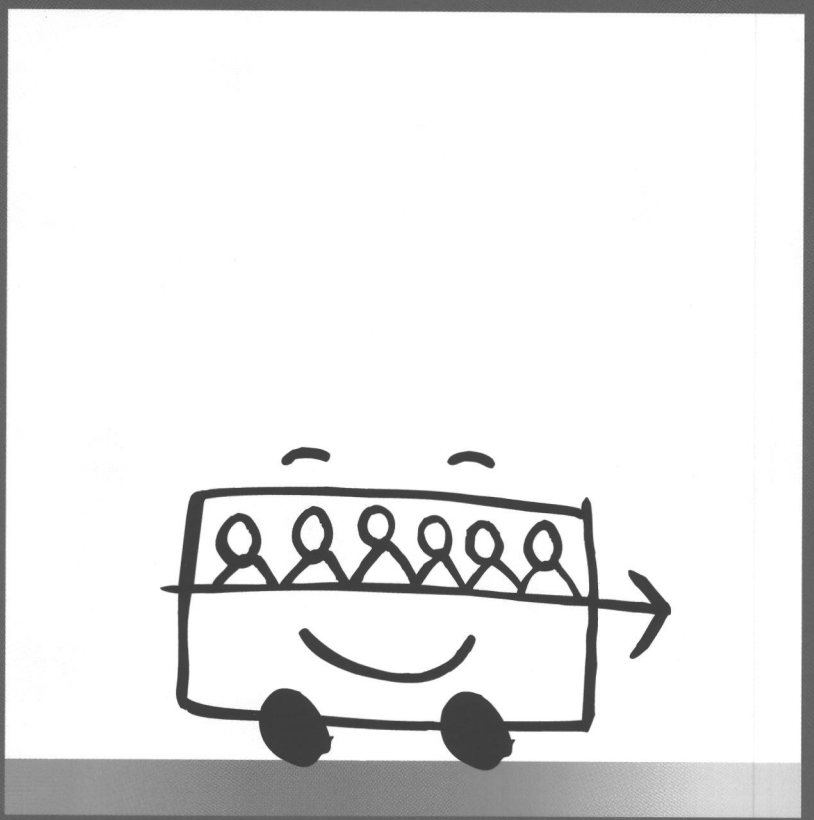
Supplement 4/95

European
Commission

The citizens' network

Fulfulling the potential of public passenger transport in Europe



EN

Supplements 1995

1/95 Address by Jacques Santer, President of the Commission, to the European Parliament on the occasion of the investiture debate of the new Commission

Commission's programme for 1995

Presentation to the European Parliament by Jacques Santer

Resolution of the European Parliament on the programme for 1995

2/95 Strengthening the Mediterranean policy of the European Union: Establishing a Euro-Mediterranean partnership

3/95 The European Union and human rights in the world

4/95 The citizens' network – Fulfilling the potential of public passenger transport in Europe

5/95 Green Paper on innovation

Bulletin
of the European Union

Supplement 4/95

The citizens' network

Fulfilling the potential of public passenger transport in Europe

Green Paper

Document draw up on the basis of COM(95) 601 final

European Commission

Illustrations are reproduced by courtesy of BCEOM; City of Bruges; DAB-Silkeborg a/s; European Cyclists Federation; European Federation for Transport and Environment (T & E); Ian Allan Publishing; North-West Regional Association; the *Sheffield Star*; and Wiener Linien; amongst other sources.

Manuscript completed in November 1995

Cataloguing data can be found at the end of this publication

Luxembourg: Office for Official Publications of the European Communities, 1996

ISBN 92-827-6225-4

Printed in Belgium

Foreword

Good transport is obviously fundamental to the quality of everyone's life. But as demand for transport continues to rise and is — mostly — met by increased use of cars, greater strain is being put on transport systems, resulting in more pollution, accidents and congestion. As a consequence, instead of broadening the freedom of movement which we all prize, car use is, ironically, contributing in many urban areas to a loss of mobility. In addition, many people do not have access to cars and they therefore experience particular social and economic disadvantages when transport systems depend substantially on the availability of cars.

Better planning of land use can, of course, help to bring the transport system into better balance: by ensuring that schools and shops are sited close to homes, for example. Technological developments can assist too, through fairer and more efficient charging for transport use, measures to reduce congestion and changes in work patterns. But these measures — although valuable — are only part of the answer.

The convenient, economic and safe movement of people must be at the core of transport policy-making and provision. An integrated approach is therefore essential — and that must include a strategy for increasing the use of public passenger transport. If public transport is made more attractive, by improving standards of service and organization, and more accessible to people whose mobility is limited, large numbers of people will be encouraged to continue to use or to return to using it regularly.

This document is aimed at promoting that progress, and furthering access and choice for everyone. I want to foster policies for passenger transport systems which put the needs of people at the very centre of decisions about transport provision. In this document, therefore, we consider ways of doing that and we also give examples of where it is being done in practical and effective ways.

This is a Green Paper — a discussion document — and I would like comments and ideas from travellers of all kinds. That is the way to ensure that the voices of experience are heard right across our Union.

NEIL KINNOCK
Member of the European Commission

Contents

Executive summary

Effective passenger transport systems are essential for European economies and for the quality of life of European citizens. It is vital that transport systems are designed to meet people's needs, and are flexible enough to respond to their changing requirements, including the growth in demand for transport. This increasing demand has, to date, largely been met by greater use of private cars which now accounts for 75% of travel. The car has brought many advantages: in particular it gives people independence and flexibility in making their journeys. But it has also resulted in increased congestion, pollution and accidents, all of which affect both car users and those who do not have access to cars.

Technological development including the possibility for introducing new pricing mechanisms will create opportunities for dealing with congestion and the increasing demands for access to employment, services, leisure facilities and holiday destinations. Nevertheless if further consequences for our quality of life and for the environment are to be avoided then the development of public passenger transport systems must be given greater priority as part of an integrated approach. This is true for everyone and particularly the estimated 40% of European households who do not have private cars.

This paper suggests ways of making public passenger transport more attractive and usable. We want to reduce dependence on the car by achieving that objective and to extend the transport choices of those without access to cars. This means that public passenger transport must become more flexible and better suited to meeting the needs of its users. In particular, public transport systems and vehicles must be designed to be accessible to the 80 million or more European citizens who, permanently or for some periods of their lives, have to deal with reduced mobility.

Clearly, it is essential that the needs of passengers are put at the centre of decision-making at local, national and Community level. The goal must be the achievement of networks of public passenger systems which fit together so that passengers can change easily from train to bus to tram, from car or bike to public transport, which interconnect long-distance and local transport networks and which enable those people with cars to reserve them for journeys where flexibility and independence of movement are important. In addition, public transport should ideally be a service open to all citizens in terms of accessibility to vehicles and infrastructure, affordability in terms of fare levels, and availability in terms of coverage of services. That is the way to establish the citizens' network.

This is the first time that the European Commission has issued a policy document on public passenger transport. It is not intended to be some sort of master plan. Decisions should be taken at a level close to those using the service. The Commission recognizes that the nature of passenger transport means that measures necessary to build up the citizens' network must and will be taken at a local, regional or national level. The European Union's role is to inform, to promote and to enable. In addition, since many existing EU policies have an impact on public transport, our actions in these areas can be improved and better focused.

Information and the promotion of best practice

There are many examples of best — indeed excellent — practice in passenger transport across the Union, but information about them does not always reach a wide public. The Commission will work to improve existing mechanisms, including databases, to promote best practice. This paper suggests criteria for modern, user-friendly public passenger transport systems and considers the role of target-setting in providing incentives to public transport operators.

The Commission is also considering launching an award to European towns and cities whose transport systems provide high standards of quality. This would enable citizens to see whether the transport arrangements in their town or city met such standards and, if they did not, to press for improvements.

This paper is a consultative document, and the Commission wishes to draw in expertise and experience from as many sources as possible. As part of the consultation process we will convene a 'Citizens' Network Forum' in 1996, to give interested parties — including, of course, users — an opportunity to consider and evaluate the extra value of measures proposed.

Using EU policies to promote passenger transport

The Commission intends to refocus its research and development work on transport to give greater emphasis to efforts to improve public transport and to promote a door-to-door service. This will require an assessment of how each project will foster an integrated and intermodal approach to transport.

Research often involves local and small-scale initiatives. The Commission will consider how innovative passenger transport concepts can be promoted by means of a more solid framework for support and exchange of information.

The trans-European networks (TENs), which cover transport, telecommunications and energy, were established by the Treaty on European Union to 'enable citizens of the Union ... to derive full benefit from the setting up of an area without internal frontiers' and for 'promoting the interconnection and interoperability of national networks' while taking account 'of the need to link island, landlocked and peripheral regions with the central regions of the Community'.

Guidelines for the development of the TENs represent a new dimension in planning. They create the basis for the development of the European transport network in the Union and its neighbours which is environmentally sustainable, has a social dimension, and is tailored to specific transport requirements.

The TENs obviously relate to long-distance links, but equally clearly these long-distance routes must link into local transport systems. The Commission will favour those TENs links which interconnect with local systems and which promote public transport. Implementation of the Commission's action plan towards establishing the global information society will support further development of services for transport users such as travel information and traffic management techniques in order to encourage the effective integration of individual and public passenger transport.

The Union's regional development policies already provide a significant contribution to public transport. Whilst respecting the existing legal framework and eligibility criteria of cohesion instruments, the emphasis should be on Community co-finance for projects containing integrative, intermodal features in the course of fulfilling the employment and development objectives of regional and structural policies.

There are several options open to Member States for the ways in which markets can be structured, including publicly planned, owned and operated systems and systems where competition is completely open with no controls. However, the Commission believes that the concession system— where services are subject to open tender but within a defined operational framework — is well suited to providing an environment which gives incentives to operators to raise standards whilst safeguarding system integration which is particularly important in relation to urban and regional transport. The Commission considers that contracting concessions should be based on transparent, Europe-wide public tendering and will look at ways of promoting the concession system.

Conclusions

The European Commission wants to ensure that the needs of citizens are put at the centre

of decisions about transport provision. As part of this effort, we seek to stimulate discussion and debate on the best ways to promote public passenger transport in the European Union. All interested parties, including Member States, the Council, the European Parliament, the Economic and Social Committee, and the Committee of the Regions are invited to submit their observations on this paper by 31 July 1996.

