a technical problem over driver annotations, which are currently hand-written on the paper tachogram, had still not been resolved. The Council also agreed, as a result of concerns from some States about the cost implications, that existing vehicles would not be subject to the full force of the Directive's provisions, but that they

should be fitted with the new device only when the old instrument becomes faulty or needs replacement (however, tachographs in certain types of vehicles registered after January 1996 must be replaced sooner).

A consensus on working time in the rail transport sector

By contrast with road transport, the development of working time policy for the rail sector has proceeded with less dissension and has been far less complex. Although the sector was left out of the 1993 Working Time Directive, the Commission's November 1998 proposal argued that there was no reason why the rail sector should not be brought entirely within the mainstream law. Not long before, the Social Partners (i.e. the Federation of Transport Trade Unions and the Community of European Railways) had reached an agreement to allow for a maximum 48 hour week, averaged over four months, for all mobile and non-mobile workers in the industry, and minimum rest periods of 11 hours daily, and one day weekly. (They did ask for one key condition - to delay implementation of the agreement until equivalent rules should be agreed in the road sector - but there was no evidence of this approach being included within the Commission's proposal.)

Rail sector to be included within Working Time Directive

The Commission's November 1998 proposal, though, did suggest one specific reference to rail workers. The original 1993 Directive allows a derogation to certain provisions (i.e. daily rest, breaks, weekly rest period, and length of night work) to be authorised "in the case of activities where the worker's place of work and his place of residence are distant from one another or where the worker's different places of work are distant from one another"; the Commission's draft Directive suggested the addition of the phrase "particularly railway staff on board trains". The law should be adopted in 2000 after negotiation between the Council and the Parliament under the codecision procedure (Chapter Eight).

Uncertain future for working time rules in the inland waterways sector

The situation with regard to the inland waterways sector, which in some ways is similar to the road sector, remains unclear. There have been on-off negotiations between the Social Partners in the inland waterways Joint Committee for many years. But there is a key dispute over whether or not working time restrictions should apply to smaller operators - according to the Commission, some 10,000 out of a total of 45,000 employed in the sector are small operators, often with only one vessel which acts as their home. The employers' representatives argue that any new rules should be based on existing provisions laid down in the Mannheim Convention (Rhine rules) on crew composition, navigation time and rest periods, but the trade unions say there should be a more straightforward extension of the Working Time Directive to the sector.

No sign yet of any proposal on working time for waterway workers

When it announced the November 1998 package, the Commission proposed that mobile workers in the inland waterways sector (as with the road and air sectors) should be covered by much of the planned broad extension of the Working Time Directive, but that they should be excluded from the provisions on daily rest, breaks, weekly rest period, and length of night work. The Commission also said it would produce a separate proposal for the inland waterways in the near future. This was expected to be based on the Rhine rules in order to avoid a conflict with the commitments of the Member States who were already signatories to the Mannheim Convention, and to take full account of the position of self-employed operators.

CONTROLLING VEHICLE EMISSIONS AND THE AUTO-OIL PROGRAMME

Limits on vehicle emissions (and on vehicle noise) have been in place at the EC level since 1970, but it was only with the passing of the Single European Act in the mid-1980s that Community policy in this area was given any bite. A milestone was passed in 1989 with the adoption of a Directive that required all small passenger cars to be manufactured with a catalytic converter. Since then, the emission limits for cars, light commercial vehicles and HGVs have been further regulated on several occasions, largely because of the drive to reduce levels of urban pollution, but also because of the ongoing concerns about acid rain.

A Directive, approved in March 1994, set emission limits for new types of passenger vehicles from January 1996 and for all new vehicles from January 1997. Emission levels from light commercial vehicles are currently controlled by a Directive adopted in October 1996. Three types of vehicles are classified: Class I vehicles, with a reference mass of less than 1,305kg (which are subject to the same emission limits as passenger vehicles); Class II for vehicles of 1,305-1,700kg; and Class III for vehicles over 1,700kg. For diesel engines in these classes of vehicles using direct injection technology, slightly less stringent particulate and HC+NOx levels were accepted until 1999.

During the legislative process, the Parliament, with codecision powers, called for the Class III levels to be aligned with Class II, and for a specific limit value for NOx. The EP also said all vehicles, not just new vans but old ones as well, should meet the new limits by the year 2000. However, when it came to the second reading, the EP dropped all these demands and insisted only on some minor amendments which were taken on board by the Council.

Current emission limits for HGV engines

A 1991 Directive limits emissions from diesel engines used in HGVs. Two stages were set but the first expired in 1996 and since October that year, all engines have been subject to the following limits: 4.0g/kWh of CO; 1.1g/kWh of HC; 7g/kWh of NOx; and 0.15g/kWh of particulates.

A broader approach to reducing vehicle emissions

The March 1994 Directive, on new emission standards for passenger cars, required the Commission to put forward new proposals for controlling air pollution from motor vehicles for the year 2000 and beyond. However, the Commission was also told it would have to take an approach aimed directly at air quality objectives by using a broader range of policy instruments. The Directive stated: "*An assessment of the cost-effectiveness of taking each measure shall be undertaken; in this global assessment full account shall be taken, inter alia, of the contributions that: traffic management, for example by spreading the environmental costs appropriately, enhanced urban public transport, new propulsion technologies (e.g. electric transmission), the use of alternative fuels (e.g. biofuels), could make to improving air quality.*"

Cooperation between the oil and car industries

In particular, the Commission was asked to bring forward not only improvements to the existing Directive, but also Directives on fuel quality and inspection and maintenance. To fulfil some of these requirements, the Commission initiated the European auto-oil programme. A major part of this was a two year joint test programme (EPEFE), conducted and funded jointly by the European motor vehicle manufacturers and the European oil industry. Such collaboration between the two industries, although common enough in the US, was a breakthrough for European policy-making.