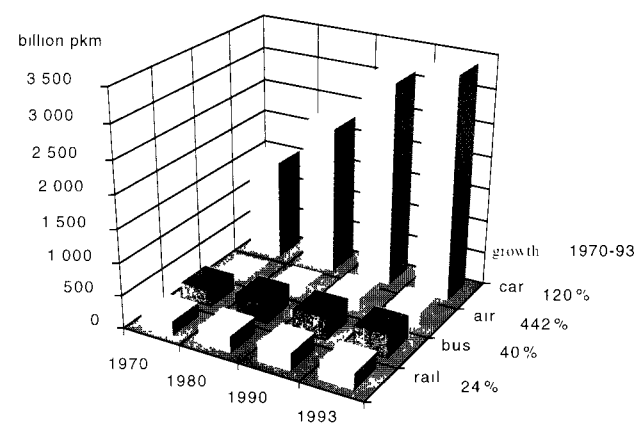
Part A — Trends and policy requirements

Chapter I — Recent developments and current challenges to passenger transport in Europe

Recent trends

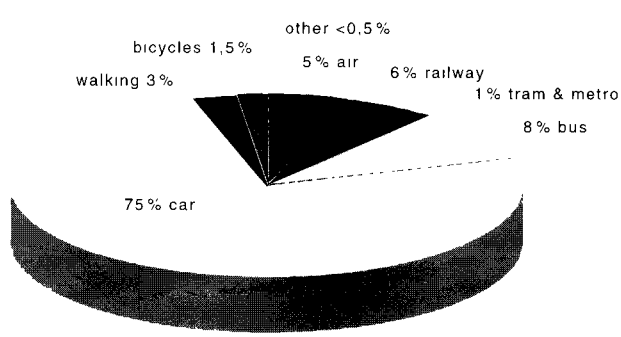
1. Passenger transport is a growth industry. Between 1970 and 1993 passenger transport in the 15 European Union countries grew at an annual rate of 3.2%, whereas the average growth rate of the GDP (in real terms) was 2.4%. The average distance travelled every day by each European citizen has increased in that period from16.5 km to 31.5 km. The growth in demand for transport has been met largely by increased use of private cars which now account for 75% of kilometres travelled. Ownership of cars in the EU has increased between 1975 and 1995 from 232 per1 000 people to 435 per 1 000.

Graph 1: *Growth in passenger transport by modes*



Source European Commission (based on ECMT and national statistics)

Graph 2: *Modal split based on pkm (EUR 15, 1993)*



Source European Commission (based on ECMT and national statistics)

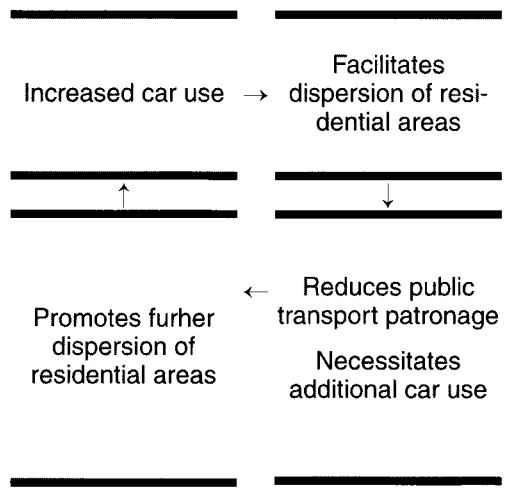
2. Transport accounts for on average 7% of gross domestic product in the European Union.[1] Around 8.5 million people are on the payroll of the transport and transport equipment industry. But more generally, all business depends on transport systems to enable its customers, employees and suppliers to travel.

3. The social element of personal mobility is equally important. Public passenger transport is particularly important for those who have no access to private cars, if they are to have access to employment, services such as shops and schools, to leisure activities, holiday destinations and to family and social contacts. In Europe there are about 100 million elderly people. About 80 million people are mobility impaired of whom about 50 million are disabled. Older people — and others with reduced mobility — are particularly dependent on public transport. It is estimated that at least 50% of older people do not have access to private cars.

4. Additionally, access to mobility is of key importance for linking people living in rural and peripheral regions to places of economic, social and cultural activities. Moreover, if Europe is to reach its goal of regional cohesion, then each region should have access to the major markets of the European Union. This is particularly important for developing small and medium-sized towns as a network of regional centres required for ensuring the availability of essential public services such as education and vocational training.[2]

The need to travel

5. There is growing recognition of the relationship between existing imbalances in the passenger transport system and the location of residential areas and work places. Their separation caused by industrialization and accelerated by increasing access to individual transport means (private cars) has led to urban sprawl and a significantly increased need to travel. At the same time dispersion of residential areas has made it difficult to establish effective public transport means as an effective alternative to the use of private cars. Changes in the structure of families (smaller households) have accentuated these trends. Transport demand fuels itself, access to mobility creates new demand for mobility which can often be served effectively only by use of private cars. The historical function of towns to combine activities at one place reducing the need to travel is being replaced by a situation where the location of leisure services, homes, shops and work places continuously increases the need to travel.



The demand for mobility will continue to be high although technological developments and changes in work patterns (e.g. teleworking) may reduce the need to travel in certain sectors.

Congestion and the environmental consequences of road transport

6. Many more people in Europe now have access to cars. That is a reflection of greater prosperity and brings greater freedom. But the increasing demand for mobility and growth in car ownership have, combined with limits to the provision of more road infrastructure, produced an enormous increase in congestion, notably in urban areas and on key transit routes. According to OECD estimates,

[1] 'Transport in the 1990', *Europe on the move*, European Commission 1993

[2] See 'Report Europe 2000+', 'Cooperation for European territorial development', European Commission, 1994

vehicle speeds have declined by 10% over the last 20 years in major OECD cities.[1] Since 1971 inner London transport speeds have fallen to less than 18 km/h. Estimates indicate that in some European cities average traffic speeds at peak times are lower than in the days of the horse-drawn carriage.

7. Various attempts have been made to calculate the costs of congestion. A recent OECD study estimated that these costs amounted to 2% of GDP,[1] which implies that congestion costs in the European Union are about ECU 120 billion. That is four times more than is spent on public passenger transport across the EU.

8. The environmental consequences of road traffic in general are particularly important. It has been estimated that transport causes 62% of carbon monoxide (CO), 50% of nitrogenoxide (NOx), 33% of hydrocarbon and 17% of carbon dioxide (CO_2) emissions.[2] This has fuelled concerns relating to both local and global air pollution. It has also been calculated that 20% of Europe's citizens suffer from unacceptable levels of noise from road traffic.

9. Reducing pollution and congestion by means of increasing road capacity is — in many cases — not the best option. The cost of construction of road (and parking) capacities in densely populated areas continues to increase. Studies indicate that improving and extending infrastructure results in more journeys overall as road users make use of the new or improved facilities. The environmental impact both of these extra journeys and of the construction of the road infrastructure may outweigh any benefits in improved traffic flows.

Public passenger transport: The way forward

10. Reinforcing public passenger transport services [3] offers an alternative: congestion is usually based on traffic patterns that fit particularly well with the comparative advantages of collective transport since it is caused by collective demands in space and time. In such situations, public transport is particularly efficient in terms of resources required. (At an occupancy rate of only 50%, energy consumption per passenger km of bus and regional rail services is about five times lower than for private cars.) Moreover, technological progress has made it possible to improve the performance of public transport in terms of reliability, accessibility, comfort, safety and flexibility.

11. Public passenger transport is also more sustainable in environmental terms. Data on air pollution show that emissions of the main urban air pollutants per passenger km are between four and eight times less for public transport and use five times less energy per passenger than cars as well as causing less noise and pollution. In terms of land use, public transport again demonstrates advantages. For example, per passenger, buses require only 5% of the road space required for cars. Studies indicate that public transport is also safer for the travelling public, particularly in the case of rail transport.

12. However, the challenges facing public passenger transport are enormous: dispersion of residential areas; outdated equipment; lower staffing levels and increasing street crime leading to reduced personal security for passengers: all act to deter the user of public transport. Most surface public transport systems in Europe are heavily dependent on State support [4] for running operations and unable to generate the financial resources needed for updating systems without recourse to external financing, and constraints on public budgets make the funding of improvements additionally difficult.

---

[1] See 'Urban travel and sustainable development', OECD-ECMT, Paris 1995

[2] Corinair, 1990.

[3] 'Public transport services' in this document means collective transport services offered to the public, regardless of legal status or ownership of the operator.

[4] See Annex C for table on cost recovery rates of urban public transport systems

Chapter II — Towards an integrated 'citizens' network'

13. The challenges resulting from developments over recent decades indicate the key objective of policy-making on passenger transport in Europe: how to meet the increasing demand for transport in the most efficient manner to better fulfil economic, social and environmental objectives. To do this, efforts must be made to improve the effectiveness of existing modes, including more appropriate pricing mechanisms, to integrate them and to promote exploitation of their respective comparative advantages. Much of this work is, and will continue to be, taken forward at national and/or regional and local level. A number of common features emerge which indicate some of the options which could be pursued by the relevant authorities in the improvement of public passenger transport systems.

14. Access to passenger transport systems is crucial. Improving system accessibility covers a wide range of areas. This includes the design of rolling stock and (intermodal) stations, linking residential areas to central trip-attracting activities (work places, shopping, leisure activities), serving rural and peripheral areas and meeting the needs of people with reduced mobility. The needs of people who have no access to private cars means that a citizens' network must also aim to provide opportunities for door-to-door travel without reliance on private car use.

15. In addition to ensuring system accessibility, passenger transport systems must be affordable, safe (in both personal security and accident terms) and reliable. Furthermore, quality requirements such as frequency, cleanliness and comfort are important preconditions for making public transport more attractive. Well-qualified and motivated staff are essential for meeting important quality criteria.

Citizens' network quality checklist

System accessibility:	■ needs of people with reduced mobility ■ physical design of rolling stock ■ design of stations including intermodality ■ linking trip attracting areas to public transport ■ linking rural and peripheral regions
Affordability:	■ fare levels ■ socially desirable services (concession fares)
Safety/security:	■ safety standards ■ quality of lighting ■ qualification of staff ■ number of staff on duty/surveillance system
Travel convenience:	■ journey times ■ reliability ■ frequency ■ cleanness ■ comfort ■ information ■ integrated ticketing ■ flexibility
Environmental impact:	■ emissions ■ noise ■ infrastructure

16. Such quality requirements must be met if public passenger transport systems are to become an effective alternative and supplement to the use of private cars. However, the impact of 'stand-alone' quality improvements to public transport is limited if the overall transport system is not integrated. The main areas of relevance for system integration are:

Integration of individual and public transport

17. The effective integration of individual modes (including walking and cycling) and in public transport operations is essential: in particular, the construction of interconnecting transport infrastructure (e.g. multimodal terminals, park and ride facilities) and the establishment of an information and traffic management system (incorporating the use of transport telematics) which allows for the reassessment of travel choices before and throughout the journey.

Integration of public passenger transport

18. Better coordination of subsystems such as bus, tram, metro and rail operations is essential for fulfilling the potential offered by public transport. This applies to both hardware (terminals, multiple use of rail tracks) and software (combined ticketing, information systems, tariff systems) improvements.

19. In order to make the most of improvements in each individual transport mode, transport planning should be integrated between all the modes, so that for example, a passenger can buy a ticket covering the whole of the journey — even if that includes a change from, for example, tram to bus. Transport planning should include the use of intermodal techniques (for example, easy change terminals, through-tickets), establishment and use of measures to give priority to public transport such as separate bus lanes and a mix of measures designed to encourage people to use public transport ('pull' measures) and, where appropriate, measures to reduce the use of private cars ('push' measures).

20. Broadly, push measures can be divided into financial instruments applicable either generally (e.g. higher fuel taxes) or at bottle necks of the systems (e.g. tolls for using the inner-city areas, higher parking fees), and technical and regulatory constraints (bans on use of cars in certain areas, removal of parking areas). This paper largely concentrates on pull measures for improving public transport. But on their own, pull measures are not always sufficient to effect a change in transport patterns. A mix of pull and push measures should aim at widening effective choice and improving access to mobility. The best mix for any given situation will vary. But the policy-mix should be determined by a number of basic requirements:

Criteria for determining mix of 'pull' and 'push' measures

- level of congestion (journey times)
- impact of quality improvements to the public transport systems
- impact of measures to give public transport priority
- exibility in relation to coping with traffic fluctuations
- achievement of critical mass for efficient provision of public transport services
- needs of business and commerce
- articularities of local town and land-use planning

21. The issue of push measures is closely related to the discussion on more efficient and equitable transport pricing (i.e. internalization of external costs). For example, asking transport users to bear a greater proportion of the real cost (including costs of pollution,

accidents, and infrastructure) of their journeys is likely to result in reduced use of private cars in congested, urban areas. This issue is vital to decongesting our cities and reducing pollution and accidents. Considerable work has already been undertaken in some Member States. The Commission will bring forward a Green Paper entitled 'Towards fair and efficient pricing in transport', on policy options for the internalization of external costs in order to advance the debate. Progress on this area is essential if transport policy-makers are to have the necessary tools to bring transport systems into balance.

Integration with other policy areas

22. The effectiveness of passenger transport planning depends on good coordination with other policy areas. An appropriate system of charging and coordination with land-use planning and information and communication technologies are particularly important tools.

23. Public policy should consider the relationship between the cost of transport, infrastructure needs and costs, and planning decisions, as well as the wider social cost and benefits of public transport provision. Further research is needed to assess the overall benefits to society of improvements in public transport. A UK study estimated that in the health care and social services sectors, annual benefits of between ECU 200 to 900 million were possible as a result of increased use of public transport by those with reduced mobility.[1]

24. Implementation of land-use rules aimed at improving access to work and other services offers an opportunity to improve passenger transport systems and reduce the need for mobility. Concentrating residential development at stations along public transport corridors, creating a high density of trip-attracting activities in central areas well served by public transport and issuing guidelines which seek to ensure that a new development is accessible to public transport, should help to promote public transport use without the need to influence the decisions to use one particular mode or another. Developments towards the information society will have implications for the need to travel and the structure of the demand for mobility.

Subsidiarity: What it means for the citizens' network

25. The Commission recognizes that developing integrated solutions to passenger transport problems is primarily a task for national, local (municipal) and regional authorities. But there are areas where action at Community level can assist the achievement of improvements in public passenger transport systems. For example, the establishment of effective trans-European networks depends in part on good reception points and links within European towns and cities. But these are frequently those most affected by congestion. Congestion and its effects reduce the quality of life and undermine the potential for creating jobs and for strengthening competitiveness. Sharing information and spreading the know-how about best practices and state-of-art technologies throughout Europe should be of immense benefit to the planning and implementation of transport policies at whatever level.

26. At European Union level, policy instruments such as R&D programmes, regional policies, technical harmonization and trans-European network projects can contribute to improving public passenger transport systems in Europe and already do so in some areas. Taking account of how public passenger transport can contribute to economic, social and environmental policies will help give clearer guidelines for use of relevant Community instruments. Defining a coherent EU policy towards public passenger transport systems will give a clear guideline for use of the various Community instruments.

27. Finally, the regulatory framework on transport and related measures as already established by Community legislation, such as rules on market access, public services and State aid, is extremely important for the effectiveness of both national and regional/local transport policy measures and

[1] 'Cross-sector benefits of accessible public transport', Fowkes, Oxley and Heiser, Cranfield, 1994.

the decisions of transport undertakings and investors. The existing framework should be reviewed with a view to identifying options to improve its impact on the quality and the attractiveness of Europe's public transport systems.

28. An EU framework which combines all these measures will guarantee the best overall effect of the thousands of private and public decisions necessary to develop public passenger transport systems. It would not only fulfil the subsidiarity requirements of the Treaty but also support implementation of this principle at national level.

Part B — Good practices in passenger transport planning – Developing the citizens' network

29. Passenger transport in its broadest sense involves many different means of transport, or modes. The principle of a citizens' network is to integrate these different modes so that, as far as possible, the potential traveller will have a choice. The previous chapter set out a quality checklist for public passenger systems. This section considers this in more detail, starting with a brief look at how other forms of transport interact with public passenger transport and how integration might be improved with a view to promoting usage. It then considers other quality criteria, using examples of best practice from inside and outside the EU to illustrate what is already being achieved. The initiatives listed below have been implemented at a national or regional level, in some cases with Community support

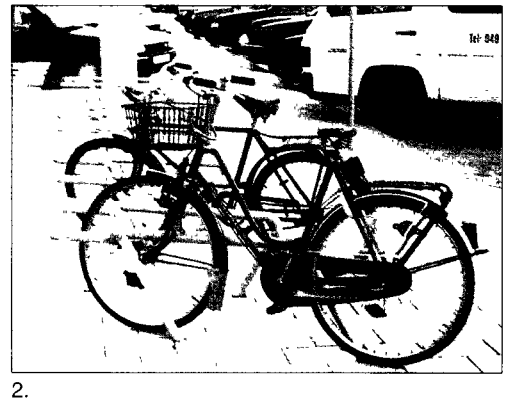
Walking

30. The use of public transport (as well as other transport modes) involves some walking, both at the beginning and end of the journey, and when changing between modes or vehicles. Planning should seek to minimize this 'in journey' walking, as well as making environments such as metro stations as user-friendly and secure as possible. More generally, for the shortest journeys (of up to 3 km), walking offers a viable alternative. Bad traffic management, congestion and pollution are disincentives for people to walk in an urban environment, while in rural areas, lack of adequate footpaths may make walking on busy roads dangerous. Fear of crime or attack also plays a role. Clear segregation of traffic from pedestrians, and the trend towards pedestrianization in towns and cities are positive developments, as are better lighting and more consideration in the design of residential areas to avoid enclosed areas.

The bicycle

31. Measures which better integrate the use of bicycles with public transport are particularly important as they significantly extend the distance which can be travelled. The bicycle also offers an alternative to the car for short journeys (e.g. below 8 km). Bicycles are compact and relatively fast, with average urban speeds of 15 to 25 km/h, [1]

1.



2.

[1] 'Cyklisthastigheder', Jensen, Copenhagen, 1988.

3

4.

1 – 4 Bicycle centres at Dutch railway stations.

and there would be a significant environmental benefit if urban car journeys could be substituted by bicycle trips. The European Cyclists Federation (ECF) has drawn up a plan on how to promote cycling in urban areas, which focuses on better provision for cyclists both in terms of infrastructure and in shared road space. In the Netherlands there are bicycle centres at 80 railway stations. Operated by Dutch railways, these centres provide guarded parking, bicycle hire, repair, and sales.[1]

The powered two-wheeler

32. The term 'powered two-wheeler' (PTW) covers powered bicycles, mopeds, and motorbikes. Sales of PTWs are increasing throughout the Union, with a trend towards them being a leisure vehicle and, increasingly, a means of commuting. The primary advantage of PTWs in urban areas is their relatively efficient use of space and fuel. A 1992 report by the Commission's Motor Vehicle Emissions Group (MVEG) calculated that a PTW could carry out an urban trip in between 16 to 46% less time than a car while using between 55 and 81% less fuel.[2] Organizations such as the Federation of European Motorcyclists (FEM) and the International Federation of Motorcyclists (FIM) have advocated a number of policy measures to facilitate the integration of PTWs into the urban transport chain, covering secure parking at park and ride facilities, traffic segregation, and the freedom to use bus lanes.

The taxi

33. In some Member States taxis, are viewed as an integral part of public transport systems. In all cases, they are an important mode of transport for groups such as non-car owners, the elderly, and the mobility impaired,[3] and in some circumstances provide the most cost-effective means of transport. Despite their importance, taxis tend to be underused.[4] Possible reasons for this include the level of fares (although a shared taxi can be cheaper than public transport), quality, and accessibility of equipment — as purpose-designed taxis, such as Spanish and Swedish fully accessible taxis and the British black cabs, are relatively rare.

[1] 'Bikes and trains', a research project carried out by the European Cyclists Federation and funded by the European Commission.

[2] Quoted in FEM policy paper on measures to promote PTWs, Brussels, July 1995.

[3] 'Improving public transport attractiveness', DG XVII, April 1995.

[4] 'Taxis, the neglected mode in public transport planning', Beuret, PTRC, 1994.

A Dutch *Treintaxi* waits at a railway station

Measures have been taken to better integrate taxis into the transport chain. An innovative approach in the Netherlands is the train-taxi-ticket, which, for the payment of a fixed supplement of HFL 5, allows the traveller to transfer to a waiting taxi for the final leg of the journey.

The private car

34. Measures to utilize more efficiently cars tend to focus on improving traffic flows in general and on increasing vehicle occupancy rates for example through car-pooling and car-sharing. Actions to help the private motorist better cope with congestion are centred on developing transport telematics technologies within the framework of the broader Integrated road transport environment (IRTE). Measures to increase vehicle occupancy rates also include schemes giving traffic privileges to vehicles carrying three or more occupants. A feature in operation in the United States, and on an experimental basis in Madrid, is the reservation of particular carriageways for high occupancy vehicles. Such schemes require a high level of observance, and enforcement of the rules. In some Member States, schemes have been started which use private cars to supplement public transport use particularly for older people. Other initiatives seek to promote car pooling (several people sharing a car to a common destination) which will also assist the more efficient use of private cars.