The EPEFE programme, begun in 1993, was designed to expand the information available on the relationships between fuel properties and engine technologies and to quantify the reduction in road traffic emissions that could be achieved by combining advanced fuels with the vehicle/engine technologies under development for the year 2000. There were four projects: an evaluation of existing data; the identification of the necessary amendments to the present test procedures; specific testing of engine/fuels to determine the relationship between the fuel - gasoline in one project and diesel in the other - and engine technology on emissions, life cycle CO_2 and fuel economy.

Control of NOx emissions a priority for future policy

With the results of the EPEFE programme, the Commission demonstrated that European air quality would improve dramatically during the late 1990s and into the new century as a result of Directives in force or due to come into force. The key finding, however, was that beyond 2000, the driving force for policy would have to be the control of NOx emissions. There are two main reasons for this. Firstly, NOx is considered a significant health hazard in urban areas where pollution is at its greatest. Secondly, emissions of other pollutants, including CO, benzene and VOC, will not be a major problem, and, in any case, will be reduced effectively by NOx reduction measures.

Car and van emission standards for 2000 and 2005

As a result of the auto-oil programme, the Commission proposed new emission standards for all three groups of vehicles (passenger cars, commercial vehicles, and HGVs). The first to be unveiled, in June 1996, were those for passenger cars (along with new fuel standards - see below). Apart from suggesting more restrictive emission limits for 2000, and for 2005, the Commission also introduced new elements. One of these was separate limits for NOx and hydrocarbons. Another was a requirement for on-board diagnostics (OBD) in gasoline cars (the technology was not ready for diesel cars) to ensure that a car's emissions were within legal limits during its useful life.

In addition, the Commission proposed arrangements for in-use testing and an eventual recall of vehicle models after they had been placed on the market. The Commission said in its proposal: "*Together with the strengthening of the periodic technical inspections, OBD and recall provisions should ensure that the emission performance should not deteriorate significantly during the life of the vehicle.*" The emission limits for 2000, when taken in conjunction with the proposed tighter test procedure, would correspond to a reduction of 20-40% for the different pollutants concerned, the Commission said.

Indicative levels for 2005 levels were put forward at the same time in order to give advance notice to the vehicle industry and to provide uniform targets for those Member States that wished to stimulate the improvement of environmental technologies by granting fiscal incentives. The 2005 values, based on the most promising environmental technologies under development, would require a 50-70% reduction compared to current standards, the Commission said.

Parallel proposals for light commercial vans

In February 1997, the Commission followed with proposals to tighten the standards for light commercial vehicles. It said it wished to maintain as parallel an approach as possible between the rules for passenger cars and those for light commercial vehicles, and to merge the two Directives. The emission limits proposed for 2000, and the indicative limits for 2005, for Class I vans were identical to those for passenger cars. As with the passenger cars, the Commission proposal included a requirement for OBD for gasoline-engined vans, and included mechanisms for fiscal incentives. The Commission said the new limit values would correspond to reductions against the 1997 standards of 40% NOx, 40% total hydrocarbons, and 30% CO for gasoline light commercial vehicles. And for diesel vehicles, the new standards would mean a 20% reduction in NOx, 65% in hydrocarbons, 40% in CO and 35% in particulate matter.

Passenger car/Class I* van emissions standards (g/km)

	Gasoline		Diesel	
	2000	**2005**	**2000**	**2005**
CO	2.30	1.00	0.64	0.50
HC	0.20	0.10	-	
NOx	0.15	0.08	0.50	0.25
HC+ NOx	-	-	0.56	0.30
Particulates	-	-	0.05	0.025

* Reference mass of 1,305kg and below

Source: OJ/98/L350

The Parliament's insistence on mandatory standards for 2005

The Council, in its June 1997 agreement on the passenger cars proposal, accepted the bulk of the Commission's ideas. The Parliament, however, adopted over 80 amendments in its first reading under the codecision procedure during April 1997, and confirmed most of them on its second reading in early 1998. It called for some stricter limits in 2000 but also, and more importantly, it demanded that the indicative levels for 2005 be legislated for and made mandatory at the same time as the 2000 levels; and it asked for substantial revisions to the proposed compulsory testing procedures.

By 1998, the legislative process for the proposal on light commercial vehicles had caught up with that for passenger cars, and they were subsequently merged into one legal act (to amend the original 1970 Directive). The Council and the Parliament reached a compromise through the conciliation procedure in mid-1998, and this was adopted into EU law in October the same year.

Details of the new standards for 2000 and 2005

As with previous similar Directives, the new law is technically complex. In essence, though, it sets stringent limit values, the same for passenger cars and Class I commercial vehicles (see box), with lesser values for each of the parameters for Class II and Class III vehicles. These are due to come into force in 2001 and 2006. It will require the fitting of OBD systems to petrol-driven vehicles from 2000 and diesel vehicles from 2003 (or 2005 for the heavier classes of commercial vehicles), and compliance with a low temperature test from 2002 (with the specific aim of realising a cost-effective reduction of HC and CO emissions). It will also require that, from 2000, new models of cars will be tested to see whether they comply with emissions limits after five years or 80,000km (rising to 100,000km in 2005) whichever is the sooner. The Directive will encourage fiscal measures to be used to promote the early introduction of technologies meeting the 2005 standards.