Integrated electronic traffic management (Munich)

Since 1991, Munich and surrounding municipalities have gradually been introducing a cooperative traffic management system largely based on electronic devices. Important elements are

- installation of information screens at stations and connecting points advising travellers on first best option to get to the destination
- inclusion of public transport alternatives in traffic information for drivers
- dynamic adjustment of information to individual travellers in line with given traffic flows
- construction of high-capacity park and ride facilities.

The system is supplemented by measures aimed at reducing the use of cars in the inner city 'blue-zone' significantly. Innovative and attractive ticketing (jobtickets), partly co-financed by employers (Siemens, BMW) has supported enhanced use of public transport means.

An EU-supported exchange of information on experiences has been established with other cities (Amsterdam, Lyons, London and Dublin).

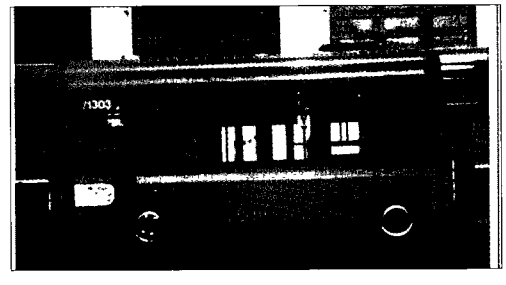
Public passenger transport

35. Throughout the European Union and outside it an enormous amount of work is being undertaken to promote public transport and allow it to realize its potential. Improvements cover the key areas of vehicles and rolling stock, system integration, information provision, quality of service, increased convenience, planning priority for public transport, and land use planning within an integrated policy approach. This list is not exhaustive, and there are many more examples of good and innovative practice that are not mentioned.

36. The use of unsuitable equipment is a common cause of passenger dissatisfaction. This can be because vehicles or rolling stock are not easily accessible, too old, too cramped, or too dirty. Infrastructure such as shelters and turnstiles may be inadequate. Lack of accessibility is a problem for many passengers, and not just the disabled. The elderly, pregnant women, passengers with prams or small children, or bulky shopping, may all experience problems when using public transport. However, throughout Europe, invest-

Using a low-floor tram, Sheffield, UK

A low-floor 'service bus', Aalborg, Denmark

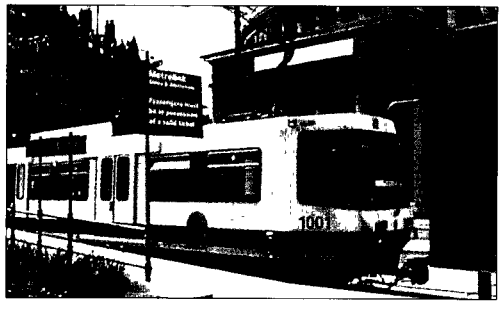


An electric city bus in Florence

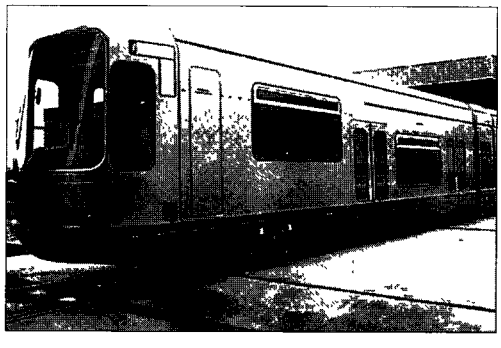
A highly manoeuvrable low-floor city bus, running on 'clean' diesel, Bruges

ments are being made in vehicles and rolling stock, with a new generation of midi, mini, and city buses being developed to serve once inaccessible areas or newly pedestrianized zones.

37. In the light rail sector, there has been something of a renaissance, pioneered by Grenoble, with cities and towns introducing or reintroducing tramways of ultra modern design, with a high level of accessibility.

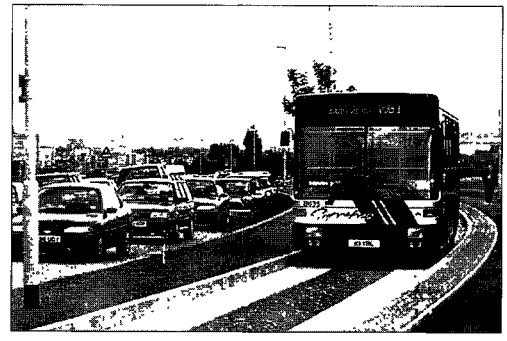


The Manchester Metrolink annually carries 12.5 million passengers, 20% of whom are elderly, and has replaced over a million car journeys per year into the city centre.



Typical of the modern rolling stock used in France, a low-floor tram in Rouen

38. As well as vehicle standards there have been innovative approaches to utilizing better existing systems, such as guided busways, and trams which can use railway tracks.



A guided bus beats congestion in Leeds

Guided buses are conventional buses adapted to run on a dedicated busway. They can operate as standard buses on normal roads. Their advantages over bus lanes are that they only require a 2.6 m right of way, rather than 3.5 m for conventional buses, and other traffic can be physically prevented from entering the busways.

System integration

39. Potential users of collective transport may be discouraged if a journey which involves changes of mode or within mode, for example bus to tram or bus to bus, also involves long waiting times, because schedules are not synchronized, or buying additional tickets, because fares systems are not integrated. Projects carried out in Norway, [1] and a study in Sweden, [2] show that out-of-vehicle waiting time is viewed up to three times more negatively than in-vehicle waiting time.

40. System integration aims to bring together all the public passenger transport modes into a common operating environment. The principle is that the different modes such as tram, suburban train, metro and bus operate within a network. The three most important elements of an integrated system are

[1] Norwegian trial scheme for public transport, Oslo, 1993.
[2] Algers and Wildert, 1987, quoted in 'Factors influencing modal choice', Rotterdam Transport, September 1991.

coordinated timetables, through-ticketing and multimodal terminals.

Timetables

41. Coordinating the timetable is vitally important. The need to change mode should be reduced as much as possible, but where it is unavoidable the time spent waiting for the next vehicle should be kept to a minimum. There is the all-too-familiar scenario of one form of transport leaving its stop just as another, carrying connecting passengers, is arriving.

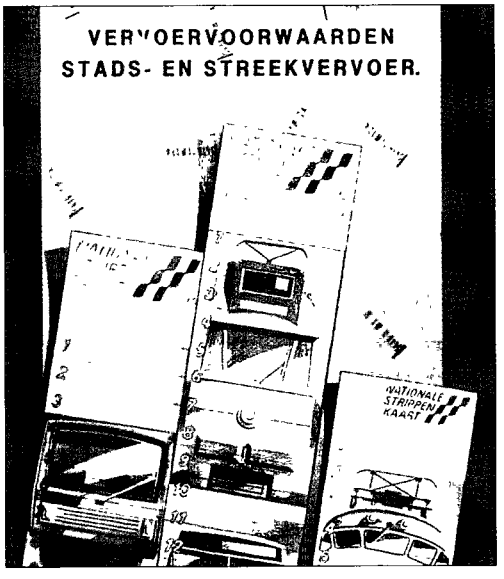
A simple and effective means of overcoming this problem is in operation in Graz, Austria, where a signal announces to a waiting bus if an approaching tram is within a few minutes of the stop, thus allowing the bus to delay its departure slightly .

42. Where the system is managed by a single organization, coordination is simplified; however coordination can of course be carried out between different operators, including those operating across national borders.

Two operators on either side of the French-Swiss border, Annemasse and Geneva, have signed an agreement harmonizing the arrival and departure times of connecting services.

Tickets

43. Fare systems are often complex and the method of payment too restrictive, for example, allowing only prepaid tickets, not available on the vehicle, or requiring exact fares. An integrated and harmonized ticketing system makes travelling easier for passengers as they are able to purchase a ticket at the start of their journey which is valid throughout. Where such systems have been introduced, this has also been accompanied by increases in use of public transport.



The Dutch Nationale Strippen Kaart *is available with two, 3, 15, and 45 'strips', each of which equals a zone — the more zones passed through, the more strips used — and is valid throughout the whole country.*

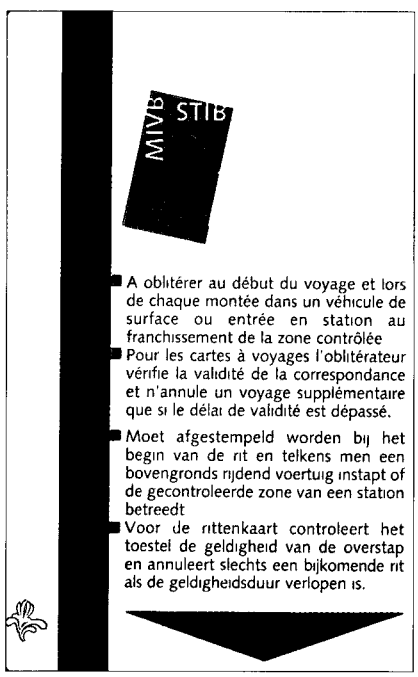
Multiservice payment card: Dublin

Under the EU-funded GAUDI telematics project 'generalized and advanced urban debiting innovations', Dublin is trialling a multiservice payment card which can be used for public transport, parking charges, and telephone calls. The card automatically debits units dependent on the service used.

With *carte orange*, introduced in Paris in 1975 and covering all modes, bus patronage increased by 36%.

Travelcard, introduced in London in 1982, and valid on tubes, buses and rail services, increased public transport usage by 16% at a time of decline elsewhere.

An example of a card covering a region is the Freiburg 'regional environment card' which allows passengers to travel throughout the region on 14 different companies, and during the weekend, for up to two adults and four children to travel on a single card.



Smart ticket, Brussels

The most simple cards contain a fixed value or number of trips which decreases with use. More complex 'smart cards' contain memories which can differentiate fares depending on, for example, distance travelled or time of day. In addition to allowing for precise allocations of revenue between different operators, advanced ticketing is a valuable management tool as it provides precise information on how the system is being used and allows it to be more responsive to customer needs. For example, it can tell the operator if a particular service, or part of a service, is heavily used at a particular time of day, or on a certain day, enabling them to plan for extra services to cover this period.