Class II* commercial vehicle emissions standards (g/km)

	Gasoline		Diesel	
	2000	**2005**	**2000**	**2005**
CO	4.17	1.81	0.80	0.63
HC	0.25	0.13	-	
NOx	0.18	0.10	0.65	0.33
HC+ NOx	-	-	0.72	0.39
Particulates	-	-	0.07	0.04

* Reference mass of over 1,305kg up to and including 1,760kg

Source: OJ/98/L350

A review clause envisages new proposals from the Commission before the end of 1999 for yet further restrictions for 2005, which should also address limit values for low temperature tests for heavier classes of vehicles, improved roadworthiness tests, and threshold limit values for OBD for 2005.

Following the agreement, the Commission put out a background note in which it stated that the expected cost of meeting the new emissions standards for 2000 would be Ecu260 per new small passenger gasoline car, compared with its first estimate of Ecu200 based on the requirements of its original proposal. The additional costs for medium and large gasoline cars would be Ecu285 and Ecu350 respectively, and for medium and large diesel cars it would be Ecu420 and Ecu560. However, the Commission, which had not supported the fixing of mandatory standards for 2005, said it could not estimate the costs of the measures agreed for 2005 "due to the lack of information on the costs of developing appropriate technologies".

Estimated additional costs for new cars

Class III* commercial vehicle emissions standards (g/km)

	Gasoline		Diesel	
	2000	2005	2000	2005
CO	5.22	2.27	0.95	0.74
HC	0.29	0.16	-	
NOx	0.21	0.11	0.78	0.39
HC+ NOx	-	-	0.86	0.46
Particulates	-	-	0.10	0.06

* Reference mass of above 1,760kg

Source: OJ/98/L350

Stricter limit values for HGV emissions in 2000 and 2005

For the third type of vehicle - HGVs - the Commission's proposal for new emission limits emerged in December 1997. It envisaged a new dual test cycle, one for conventional diesel engines (using the so-called ESC and ELR test cycles) and one for diesel engines fitted with advanced emission control systems (using the same two cycles plus the so-called ETC cycle). For the first time, the Commission put forward emission standards for engines fuelled by natural gas or liquefied petroleum gas, to be tested exclusively by the ETC cycle. The emission levels proposed for diesel engines under the conventional test procedure (and for diesel and gas engines under the ETC procedure) were:

- 2.1g/kWh (and 5.45g/kWh) for CO;
- 0.66g/kWh (and 0.78g/kWh) for HC;
- 5.0g/kWh (and 5.0g/kWh) for NOx;
- 0.1-0.13g/kWh and (0.16-0.21g/kWh) for particulates (depending on diesel engine size).

In addition, methane emissions from natural gas-fuelled engines were to be restricted to 1.6g/kWh.

HGV emissions standards from 2000

The proposed limits represented reductions of 30% for CO, NOx and particulates (compared with the 1996 emission standards) and a 34% reduction for HC, the Commission said in its proposal. Unlike the schemes for cars and vans, the Commission did not put forward indicative limits for 2005 but said it would submit further proposals after a second auto-oil programme.

Both the Parliament and the Council accepted the proposed limits, to start from October 2000, but, again in opposition to the Commission, they called (the Parliament in its first reading and the Council in its Common Position) for limit values to be set also from October 2005. The Council's Common Position, formally adopted in April 1999, agreed the following limits for 2005, for the conventional (and ETC) tests:

- 1.5g/kWh (and 4.0g/kWh) for CO;
- 0.46g/kWh and (0.55g/kWh) for HC;
- 3.5g/kWh and (3.5g/kWh) for NOx, reduced to 2.0g/kWh from 2008;
- 0.02g/kWh and (0.03g/kWh) for particulates.

In its first reading, the Parliament called for slightly lower figures than these.

Likely HGV emissions standards from 2005

In addition, the Council's Common Position called for strict limits on emissions from 'enhanced environmentally friendly vehicles'; it also called for all new HGVs to carry OBD from 2005-06 (and for the Commission to submit a proposal, by the end of 2000, laying down rules for OBD) and "appropriate limits for pollutants which are currently unregulated". According to the Council, the limits set for 2005 would result in an overall reduction of 50% of the pollutants concerned from current levels.

Complementary standards on the quality of transport fuels

Until recently, the EU's overall policy on fuels had been rather ad hoc, confined to setting lead and benzene limits in gasoline, and sulphur limits in gasoil. EC rules limiting the lead content in petrol to 0.15-0.4g/litre date from 1978. A 1985 Directive required Member States to ensure the introduction and distribution of lead-free petrol, and a further Directive in 1987 allowed Member States to ban the marketing of leaded petrol of regular grade. The 1985 Directive also set a limit of 5% for the benzene content in gasoline, but this level was under pressure for most of the 1990s,

from Germany, which lobbied furiously for a 1% level, and from Austria, which insisted on a lower level derogation when it joined the EU.

Community legislation in March 1993 reduced the maximum sulphur content of diesel fuel to 0.2% from October 1994 and to 0.05% from October 1996. The Council rejected the Commission's proposal of a 0.1% level for gasoils other than automotive diesel and the legal limit remained at 0.2%. Greece was given a derogation to 1999 authorising the use of gasoil with a sulphur content higher than 0.2% for marine use.

Fuel quality standards (selected)

	2000	2005
Petrol		
Olefins (% v/v)	Max. 18	
Aromatics (% v/v)	Max. 42	35
Benzene (% v/v)	Max. 1	
Oxygen (% m/m)	Max. 2.7	
Sulphur (mg/kg)	Max. 150	50
Diesel		
Cetane number	Min. 51	
Density (kg/m^3)	Max. 845	
Polyaromatics (%)	Max. 11	
Sulphur (mg/kg)	Max. 350	50

Source: OJ/98/L350

New fuel quality standards developed from the auto-oil programme

Apart from the new generation of engine standards, the auto-oil programme also resulted in proposals for fuel quality, and these were negotiated in parallel with the emission limits for passenger cars. They were finally adopted, in October 1998, at the same time as the vehicle emission limits, after conciliation with the Parliament under the codecision procedure. Almost all the main parameters proposed by the Commission for petrol were strengthened by the Council and the Parliament; moreover, they added three even tougher standards to be met by 2005 (see box). The Directive also requires a uniform monitoring system to verify the proposed fuel qualities and enable the introduction of very low sulphur petrol and diesel fuels from 2000.

Derogations granted for lead and sulphur values

Although leaded petrol is banned from 2000, the Council and the Parliament agreed, in their codecision on the Directive, to a possible derogation period until January 2005 where socio-economic problems could be proven. Several Member States - Greece, Italy, Spain - applied for this derogation. However, the Commission, in its December 1999 Decisions, said it would only grant them derogations to market leaded petrol for an extra period of two years. Both the Council and the EP also recognised that some Member States would have difficulty in meeting the new sulphur values, and the Directive therefore also allows derogations until 2003 where severe difficulties would ensue for the refining industry. Portugal applied for this, and again, the Commission restricted the derogation period, to one year for diesel and to two years for unleaded petrol. However, France, with respect to its overseas territories, was granted full-length derogations in the case of both leaded petrol and the sulphur content of the fuels.

Following the final agreement, the Commission estimated that the combined measures for 2000 and 2005 would cost Ecu0.007/litre for gasoline and Ecu0.009/litre for diesel (without taking into account the impact of derogations or early phase-in of cleaner fuels, the costs of which would partially offset each other).

REDUCING CO_2 EMISSIONS FROM PASSENGERS CARS

First mention of measures to improve vehicle efficiency

In the first half of the 1990s, the Community's climate change strategy focused largely on the energy industries. However, in December 1994, the environment and transport ministers agreed Council Conclusions in which they stated it was necessary to exploit, as far as possible, potentials for CO_2 reductions in the transport sector, for example through motor vehicle technical optimisation measures, traffic avoidance, traffic guidance and traffic shifting. The 15 ministers also suggested an investigation of lower fuel consumption for newly registered cars by 2005. However, 12 delegations, including the then new Member States (Austria, Finland, Sweden) but excluding Spain, Italy and Greece, signed a declaration asking the Commission "to consider the achievement, as far as possible, of an average gasoline and diesel consumption of 5 litres/100km and 4.5 litres/100km respectively (equivalent to 120g CO_2 per km) for newly registered cars by 2005, taking a gradual approach to begin in 1997, and to work to greater efficiency in other means of transport".

A first draft of a Communication on CO_2 reduction from passenger cars was close to adoption in 1994 but there was an ongoing dispute among the Commissioners about the scope of the strategy, and it was not until December 1995, after a new Commission had been in place for a year, that it

was adopted. Cars then accounted for some 12% of total CO_2 emissions in the EU, it noted; moreover, emissions from the transport sector were growing so fast that they could increase, under a business-as-usual scenario, 20% by 2005 and 36% by 2010 compared to 1990 levels. The more recent (1998) and more general transport and CO_2 paper (Chapter Eight) noted that passenger cars account for about half of all transport-related CO_2 emissions, and that, despite an improvement in fuel economy during the 1980s, the trend towards bigger and safer cars in the 1990s had led to an increase in average fuel consumption.

The 1995 Communication on the reduction of CO_2 from cars

The 1995 Communication warned that there were no easy solutions to the problem of CO_2 emissions from passenger cars, because car use is so strongly linked to both the economy and personal mobility and because traffic growth has been facilitated in the past by the insufficient internalisation of the external costs of transport. It is necessary to consider a global approach, it argued, involving measures aimed at reducing the use of motor vehicles, influencing driver behaviour (e.g. speed) and achieving a higher vehicle fuel efficiency by a combination of technical and non-technical measures. The Communication, though, only tackled the area of vehicle efficiency. When introducing the Communication, the then Environment Commissioner Ritt Bjerregaard summed up the argument: "*There are many things which we will have to do to curb CO_2 emissions from traffic. But moving from gas-guzzling to gas-sipping cars is the most attractive option.*"

From gas-guzzling to gas-sipping cars

The Communication took as its starting point the targets of improving the average fuel consumption of passenger gasoline cars to 5 litres/100km, and of diesel cars to 4.5 litres/100km. Using a very basic analysis, the Commission calculated, in the paper, that a 40% improvement in fuel economy would increase vehicle costs by Ecu940-2,270, but that the life-time fuel savings would be higher, in the region of Ecu3,200. This 40% improvement between 1996 and 2005 would reduce total CO_2 emissions from passenger cars in the EU by 17.5% as compared to current trends, or 30% by 2010. The Communication also looked at a range of further policy options. A strong incentive could be given to consumers, the Commission said, to demand more fuel-efficient cars by differentiating the price through purchase or registration taxes.