44. An example of an integrated tariff can be found in the Rhein-Main Verkehrsverbund, created in May 1995: 115 operating companies and 150 fare structures, covering 4.9 million people over an area of 14 000 km^2 were merged into a single operational area with a single ticketing system and a single fare structure. A difficulty with tickets which cover more than one operator is knowing which services were used, and how to divide the revenues. To facilitate revenue splits more and more operators are turning to advanced ticketing systems which make use of microelectronics.

Multimodal terminals

45. The creation of an effective citizens' network is crucially dependent on integration of transport modes — between public transport systems, but also pedestrians and private vehicles (the car, PTW, and the bicycle). Multimodal terminals, or transport interchanges, allow for speedy and easy changes between these different modes. The simplest form of a multimodal terminal is the park and ride, which allows for the interchange between the private car and public transport. Ideally such facilities should offer secure, covered parking for bicycles, thus enabling cyclists to utilize fully public transport. A more comprehensive multimodal terminal currently under construction is La Défense in Paris which will integrate urban, suburban and regional buses, metro and RER (the high speed regional metro), suburban trains, private cars, taxis, tourist coaches, and, eventually, the TGV high speed train. In both cases, the principle remains the same: providing a quality, accessible environment where the transfer between transport modes can be made easily and quickly.

Information

46. If transport systems and services are to be used effectively, it is essential that people who need to travel are kept informed about what is available in terms of transport choices and, when they are using the system, kept up to date on the progress of their journey and of the choices and changes they may need to make. Real time information on arrivals and departures is the norm at airports, and recent technological developments, particularly in the field of telematics and telecommunications (the information society), have created the scope for achieving major improvements in providing timely customer-friendly information for the urban transport user. For example, there are systems which allow the time of arrival of trams and buses to be predicted and displayed at stops, or to advise car drivers of available parking spaces at a transport interchange.

Looking for a parking place in Madrid

47. There are already systems operating in most Member States which provide real time information on public transport via teletext, minitel, and local radio, or at user-friendly computer terminals installed at transport interchanges. But the provision of information need not always be state-of-the-art technology, the simple measure of naming bus stops allows users unfamiliar with the system to orient themselves better, and can be combined with on-vehicle information such as on Berlin bus route 100, where information on final destination and next stop is displayed automatically on the bus. Operation assistance systems (OAS), such as in operation in Barcelona, allow for constant communication between vehicles, users, and the control centre. This allows controllers to take account of unforeseen delays and inform passengers both on the vehicles, by public address systems, and those waiting at bus stops, by alpha numeric displays.

Door-to-door service

48. Choice of transport will be determined largely by the quality of service offered. For those who have a choice, public transport is often considered to be only a second best to the private car. One of the primary advantages of the car is its ability to provide door-to-door service (insofar as parking is available). Public transport may never equal this flexibility, but measures can be taken to increase its ability to compete on convenience. Some operators now arrange for taxis to interchange with night buses or even operate the service with taxis, and in the Hamburg suburb of Wedel, night buses will, on payment of a small supplement, stop directly outside passengers' homes, even if this involves a route detour. In residential areas, often served by minibuses, the bus will follow a set route, but stop on demand. The system is known as 'hail-and-ride', and may feature buses adapted for the mobility impaired.

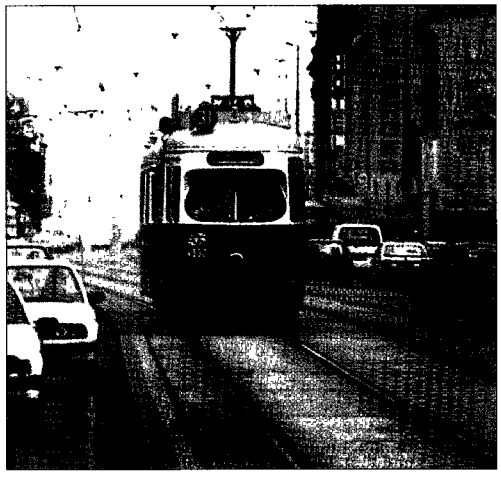
Giving planning priority to public transport

49. In urban conditions it has to be recognized that, whatever measures are taken to improve public transport, these are unlikely to be adequate to reduce congestion to levels permitting optimal use of equipment so long as the system is heavily weighted in favour of the private car. We now consider some so-called push measures designed to place public transport in a more competitive position.

Reserved lanes for public transport

50. Bus lanes or reserved tramways allow public transport to avoid the congestion caused by

other traffic, which has important effects for promoting public transport.



Vienna — Reserved lane for tram

Priority at traffic signals

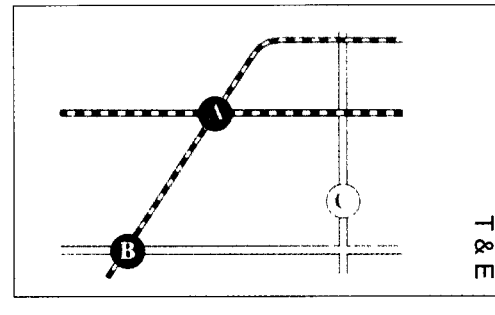
51. By allowing public transport vehicles priority at traffic signals, they can make considerable gains in time and, more importantly, keep to their timetables more effectively. The simplest system is a magnetic loop built into the road which is activated as the vehicle passes over it and changes, for example, a traffic signal to green. A more complex system uses infra-red and is known as selective vehicle detection. Vehicles are fitted with transponders which 'talk' to the traffic signals. A green signal can be held open or a red signals' time shortened. Where vehicles are turning, a filter light can be activated allowing the bus to run against oncoming traffic. Where bus lanes exist, even greater time savings can be obtained by an extra set of traffic signals ahead of the junction and reserving an advanced area for public transport vehicles.

Restricting car access

52. Some measures to give priority to public transport also have the effect of restricting access for cars. Many towns have banned cars from central zones freeing the space for public transport. Many towns which have not banned cars have nevertheless restricted available car parking space in the central zone. Ideally, this should be linked to the provision of park-and-ride facilities in the outer zone.

Land-use planning

53. Land-use planning can help to increase access to locations and facilities but reduce the need to travel. Businesses and other activities can be concentrated in areas well served by public transport. Distances between, for example, residential areas and shops and schools can also be reduced. For example, at a national level, the Netherlands has a policy of 'the right business in the right place', better known as ABC, which aims 'to ensure that businesses and services with a high potential of public transport utilization by employees and visitors are sited on locations which are easily accessible, or can be made easily accessible, by public transport'.



In the ABC system, locations are classified according to their accessibility.

A = good access by public transport, e.g. near public transport termini. Car commuting no more than 20%.
B = good access by public transport and car, e.g. near ring roads crossed by major public transport corridors. Car commuting no more than 33%.
C = Good access by road, e.g. alongside motorways. No limit on cars.

Business and services are classified according to their mobility profile which takes account of number of employees and visitors, dependency on road freight, dependency on car traffic. Shops and offices are located in A or B, transport-based activities in C. The development of out-of-town shopping centres in C areas is not permitted.

54. In the United Kingdom, the 1994 planning policy guidance to local authorities underlined the need to 'address ... the role of land-use planning in reducing the need to travel and encourage ... use of means of transport other than the car'.[1] At the same time there has been a move away from granting planning permission to out-of-town shopping developments. On a more local scale, the cities of Bremen and Edinburgh are both planning residential developments which will have no infrastructure for cars, while Portland in the USA is often given as an example of an integrated approach with its policy of favouring public transport, siting businesses next to public transport terminals, and restricting car parking.

Integration of transport and land-use planning: Portland

Portland in the State of Oregon is part of a greater metropolitan area of 1.4 million people. Decentralization of employment and population in the 1960s and 1970s led to sprawling suburbs, a derelict city centre, and social problems. To tackle urban sprawl, protect rural areas, and conserve energy, the State set up a Commission with special powers. Its aim was to reduce reliance on the car which was causing increased problems of congestion, noise and pollution. In downtown Portland, high-density housing was built to increase the resident population and measures to make the area more pedestrian-friendly were undertaken, including replacing a riverside motorway with an esplanade, stringent parking restrictions, and the provision of free public transport in the central area using a new light rail system. New road schemes have been scrapped in favour of new public transport lines. The result has been a revitalized city centre with 30 000 more jobs, and 40% of commuters using public transport. As a measure of their commitment to the policy, the Department of Transportation for the State of Oregon recently moved to new offices in Portland which have no car parking spaces, but are well served by public transport.

[1] Greening urban transport — Land-use planning', T&E, October 1994.

Part C — The European Union's role

55. The previous part looked at various best practice examples at a national, local and regional level. In this section, the paper considers those areas which affect public transport where either Community action might be appropriate or where there is already action at Community level which has a bearing on public transport.

Chapter I — Disseminating know-how and setting targets

56. Numerous good practice examples indicate the value of sharing information. Various institutions, authorities and associations have already started to organize a systematic sharing of information for those who run and use public passenger transport systems. The Eurocities initiative is an example of a concerted initiative of European cities aimed at cross-border sharing information on best practices in fields such as transport. The POLIS network and the Urban Transport Telematics Forum have proven to be useful instruments for sharing information. The Car-Free Cities Organization, created in 1994, brings together over 50 European cities to work on measures to improve urban mobility while respecting the environment, and the European Federation for Transport and the Environment (T&E) groups 25 non-governmental organizations from 15 countries, all specializing in transport and environment issues.

57. Some Member States regularly organize exchange of information with operators and public authorities on passenger transport. The European Conference of Ministers for Transport (ECMT) is monitoring developments in this area. However, such expert conferences and studies are not always followed by improvements in the day-to-day experience of the travelling public. The regularity and completeness of information exchange on options to improve existing systems can also be improved.

Working towards a higher profile on the political agenda

58. The Commission believes that the issue of improving public passenger transport should be much higher on the policy agenda. It wishes to promote a better exchange of information and follow-up at European level. Users' [1] interests also need to be represented more strongly in these discussions. The Commission will consider how best users' views might be represented, including the appropriateness of supporting information networks for groups of users with particular needs (e.g. older people). It is also working on the integration of consumer policy into other areas including the transport sector.

[1] The terms 'users' and 'passengers' — which are in common use in the transport sector — in this paper mean consumers as defined in Article 129a of the Treaty.