EU CO_2 emissions (mt)

	1985	1990	1995
Railways*	11.7	9.1	8.5
Road transport	499.7	626.1	677.9
Inland navigation	12.4	20.6	20.6
Air transport	61.5	82.0	96.5
Total transport	**585.3**	**737.8**	**803.5**

* Not including emissions generated by electricity supply

Source: COM/98/204

In June 1996, all 15 environment ministers agreed, in the form of Council Conclusions, to the fuel efficiency targets with the aim "to reach this objective by 2005. . . Should it appear that it is not possible fully to achieve the objective by 2005, the phasing could be extended, but in no case beyond 2010". Some Member States and the Commission expressed disappointment at the need for the qualifying phrase. A voluntary agreement with industry and a monitoring mechanism were two key practical initiatives approved, in principle, by the Council. They also called for a proposal on a "CO_2-emission consumer information system" to influence consumer choice when buying a car. By autumn 1999, progress had been made on all three of these ideas (see below).

Unanimous agreement on fuel efficiency targets

Pressure on the European car makers to reach a voluntary agreement

More than a year later, towards the end of 1997, the Commission had made very little progress in negotiations with the Association of European Automobile Manufacturers (ACEA) for a voluntary agreement on CO_2 reductions from passenger cars. Bjerregaard wrote to the environment ministers during the autumn saying that ACEA's offer was "far away from what the Commission and the Council have in mind in terms of the fuel efficiency objective". Environment ministers meeting in December concluded that the Commission should bring forth proposals for a Directive if no satisfactory result was forthcoming from the car makers.

A new offer was made by ACEA the following spring, and this was welcomed, although not accepted, by the Commission and the Council. The offer was further improved so that, by July, the Commission was able to put forward a Communication, in which it accepted, as "satisfactory", ACEA's commitment to achieve a target of 140g/km CO_2 emissions on average for new cars sold in the EU by 2008. It noted that the proposed voluntary agreement also required ACEA to review, in 2003, the potential for further reductions towards the main 120g/km target. Furthermore, as an

indicative intermediate target, ACEA estimated it could achieve 165-170g/km average emissions also by 2003. Innovative vehicle concepts and vehicles running on alternative fuels would be counted towards ACEA's CO_2 objective, it said.

Provisions of the ACEA voluntary agreement

ACEA's commitments, the Commission explained, were based on certain assumptions. These included the availability of fuels of a sufficient quality to enable the application of certain technologies; equivalent efforts by non-ACEA manufacturers; the unhampered diffusion of fuel-efficient technologies into the market; and that any potential impact of the CO_2 emission reduction efforts on the general economic situation of the industry would be taken into account in the monitoring of the agreement. ACEA and the Commission agreed to monitor jointly the implementation of the agreement, including the assumptions behind ACEA's commitments and other relevant factors, and the Commission said it would report annually to the Council and the Parliament on this basis. In this context, the Commission warned, in its Communication, that it would consider making a legislative proposal should ACEA fail to honour the commitments. In October, the Council gave its blessing to the voluntary agreement, and the Commission's competition authorities gave it formal clearance in February 1999.

Doubts about the ACEA deal from the EP and environmental groups

The European Parliament expressed doubts about the deal in a Resolution adopted in September. It criticised the fact that there were no arrangements for continuation of the commitment should one or more of the assumptions on which the agreement was based not hold true. It also said the estimated target range of 165-170gm/km for 2003 was too imprecise a criterion and could be too weak as the sole indicator for the possible need to revise the agreement.

The European Environment Bureau also strongly criticised the agreement: "*If the Commission accepts this deal, it demonstrates to the world its unwillingness to take the Kyoto agreement seriously.*" It drew attention to the fact that, although the measure is scheduled to start in 2008, it will take at least ten years for the full fleet to be replaced; and, therefore, the agreement will lead the EU car fleet, on average, to consume 39% more fuel by 2018 than in 1990. Since car mileage increases by at least 2% annually in the EU, this same car fleet, it said, will drive 56% more miles by 2018, and thus emit the corresponding amount of extra CO_2.

Equivalent commitments from JAMA and KAMA accepted

Subsequently, the Commission turned its attention to the Japanese and Korean car maker associations (JAMA and KAMA respectively), with the intention of reaching equivalent agreements. The Council again supported the Commission's efforts with veiled threats of legislative action. By autumn 1999, sufficient commitments had been given. On the basis of a report from the Commission, the environment ministers, meeting in October 1999, welcomed the foreign manufacturers' agreements. Because they contained commitments to meet the fuel efficiency target only by 2009, i.e. one year later than the European car makers, ACEA raised some objections, but these were dismissed by the Commission. The Commission's competition services formally approved both agreements, by letter, in late 1999.

Fuel efficiency labelling and monitoring of CO_2 emissions

In June and September 1998 respectively the Commission presented a draft Decision on a scheme to monitor CO_2 emissions from passenger vehicles, and a draft Directive requiring Member States to institute a fuel economy labelling system for cars. The following October, under the Austrian Presidency, the Environment Council held a public debate on the proposals. Some delegations suggested extending both the monitoring and labelling proposals to cars powered by alternative energy sources, such as electricity or gas. Others wanted the labelling rules applied to second-hand cars when put up for sale. Neither of the Commission's proposals, though, proved difficult, and the Council reached agreements on both at the subsequent December Council and formally adopted their Common Positions in February 1999.

Under the terms of the draft Decision on monitoring, Member States will be required to gather specific information on CO_2 output from new passenger cars registered in each given year. This will help the Commission monitor the effectiveness of the EC strategy for reducing CO_2 and improving fuel economy, and its impact on the new car market. Under the labelling Directive, Member States will need to ensure that information on fuel economy and CO_2 emissions is displayed at points of sale for each new passenger car model, and that a poster displaying the same information for all cars is displayed in every showroom. Promotional material will have to carry details on fuel consumption and emissions, while Member States will be required to produce a "fuel economy guide", at least annually, giving information on all new car models and containing a prominent list of the 10 most fuel-efficient models on the market.

The European Parliament completed its first reading on these two proposals, under the cooperation procedure, in December 1998. Following the entry into force of the Amsterdam Treaty, though, completion of the legislative process will require a joint decision of the Parliament and the Council. In terms of the monitoring scheme, the EP called for its extension to light commercial vehicles. On the labelling system, it said that the consumer information should contain more data relating directly to CO_2 emissions and that a requirement concerning estimated fuel costs should be deleted. The EP completed its second reading on this latter proposal, in October 1999 under the streamlined codecision procedure, without amendment, and therefore the adoption of the law was expected before the end of the year.

The EP's positions on the car CO_2 monitoring and fuel labelling

More generally, the Commission noted, in its March 1998 report on transport and CO_2, that measures at a national, regional and local level could play an important role by contributing to the development of traffic plans. In summary, it outlined the following possible impacts on CO_2 emissions from various local measures: promotion of cycling - 4%; speed limits/control - 5%; information campaigns - 3%; higher urban parking charges - 1.5%; lorry/car restrictions in cities - 1%. Given the fact that there are limits to fuel efficiency improvements, the paper outlined the need for long-term solutions, especially alternative propulsion technologies, such as hybrid cars, the use of fuel cells and new fuels. In this respect, effective transport RTD was considered vital.

Possible impact of other measures on CO_2 emissions

A FRAMEWORK FOR SOLVING HGV-RELATED ENVIRONMENT CONCERNS

During its accession negotiations leading up to membership in 1995 and despite the implications for trade in the single market, Austria refused to give up its existing tough policies on air pollution, especially because of problems within Alpine regions. Consequently, it won several significant concessions. It was allowed to keep more stringent fuel quality standards - for benzene in gasoline, and sulphur in gasoil - than was permitted elsewhere in the EC (see above). However, despite the EC's increasingly stringent standards on lorry engines, Austria also succeeded in holding on to a special regime for limiting emissions from transiting HGVs, and in extracting a commitment from the EU (set down in Declaration 34 of the Act of Accession): "*The Union informs Austria that the Council has requested the Commission to propose for adoption a framework for the solution of the environmental problems caused by traffic of heavy goods vehicles. This framework will include appropriate measures on charges for road use, rail infrastructure, combined transport facilities and technical standards for vehicles.*"

The EU's commitment to Austria in the Act of Accession

The Commission responded to this Declaration in July 1998 (at the start of Austria's first term as President of the Council) with a working paper outlining "a framework for the solution of the environmental problems caused by traffic of HGVs" and looking at each of the four areas specified in the Declaration. In the paper, the Commission promised it would monitor developments closely to ensure that as far as possible over time:

- the transport intensity of economic development was avoided or minimised by reducing unnecessary transport such as empty trucks (through improved traffic management/logistics);
- burdens caused by road vehicles were minimised (through improved technical standards);
- environmentally-friendly modes of transport such as rail, inland waterways and short sea shipping were made more commercially attractive.

Most of the policy developments in each of the four areas mentioned in the Declaration (and described in the Commission's paper) are covered elsewhere in this report (i.e. rail in Chapter Six, combined transport in Chapter Thirteen, and technical standards earlier in this chapter - although it is worth noting that the policy on roadworthiness checks, mentioned in the section on safety, also covers environmental characteristics.) However, the issue of road charging, although it has wider implications for all traffic, is of particular relevance to the problems of HGVs - indeed, it is considered as a natural successor to the current Eurovignette system (Chapter Five) - and especially to HGV traffic in Alpine regions.

The internalisation of external costs

The working paper on HGVs developed the theme of internalising external costs (as expounded in the 1995 report on fair and efficient pricing and the follow-up 1998 paper on fair payment for infrastructure use - Chapter Eight), and focused specifically on road charges and pricing. It stated: "*The importance of differentiation of charges is increasingly recognised as fundamental for the overall efficiency of the transport system.*" Not only did such instruments help restore the modal balance, it said, but they could reward environmentally and economically efficient operators, and they could guide investments through public-private partnerships.

The Commission argued, in the paper, that electronic charging systems offered the best opportunity for wide application of differentiated charges, because they could handle a large

number of vehicle characteristics (including differing environmental performance), and because of the rapidity of transactions. "Development of such systems is advancing very quickly", it warned, "but for them not to become an obstacle to the free flow of traffic it is necessary that their interoperability be ensured".

Convergence needed for electronic fee collection systems

Following several Transport Council discussions on electronic fee collection (EFC), initiated by the Dutch Presidency in 1997, the European Commission adopted a Communication on the subject in December 1998. It examined the key technical, legal and administrative issues for developing minimum interoperability requirements, and set out a "convergence strategy" for meeting that goal.