59. Existing frameworks for sharing and spreading information could be improved and supplemented to ensure that existing know-how (and lack of know-how) is more widely available. Such a framework should not prepare uniform mandatory solutions but should promote awareness of different approaches. It might also consider whether (voluntary) targets on issues such as reducing pollution, improving journey times, passenger consultation, enhancing system accessibility and increasing public transport ridership would be useful. The European Parliament, the Council and other EU institutions should play an important role in setting and promoting any such targets. These targets could assist operators and transport planning authorities when seeking political support for measures required to achieve them. Criteria for land-use planning to enhance accessibility and reduce the need to travel should also be covered. Similarly, establishment of criteria for a transport systems' quality rating could help to promote accessibility and higher quality across the European Union through voluntary measures. The Commission intends to examine the feasibility of such a quality rating and to consider whether it could form the basis for an award scheme open to all European towns and cities whose transport systems meet a high quality standard.

60. Systematic availability of information for planning and operating passenger transport systems could be improved by consolidation of existing databases on R&D and the results of practices and experiences made in the European Union and beyond. The Commission, therefore, intends to cooperate with research institutes and national and regional transport planning authorities to develop complete databases easily accessible for transport planners and operators.

61. Existing rules on the terms of carriage and liability are examples where gradual consensus-building on minimum standards could pave the way for progress. Promoting quality enhancements to the transport system could also be supported by awarding innovative practices of operators or planning authorities on the basis of recognized criteria.

62. Practical ways of improving dissemination of information and consensus-building on targets will be discussed during a citizens' network forum which the Commission will convene during 1996 as a part of the consultation process. This forum will give interested parties — including passengers — and public authorities responsible for public passenger transport systems an opportunity to explore how knowledge could be better shared and how the needs of users can be better communicated to those making decisions about transport systems. Further steps will be decided in the light of the outcome of the forum.

Chapter II — Aligning R&D priorities with user needs

63. The Community's fourth framework programme in the field of research, technological development and demonstration includes a specific programme for transport. From 1995 to 1998, some ECU 240 million will be spent on research into transport network improvements. Strategies to promote sustainable mobility will also be addressed in a horizontal programme covering strategic research. The research in the urban transport sector will cover a variety of research and demonstration activities in the fields of transport management, strategies for promoting modal shift and pricing and financing.

Existing research programmes

64. The Commission has been particularly active in the area of using telecommunications and information technologies known as transport telematics (in particular in funding the DRIVE I and ATT programmes). There are pilot tests currently running in more than 50 cities. The programme has concentrated on seven areas of operational interest, six of which made a significant contribution to the applications and techniques which will be needed to improve transport in the European cities of the future.

65. The specific telematics applications programme within the fourth framework programme has a budget of ECU 205 million for transport issues and will continue and consolidate the research of earlier programmes. The POLIS network of over 40 cities and regions interested in the introduction of transport telematics for solving transport and environmental problems has been co-financed by the Commission. This cooperative venture aims to introduce new technology to help solve problems of urban mobility.

66. The European COST transport programme has coordinated studies on propulsion systems, alternative fuels, energy use, demand in interregional transport, low-floor buses, urban goods transport and the complementarity between high speed rail and air transport. A new action is under consideration regarding cross-sector benefits of accessible public transport.

67. The achievements to date in step-free access have demonstrated the need for the whole transport chain to be accessible. Certain national developments of low-floor buses resulted in the launch of the COST 322 research project to produce a cost benefit analysis of low-floor buses in order to define criteria or specifications for vehicles and bus stops, especially for people with reduced mobility. Finland, France, Germany, Hungary, the Netherlands, Spain, Sweden, Switzerland and the UK participated and — thanks to their participation in the project — have become world leaders in the successful development and operation of low-floor buses.

68. The success of the COST project on low-floor buses has led to the launch of another COST project on transport for people with reduced mobility: COST 335 on accessibility of heavy rail systems. This project aims to draw together best practice in providing for the needs of disabled and elderly people in all aspects of rail travel and, where appropriate, to recommend best design practice. It has implications for any (potential) passenger with luggage, and implementing its recommendations should significantly improve access to railway systems. Both COST 322 and COST 335 emphasize the importance of staff qualifications and training.

Research task forces

69. A series of R&D task forces was launched early in 1995. Its aim is to coordi-

nate the research activities of the Commission, the Member States and industry to maximize the impact of research on the competitiveness of European industry and make R&D support more transparent for European citizens. The output of this initiative will be the definition of common projects of industrial interest which at the same time are in line with the priorities of the common transport policy. Task forces of relevance to the 'citizens' network are the 'car of tomorrow', 'trains and railway systems of the future', and 'transport intermodality'.

70. The transport intermodality task force brings together users, transport operators and suppliers, authorities and infrastructure providers. Its aim is to contribute to the development of technologies, systems, innovative concepts and strategies which improve intermodal transport operations in the field of passenger and freight transport. It will focus on stations, ports, airports and inland terminals where freight or passengers change transport mode, and on other aspects of the intermodal system such as transfer technologies and telematics tools.

71. The work of the task force will be implemented through an action plan which will identify the needs, priorities and actions to be addressed at the European level, from R&TD, validation and demonstration, through to acceptance in the market place of a new generation of transfer points and facilities. The action plan will also identify the performance, environment and efficiency targets for a series of projects and a time scale. It will set up the basis for demonstrations of best available technologies and strategies. Technological bottlenecks in single mode technologies and organizational questions will be addressed in order to make interconnection and interoperability work.

Support for first large-scale applications

72. First time application of the results of research can face organizational, institutional and financial barriers. Therefore, the Commission will consider how the bridge between research and development and practical application at the market place could be improved. In some areas, Community involvement in planning, implementation and sharing financial risks may help create a 'critical mass' for new concepts. For example, by the promotion of multimodal through-ticketing systems in a cross-border context.

Technical regulation, standardization and dissemination

73. Research activities and experience with first applications will provide a solid basis for the best use of new technologies and other methods for improving the transport system. In the course of this work, the research should highlight 'best practices' and 'required standards'. The work should also inform future development of the regulatory framework, including technical regulation and standardization. Regulatory implications should, therefore, be included as a horizontal topic in all R&TD activities. In addition to informing the regulatory process at European level, the results of research should reach all those involved in transport policy-making (including the Member States, international institutions, research institutes and industry). Results should also be presented in an understandable way to the general public. The Commission is developing an overall dissemination policy that will be applicable for all fourth framework R&TD programmes.

Chapter III — Making Community instruments effective

74. Many Community policy instruments have an impact on public passenger transport systems and effort is needed to ensure that, where possible, they encourage the improvement and use of public passenger transport.

Trans-European transport networks and the citizens' network

75. A major priority for the European Union is the establishment of trans-European transport networks (TENs) 'to enable citizens of the Union ... to derive full benefit from the setting-up of an area without internal frontiers' (Article 129b(1) of the EC Treaty) and for 'promoting the interconnection and interoperability of national networks as well as access to such networks. It shall take account in particular of the need to link island, landlocked and peripheral regions with the central regions of the Community'. Guidelines for the network's development are currently being discussed by the Council of Ministers and the European Parliament.[1]

Interconnectivity long-distance/short-distance public transport

76. Implementation of the TENs has initially focused on long-distance (cross-border) infrastructure projects. However, for TENs to maximize their benefit to ordinary citizens, the interface between long-distance systems and regional/urban networks must be improved.

77. A Community objective is to encourage the creation of 'individualized collective transport', that is a system which meets the needs of the individual traveller within the framework of an integrated collective transport system. There is scope for improving interconnectivity between modes, in particular in the physical design of interchange points (stations and airports) and the creation of integrated information and ticketing systems spanning the whole of the journey.

78. A key element in ensuring the success of the citizens' network is to integrate the needs of local travel into the planning of TENs infrastructure projects. As far as the rail TEN is concerned, the high speed rail network, airports and urban transport should be integrated further. TENs design should reflect the need to promote public transport. Greater emphasis would then be placed on the interchanges between systems, on joint information networks and other actions to put public transport on a better basis in relation to the private car.

79. Ensuring the best interface between long distance and local travel will be crucial if the new Treaty provisions on the TENs are to be fully effective. The Commission will, therefore, seek to promote projects which will improve the interconnectivity between trans-European links and transport systems at national, regional and local level in applying the TENs guidelines. All passenger transport projects submitted for TENs support will have to be assessed from this point of view and the results will affect the allocation of financial support. The Commission will monitor this area and consider whether the concept should be developed further.

Regional policy

80. The Structural Funds of the EU and the Cohesion Fund provide significant amounts of aid towards transport infrastructure and management in eligible regions and Member

[1] COM(94) 106 of April 1994, at present in second reading in the European Parliament.

States. In particular, the Cohesion Fund will dedicate over ECU 8 billion (about 50% of its global allocation) during the period 1993-99 to transport infrastructure including aid to several TEN priority projects, railway development, port improvements and aid for traffic management systems in the four Member States concerned, namely Greece, Ireland, Spain and Portugal. The ERDF also provides substantial aid to transport infrastructure (road, railways, ports and airports) in the context of the Objective 1 Community support frameworks for improvement of infrastructure at the national level as well as at the regional and local level through the relevant operational programmes. In addition to the Community support frameworks and the Cohesion Fund activities, which essentially co-finance the development programmes of Member States, several Community initiatives such as Interreg and URBAN contribute to the resolution of transport problems in the context of cross-border cooperation and tackle specific urban imbalances.

81. In the above context, the Commission in partnership with Member States contributes to improving public transport systems. The funds available are mainly destined for the finance of public infrastructure works which provide the citizen with better means of transport rendering the peripheral regions more accessible and also contribute to the resolution of sometimes acute congestion and environmental problems in the eligible areas.

82. Regional policies and the Cohesion Fund interact with trans-European networks (TENs), in particular as far as the planning level is concerned. The contribution of cohesion policy to public transport is important nevertheless and the development of public/private partnerships is being examined in order to maximize the benefit for public transport users.

83. Working towards an integrated Citizens' Network should contribute to a significantly enhanced system integration and intermodal approaches to constructing new transport infrastructure. While respecting the existing legal framework and eligibility criteria of cohesion instruments, the accent should be put on Community co-finance for projects containing integrative intermodal features.

Energy policy instruments

84. Improved public passenger transport systems will contribute to a reduction in energy consumption. Better use of energy can also reduce the costs of public passenger transport. In the transport sector, the Thermie programme has concentrated on measures to improve the overall efficiency of collective transport systems, promoted the use of innovative and cleaner energy sources, hybrid propulsion and demonstrated their application in real market conditions. Other Community programmes have promoted use of alternative energy sources such as compressed natural gas to power buses.

85. The SAVE programme aims to increase energy efficiency in the EU. In the period 1991-95, 31 pilot projects improving energy efficiency of goods and passenger transport mainly in urban areas have been supported. The new SAVE II programme includes action for energy management in regions and cities, which will contribute to the creation of energy agencies. Local agencies aim, among other things, to improve public transport systems so as to reduce energy consumption and CO_2 emissions and to improve the quality of life in cities.

Telematics technology

86. The new telecommunication and information technologies (which are part of the trans-European network) offer major opportunities for improving both individual and public transport. Traffic management and information services can provide essential decision-making tools by supplying high quality information from easily accessible databases. Research has already indicated areas where this might be used. Projects will continue under the fourth framework programme focusing on large-scale validation and demonstration of developed transport telematics systems. Important resources are now made available through the trans-European transport network provisions. (Guidelines also exist to coordinate the implementation of the telematics tools.)

87. Telematics enables the public passenger transport operator to monitor the traffic situation, in terms of network congestion, occupation

rate and minor waiting time for the passengers. Monitoring to ensure safety is also possible. The global navigation satellite system (GNSS) is also being developed and will provide a positioning service for trams, buses and trains. These systems will also provide information to private car users and should be of use in general traffic management. The resulting reduction in congestion should be of significant benefit in reducing public transport journey times.

The information society

88. As outlined in the Commission's action plan entitled 'Europe's way to the information society', establishment of a legal framework on issues such as standardization, interoperability, tariffs and data security is essential for promoting applications. Progress in this area will support effective use of telematics in transport.

Chapter IV — Modernizing the regulatory framework

General

89. European Union measures directly addressing access to the provision of public passenger transport services have focused on liberalizing long-distance services, for example, air transport and coach services.[1] This liberalization is generating encouraging results. The number of air and coach services has increased and the networks have been extended. The competitive environment promotes choice and value-for-money for users. The Commission will bring forward proposals to develop the legislative system further and in particular, proposals concerning the provision of non-regular coach services and access of non-resident carriers to coach services will be presented. However, the extension of open market access to all public passenger transport services would imply far-reaching consequences for the overall attractiveness of systems. Therefore, policy options to ensure that wider transport policy goals are met must be safeguarded when developing further the regulatory framework taking into account the variety of national approaches to this fundamental issue. In particular, there should be further consideration of the notion of public service obligations. Ideally, public transport should be accessible, affordable and available to all citizens. Financial and technical considerations may constrain this, but the Commission believes that this goal is important and worthy of debate, especially in the context of further developments in the regulatory framework.

Criteria for modernizing the regulatory framework

90. A regulatory framework which ensures the fulfilment of transport planning requirements including system integration and built-in incentives for efficient service provisions should be identified. First the underlying objectives should be defined and be compatible with the quality checklist for the citizens' network. They are:

- to encourage increases in use of public transport;
- to encourage increases in use of public transport;
- to establish incentives for service providers and planning authorities to improve accessibility, efficiency, quality and user-friendliness of public passenger transport systems;
- to promote financial conditions required for making public transport services more attractive, both for public and private investors;
- to ensure minimum requirements in respect of the qualifications of staff, thus guaranteeing high levels of reliability, safety and security;
- to safeguard flexibility in relation to specific national, regional and local priorities and the particularities of national legal systems.

EC legislation which has a bearing on public transport should aim to assist public transport systems to meet these criteria.

Market structures

91. In the area of urban and regional passenger services public transport systems are often publicly planned, owned and operated. This allows for direct implementation of measures to achieve transport policy goals. But such a structure is often accompanied by a lack of managerial incentives to respond to the needs of passengers and to improve the quality or the cost-effectiveness of operations, and thus fails to meet some of the quality criteria set out above.

[1] Council Regulations (EEC) No 2407/92, 2408/92 and 2409/92, OJ L 240, 24.8 1992; Council Regulation (EEC) No 684/92, OJ L 74, 20.3.1992; Council Regulation (EEC) No 2454/92, OJ L 251, 29.8.1992.

92. At the other end of the scale, complete deregulation of access to the provision of public passenger services has increased cost-effectiveness. However, very often this approach implies a reduced scope for integration of systems. As a result, full deregulation, where applied in the area of urban transport, has not halted the decline in use of public transport.

93. In an attempt to balance better fulfilment of public service requirements and built-in incentives for quality and cost improvements, various public authorities appear to have achieved positive results by tendering concessions.[1] Contracting public passenger transport services on the basis of tendering concessions for a limited duration instead of granting them *ad personam* establishes a competitive environment without compromising the achievement of predefined transport policy objectives. Furthermore, this approach offers a means of attracting private finance without disrupting existing systems. The Commission will consider how tendering concessions for the provision of urban and regional passenger services might be promoted.

Public procurement rules

94. With the increased use of tendering concessions, the implications for the Union's public procurement legislation should be examined. The present Community legislation on public procurement applies to three core areas: supplies, works and services.[2] Public undertakings and enterprises that operate networks providing a service to the public in the field of transport by railway, automated systems, tramway, trolley bus, bus or cable, on the basis of special or exclusive rights granted by a competent authority of a Member State, fall under a specific sectoral Directive (93/38/EEC) which leaves in practice free choice of procedures for awarding contracts: to open tendering, restricted tendering and negotiation of contracts.

95. However, neither the granting of concessions for public passenger transport services nor the granting of special or exclusive rights for the operation of networks providing a service to the public in the field of passenger transport are covered by the Directives referred to in paragraph 94. Therefore, there is room for:

- ☐ improving the quality and cost-effectiveness of transport operations by more systematic tendering of concessions;
- ☐ promoting public-private partnership for an industry with high investment capital needs;
- ☐ improving integrated solutions to transport problems by using public procurement instruments.

96. Contracting concessions for public passenger transport on the basis of transparent, Europe-wide public tendering might assist the fulfilment of these objectives. However, this has to be done in a way which supports transport policy objectives including the need for system integration: criteria used for the identification of the economically most favourable offer should provide sufficient scope for safeguarding quality requirements. This requires a specification that would promote the inclusion of specific quality criteria such as system accessibility standards for rolling stock, integration of operations, security aspects and minimum qualifications of staff. It should also safeguard the option of adjusting, within the framework of a given concession, existing networks in line with market needs without the obligation to tender such adjustments.

97. Specifications attached to the invitation for tenders should aim to encourage increases in ridership, improving the cost-effectiveness and quality of the operations. Therefore, operators rather than the awarding entities should primarily benefit from lower than expected operating costs and higher than expected revenues. Implementation of this is made easier by new ticketing technologies (smart cards) allowing for a precise allocation of revenues among different operators.

[1] See descriptions of innovative case studies in Annex A.
[2] See Council Directives 93/36/EEC (supplies), 93/37/EEC and 92/50/EEC (services).

98. Finally, the system should encourage private capital investments in the hardware required for running transport systems (for example, stations, terminals and the rolling stock). Particular consideration should be given to the procedures which might apply where integrated systems are tendered which cover works, supplies and services within the framework of public/private partnerships.

Public service requirements

99. It is generally recognized that in the transport field market forces alone do not ensure in all situations the level, coverage and quality of transport service provision required for fulfilment of essential economic, social and regional policy goals. This is particularly valid in the field of urban and regional public passenger services. Therefore, irrespective of the ownership of operators, public authorities must have room to safeguard fulfilment of public service requirements.

100. Regulations (EEC) Nos 1191/69 and 1893/91 define the meaning of the notion of public services as established in Article 77 of the Treaty. They distinguish between long distance surface transport services for which fulfilment of public service requirements in the form of legal public service obligations shall be abolished and urban/regional passenger services for which public authorities may continue to impose such obligations upon public transport undertakings if they choose to opt out from the general contracting rule. Superficially, the possibility to establish public service obligations offers the best option for ensuring fulfilment of predefined public service requirements. However, practice has shown that regulating public transport services by means of imposing obligations upon undertakings without directly related financial compensation has serious side-effects because of the lack of financial and managerial incentives to improve services and to render them more efficient. Therefore, the Commission intends to review the scope of this general derogation with a view to ensuring that it meets its objectives more effectively.

The citizens' network and passenger services by rail

101. The principles for the provision of rail services were established by Council Directive 91/440/EEC and are: to ensure managerial autonomy from governments; to separate rail operations from the provision of infrastructure; to improve the financial standing of rail companies; and to open up access to rail infrastructure. The Commission's recent communication on the implementation of Directive 91/440/EEC contains proposals to develop the system including further liberalization of access to the provision of cross-border passenger services by rail. However, policy requirements for interregional and intra-conurbation (urban) rail transport differ considerably and require a separate assessment, taking into account the needs of integrated traffic planning (i.e. coordination with other modes) and public service requirements.

102. Some Member States such as Germany and France have started to establish a specific regulatory scheme for this part of the railway business. For example, the German authorities decided to shift the regulatory authority for regional rail passenger services from central bodies to regional governments (*Regionalisierung*). This decision was accompanied by major financial restructuring.[1]

103. This type of innovation may offer a means of better reconciling rail service provision with local/regional need, for example, integrated multimodal transport planning and improved communication with passengers. It also creates the conditions for fine-tuning liberalization of access to commuter and regional rail passenger services in line with urban and regional needs. This could be an important insurance against across-the-board approaches which might favour trunk routes and discriminate against regional needs. The Commission will monitor these developments and will consider whether specific action to promote access to regional rail passenger services is desirable and appropriate.

[1] See Annex A.

Chapter V — Improving standards

104. The Community's role in promoting improved standards by means of dissemination of best practice and in funding research has already been covered in this paper. The Community also has an established role with respect to the regulatory framework in relation to standards.

A particular concern: Transport of people with reduced mobility

105. Some 80 million people across the European Union have some form of mobility impairment which makes access to public transport systems more difficult. The long-term aim of the Commission and of associations of transport authorities and operators is to ensure that public transport is accessible for all.

106. The findings of the European COST project on the accessibility of heavy rail systems (see paragraph 68), with the ECMT/UIC guidelines for improved access to trains, will form the basis of a Council Directive on the approximation of the laws of the Member States relating to railways. (This has been announced in the Commission's action programme on accessible transport.) Other Council directives will be proposed for bus and coach construction standards (see below) which will incorporate the findings of the COST 322 research on low-floor buses and on aspects of accessibility to and within airports and aircraft (based on ECAC Document No 30).

Rules for transport equipment

107. The scope for improving the quality, security and efficiency of public transport is partly defined by the regulatory framework for transport equipment. Rules on technical harmonization of equipment and on environmental standards are of particular importance.

108. As regards technical harmonization, the Commission is preparing a directive on construction standards for buses and coaches. As part of the whole vehicle type approval legislative work, the aim will be to lay down uniform technical provisions for buses and coaches throughout the EU, eliminating the differences in existing standards in so far as necessary to remove technical barriers to trade. This will increase economies of scale and should reduce prices.