One problem stemmed from the different systems already in development, the paper said. Although most existing EFC systems were based on Dedicated Short Range Communication (DSRC) using a microwave link between the vehicle and roadside equipment, and preliminary standards for DSRC had already been drawn up by the standardisation body, CEN, these were not compatible with all existing equipment and plans. Other problems, it identified, included: users without the necessary on-board equipment; how to classify vehicles for charging purposes; how to enforce payment and prosecute offenders, particularly in a cross-border context; the need to establish common parameters for data protection while protecting against fraud; and the question of protecting the privacy of users.

A first stage of convergence on EFC

Based on the assumption that national systems will develop over time, the Commission set out plans for a first stage of convergence, covering the period until 2000. Initially, priority will be given to improving the interoperability of EFC systems for HGVs and long-distance coaches, and of urban and inter-urban EFC infrastructure, it said. An "open system architecture" should be developed, it added, capable of responding to policies developed at EU or national levels, and of integrating further operational and technological developments.

The Commission said it intended to produce detailed proposals based on the approach in the Communication and the results of the work currently under way at EU national and regional levels. One action, for example, will be a proposal for a "common minimum level of functionality" for payment methods and vehicle recognition (some Community R&D projects have been studying this topic, and CEN has been developing appropriate technical standards). Another action will be the promotion of "contractual interoperability" by encouraging interested parties to sign a Memorandum of Understanding on common objectives, based on an EU framework agreement (covering enforcement, privacy and data protection issues).

Austria's special regime for HGV alpine transit

The ecological sensitivity of the Alpine region - comprising parts of Austria, France, Germany, Italy, Liechtenstein, Slovenia and Switzerland - which has to absorb the economically vital north-south traffic through a limited number of passes, has resulted, over the years, in a number of special arrangements, especially concerning the transit of HGVs.

Austria's ecopoint system for reducing HGV-related pollution

One example of this is the special regime, negotiated by Austria with the EU in 1992 as part of an inland freight road-rail accord, for limiting the emissions of HGVs transiting the country. Under the mechanism, which was maintained following Austria's accession, transit authorisations, known as ecopoints, are allocated among the Member States annually. The number of points available corresponds to the number of HGV trips across Austria made in 1991, multiplied by a factor based on annual NOx reduction targets. Each HGV, with the exception of those holding ECMT permits or exempted from the scheme, is then required to 'pay' a set number of ecopoints for each transit journey, based on its NOx output. The Austrian system, which has also been extended to Slovenia, was modified in 1999, so as to place EU lorries on an equal footing with Slovenian lorries, as anticipated in a 1997 protocol to the 1993 EU-Slovenia transport agreement (Chapter Five).

According to a Commission report in January 1998 on the system, the proportion of lorries paying the maximum number of ecopoints per transit - the most polluting Euro 0 vehicles - was reduced from over 51% in 1993 to under 18% in 1996, while the proportion of Euro I and II vehicles rose significantly. The Commission noted that the average NOx output from trucks transiting Austria fell by over 27% in four years, and that total emissions from transit traffic were declining. It admitted the improvement might not solely be due to the ecopoint system, but argued it had certainly acted as an incentive. Therefore, the Commission concluded, ecopoints offered a fair and

effective means of reducing pollution in Austria and should continue to operate at least until January 2001, although other instruments should be developed to replace the system when it is ultimately ended.

The Commission's legal action against Austria's Brenner tolls

Despite the special dispensations negotiated during its accession, Austria ran into severe difficulties with the Commission in the late 1990s over the tolls charged on the Brenner motorway, a major north-south route across the Alps. In principle, the tolls should have been subject to the strictures of the Community's Eurovignette Directive (at the time the Directive had been annulled by the Court of Justice but was to remain in force until a new Directive could be agreed - Chapter Five). However, because of the ban on the transit of 40t trucks through Switzerland (see below) and the increased traffic through Brenner, Austria imposed certain tolls which the Commission judged were discriminatory (they applied only to HGVs travelling the whole length of the motorway, and not to local or lightweight traffic). The Commission allowed the illegal situation to drag on for two years in the hope that a solution involving charges for environmentally-sensitive routes could be accepted within the framework of a new Eurovignette Directive. After it had become clear, in May 1998, that the Member States would not accept the idea of special charges for sensitive routes, and that Austria would not make any compromises while negotiations with Switzerland for a removal of the 40t ban were under way, the Commission delivered its legal case to the Court of Justice.

Solutions to the Austrian and Swiss alpine transit problems

The environmental cost of lorries diverted around Switzerland

Switzerland, too, is highly sensitive to the environmental problems of HGVs. Throughout the 1990s it has maintained, within the mechanism of its transit agreement with the EU, a weight limit of 28t, thus requiring Community operators of 40t trucks to divert through other Alpine passes (such as Brenner). In its working paper on HGVs, the Commission said this policy was "not at all environmentally benign", since an estimated 1m lorries a year or more each travelled an extra 200-300km per round trip. It estimated, conservatively, that this produced an extra 2,000t of NOx and 200,000t of CO_2 each year. There was a clear need for a coordinated approach to trans-Alpine transport policy, the Commission said. The main action it proposed was to negotiate, via a new land transport agreement with Switzerland, transit rights for 40t trucks at charges comparable with those paid for other routes.

In fact, this issue - conditions for access of EU 40t trucks to Swiss alpine routes - became the single most important political block to a major bilateral agreement between the EC and Switzerland, covering not only land transport but also air transport and five other areas (Chapter Sixteen). It was also one of the main hurdles which held up Council agreement on the replacement Eurovignette Directive.

Ultimately, after years of wrangling on both the Swiss access rights (including some angry public exchanges involving the Transport Commissioner Neil Kinnock in spring 1998), and on the Eurovignette, unanimous but complex agreements were finally concluded among the Member States and with Switzerland in late 1998. The Eurovignette agreement did not allow for as much differentiation on environmental grounds as the Commission would have liked (and initially proposed), but it did contain some differentiation (based on the Euro engine classifications) and this was considered a breakthrough by Kinnock. In exchange for unlimited access for EU lorries from 2005, the Community gave way to Switzerland's demands for a relatively high level of transit charges - but these were less than first proposed by Berne, and considered to be at a level which would alleviate the current rerouting problems.

Statements on the Brenner situation

In order to appease Austria's concerns, the deal, struck at the December 1998 Transport Council, (chaired, coincidentally or not, by the Austrian Presidency), included a series of detailed statements relating to the Brenner route. According to these statements, the Commission accepted, as of July 1999, that the Ecu84 weighted average charge for the use of the entire Kufstein to Brenner corridor was in line with the main rationale for tolls, i.e. the cost of building and maintaining the infrastructure. The Directive itself specifically allows Austria to exempt the Kufstein-Brenner stretch of motorway from the Austrian user charge (otherwise the toll on that stretch of the road would be in conflict with the Directive's requirement that tolls and user charges may not be imposed at the same time for same section of road).

Also in the statements, Austria confirmed that the charge would be applied in a non-discriminatory way, and it declared that it would increase the combined transport service on the Brenner section in line with demand by up to 7% as an immediate measure and, in any event, by January 2000, and that the rates would be reduced by 30%. As a result of these commitments by

Austria, the Commission said it would withdraw its legal challenge in the Court of Justice - provided the tolls were properly applied. However, by December 1999, Austria had not met the Commission's concerns, and the Court action was proceeding.

MEASURES TO CONTROL THE RECYCLING OF VEHICLES

One further measure, which is likely to have a major impact on the means of transport, if not on transport itself, and which is aimed largely at reducing soil and water pollution (as opposed to air pollution which is the main problem for transport policy), concerns the recycling of vehicle parts.

Between 8mt and 9mt of waste are generated annually by the scrapping of vehicles, with some 25% of vehicles' weight (shredding residue) considered to be hazardous waste - including PCBs, heavy metals, petrol, motor and gear oil, hydraulic fluids, brake fluids and anti-freeze. The shredding residue, about 1.9mt/yr, represents up to 10% of total hazardous waste. In 1997, the Commission introduced a proposal for a powerful new Directive to ensure the recycling of the vast majority of a car's parts at the end of its life.

In its proposal, the Commission argued that it was necessary to give recycling a clear priority over energy recovery, and to put into practice, for end-of-life vehicles, the hierarchy of priorities established in the EU's waste management strategy. It also insisted that the Directive should be based on the important principle of producers' responsibility, by establishing that collection and recycling of end-of-life vehicles should not be a burden on public authorities but should be a task for the economic operators in the automotive chain.

Last owners to be required to deregister their vehicles

The key to the Directive is a requirement on last owners to deregister end-of-life vehicles from national registers and, in doing so, receive a certificate of destruction proving the vehicle has been handed over to an authorised facility for dismantling and treatment. Under the terms of the Council's Common Position this will start in January 2001 for all vehicles placed on the market from that date, but only from January 2006 for vehicles placed on the market before January 2001.

Some Member States, Germany in particular, and the automobile manufacturing industry lobbied furiously against retrospectively applying the law to older cars. Germany, with a Green Party environment minister, found itself embarrassed by having to block agreement on such a green proposal at a meeting of the Environment Council which it was chairing in the final days of the German Presidency in June 1999; (the Common Position was agreed a few weeks later under the Finnish Presidency). ACEA said this provision would "impose on the car industry high financial obligations that are bound to affect the economic situation of the sector and its competitive situation".

Provisions in the end-of-life vehicles Directive

The Directive will require the Member States to introduce a certificate of destruction for end-of-life vehicles which can only be handed over to the last holder and/or owner by an authorised treatment operator as a condition for deregistration of the vehicle and relief from corresponding obligations (e.g. taxes). This should allow authorities to control the destiny of end-of-life vehicles. The certificate and the establishment of take-back schemes should encourage the last owner/holder to hand over the end-of-life vehicle to an authorised facility. The text foresees authorisation schemes and requirements for both treatment facilities and treatment operations and sets out requirements to ensure that these operations occur in an environmentally-sound way.

Targets for reuse of end-of-life vehicles

Targets for reuse (use for the same purpose for which the component was conceived), recovery (including energy generation) and recycling (reprocessing in a production process excluding energy recovery) to be attained by economic operators will be laid down in the Directive. In particular, no later than January 2006, the reuse and recycling of end-of-life vehicles shall be increased to a minimum of 80% by an average weight per vehicle and year of manufacture. For vehicles produced before the year 1980, Member States may foresee lower targets, equal to at least 70%. No later than January 2015, the reuse and recycling shall be increased to a minimum of 85% by an average weight per vehicle and year of manufacture. Furthermore, following the advice of the European Parliament, the Member States agreed to provisions prohibiting the use of lead, mercury, cadmium and hexavalent chromium in the manufacture of future vehicles.

The Parliament, in its February 1999 first reading, also suggested that "historic" vehicles and two- or three-wheeled vehicles should be exempted from the Directive. Furthermore, it called for the Commission to adopt, before the Directive comes into force, appropriate measures to ensure that components from end-of-life vehicles are reused only on condition that they do not give rise to any safety or environmental hazards.