109. The Directive will cover aspects of bus and coach design which have a direct effect on safety and access and will prescribe the necessary standards to guarantee it. It will not seek to define characteristics best left to operators and will take account of local and regional preferences. It will therefore be limited to minimum requirements such as the number of doors and emergency exits, seat width and seat spacing, gangway width and height, total passenger capacity and physical access provision (including step height). It will have a direct impact on the aims of the citizens' network as it will help to define the types of buses available to passengers.

110. Improving accessibility of public transport by means of low-entrance/low-floor buses would directly affect the attractiveness and usability of urban transport for all users. Low-floor designs and the use of minibuses to increase the flexibility of public transport will be safeguarded and promoted.

Environmental legislation

111. The Commission believes that environmental problems related to transport should be addressed by an integrated approach incor-

porating several elements. First, technical measures to improve the environmental performance of individual vehicles should constitute an integral part of the EU's vehicle type approval legislation. Second, the efficiency of relatively environmentally friendly modes such as rail should be improved through better market organization. Third, transport users should be charged the real costs of their transport choices. Fourth, research and development programmes should aim to improve environmental standards and fifth, environment legislation should specify targets and standards.

112. Traffic has a major impact on air quality. EC environment legislation attempts to maintain or improve air quality, by setting limit values and objectives and by ensuring that policymakers and the public are properly informed about air pollution levels. A Council Directive on air pollution by ozone specifies procedures for monitoring ozone levels and for informing the public when certain values are exceeded. The Commission has also proposed a draft framework directive for air quality as the first step in the revision of existing air quality legislation. This draft directive (which is being considered by the Council and the European Parliament) includes medium-term objectives for air quality. This involves setting limit values and alert thresholds for 14 pollutants. The limit values are below the current permitted value, and will be mandatory within 10 to 15 years. In areas where the air pollution levels are above the current levels, the Member States/regions/cities will develop programmes in order to meet both the current levels and future limit values. In view of the importance of transport emissions in the overall emissions of air pollutants, measures for transport will feature in the programmes. The choice of instrument will be left to the relevant authority.

Fuels and vehicles

113. Various European directives specify emission standards for buses and lorries, petrol and diesel passenger cars and light commercial vehicles. Recent improvements (and some still to come into force) will significantly reduce total emissions from transport over the next 10 to 15 years. The Commission is also applying a new, multi-faceted approach to developing proposals for new standards in the year 2000. This will take into account the cost-effectiveness of different measures, including both technical (vehicle emission reductions, fuel quality improvements) and non-technical measures (e.g. enhanced public transport, traffic restrictions) as well as regular vehicle inspection and maintenance. In 1992, the European auto-oil programme was set up by the Commission in cooperation with the European automobile and oil industries, to provide the technical basis for new legislation according to this approach.

Noise

114. Legislation governing sound levels of motor vehicles (cars, lorries and buses) dates back to 1970 (Directive 70/157/EEC, now amended several times). The limit values for bus and lorries have been reduced by over 10 dB(A) over the period that the legislation has been in place and those for cars by 8 dB(A). The relevant type approval test seeks to limit noise produced in a typical urban traffic situation. As the limits have fallen, tyre noise has become more significant and may restrict further lowering of limits.

Conclusions

115. The European Commission wants to put the needs of citizens at the centre of decisions about transport provision. As part of this, we want to promote public passenger transport. This citizens' network Green Paper identifies the key challenges to be addressed, outlines the main policy actions required for ensuring quality improvements to the system and indicates the European Union's contribution to fulfilling the potential offered by public transport.

Interested parties, Member States of the European Union and the European Economic Area, States applying for membership to the European Union, the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions are invited to submit their observations on this document until

31 July 1996
to
The European Commission
Directorate-General for Transport
'Green Paper on the citizens' network'
Rue de la Loi 200
B-1049 Brussels

Annexes

Annex A:

Basic regulatory options for planning and operating public passenger transport services

Main features		Planning and Management responsibilities		Financial responsibilities		Ownership of operators
		Networks	Operations	Operations	Investments	
I.	Integration of public planning and operations ('public obligations')	Public transport undertaking (in cooperation with public authorities)	Public transport undertaking	Public transport undertaking (plus subsidies for covering losses)	Public authorities	Public
II.	Separation of public transport planning and operations by 'contracting' (legal separation)	Public transport planning authorities (*'cahier des charges'*)	Transport undertaking	Transport undertaking (plus subsidies *ex-post* or *ex-ante*)	Mixed	Public, semi-public or private
III.	Separation of public transport planning and operations by 'contracting' based on 'tenders'	Public transport planning authorities (*'cahier des charges'*)	One or several transport undertakings [1]	Transport undertakings (plus *ex-ante* subsidies)[2]	Transport undertakings (or mixed)	Private or semi-public
IV.	Full liberalization of access to markets ('deregulation')	Transport undertakings (plus intervention option for socially necessary services)	Transport undertakings	Transport undertakings (plus subsidies for specific services)	Transport undertakings	Private

[1] The call for tenders may cover complete systems or segments

[2] Usually, the bidder requesting the lowest amount of subsidies for carrying out the specified services is successful.

Contracting public passenger services by means of tendering: Innovative case-studies

Option A: Tendering of *whole systems* ('concessions'): The French example

The organization of urban transport in France (outside Île-de-France) involves two main players:

- the transport organizing authority (a municipality or group of municipalities) defining the transport policy for the region;
- the operating company which is responsible for the provision of public passenger services.

The relationship between the organizing authority and the transport company is governed by an operating convention ('concession') specifying the scope and quality of services, public services constraints, the operator's remuneration and the tariff level. The operating conventions concluded on the basis of a tendering procedure are limited in time. This application period depends on whether the rolling stock is owned by the operator (longer periods) or by the municipality (shorter periods). The revenue risk is in most cases borne by the municipality.

Nationwide, three major operating companies (VIA, Transcet, and CGEA) cover more than 80% of the French urban transport market. Special provisions are made for investments during the application period.

Option B: Phasing-in of tendering for *major segments* of the market: The Swedish example

Each of the 24 counties in Sweden has a Passenger Transport Authority (PTA) responsible for procuring public passenger transport services. Since a modification of the law in 1989, PTAs are owners of transport concessions. They have the option either to conclude a new contract with the traditional operators (contracting without tendering) or to issue a public tendering on the basis of predetermined terms of reference covering routes, timetables and fares.

The Swedish example is innovative in particular in terms of gradually phasing in tendering and in respect of far-reaching quality requirements in terms of maximum and average age of the fleet, seating accommodation, washing and cleaning interval, etc. However, it lacks built-in incentives for increasing ridership since the revenue risk is born by the PTA. It has generated considerable cost savings (up to 45%) and improved the quality of public service operation.

Certain cities (e.g. Gothenburg) have used the flexibility of Swedish legislation to tender not the market as a whole but major parts of it, preferably to different operators. This method creates a competitive corporate climate without compromising too much on the need for integrated transport planning.

Option C
Tendering of *small segments* of the system (route-by-route): The London Bus Transport example

The 1985 Transport Act deregulated bus services throughout Great Britain, with the exception of London, where the Act required the tendering of services.

In London, in 1985, all but 2% of bus miles were operated by London Transport (LT). Following an assessment of the capacity of independent operators to supply services, a first package of 13 routes was tendered.

At the same time, LT's bus operations were restructured with London Buses Limited becoming a holding company with 11 subsidiaries covering different parts of the city. These subsidiaries took on increasing areas of management responsibility gradually moving to operational independence and culminating in the sale of the companies. As a result all bus operating companies in London are now in private ownership.

By the beginning of 1994, half of the bus network was competitively tendered with the contracts being won in roughly equal numbers by former LT companies and independent operators. By the end of 1995 all the routes will have been tendered and London Transport will no longer be responsible for operating bus services.

LT retains control of the network specifying fares and services 'with the aim of forming a blend of commercial and social elements, complementing and feeding the London rail and underground networks'. Similarly, LT retains responsibility for infrastructure such as bus stops, special facilities, and the funding of special services required for social reasons.

Contracts for tendered bus services have been 'gross cost' with the operator receiving a payment for providing a prescribed service and revenues going to LT. The operator is thus insulated from commercial risk and their main concern is operating efficiency.

During the period 1984/85 to 1994/95, the new system has contributed to a reduction of the network costs by 27% although the network was extended by 20%. Ridership remained largely unchanged.

For the period 1995-2000, LT intends to move to 'net cost' contracts where the operator has a direct stake in commercial performance, and receives the revenues from ticket sales. LT will continue to specify fares and services. The operator carries the risk, or takes the benefits, of changes in financial performance.

Complete deregulation of bus services: The British example

The system

Against the background of continuously decreasing ridership and increasing subsidies, the 1985 Transport Act deregulated and privatized regional and urban bus services completely from October 1986 onwards.

The scheme is exceptional in Europe since it allows for direct competition 'on the road' and free pricing. Planning of services by a central body does not exist (with the exception of tendering a few socially necessary services). Quality safeguards are restricted to minimum safety requirements.

Main results

The new system managed to improve cost-efficiency significantly and to reduce subsidies considerably. Average cost savings are roughly equal to savings made in London following the introduction of tendering (25-35%).

However, during the same period, average bus ridership decreased significantly (- 27.4% between 1985 and 1993/94), although bus km performed increased considerably (+ 24%). This increase was concentrated in large part in the most heavily used routes. Real fares increased by approximately 25%.

The lack of integration of transport systems achievable in a totally deregulated operating environment is a major obstacle to improving the overall attractiveness of public bus transport systems. In addition, information to passengers became virtually non-existent because of competition between bus companies. Accordingly, the Confederation of Passenger Transport (CPT) advocates modifications to the competition rules in order to enhance the planning and coordination capacity of the system.

Regionalization of rail services: The German example

On 1 January 1994, the German federal law restructuring the railways system took legal effect. With the entering into force of the regionalization concept (*Regionalisierung*) on 1 January 1996, another major step will be taken. It implies shifting the regulatory authority over regional rail services to regional governments (*Länder*) which may, on the basis of regional laws, further delegate responsibilities to municipalities or groups of municipalities (Verkehrsverbünde).

From the revenues of (increased) fuel taxes regional governments and municipalities will get a considerable financial compensation allowing for subsidizing regional rail services which are, normally, making losses. In 1996, a total amount of approximately DM 15 billion will be paid. Similar compensation will be available from 1997 onwards.

The regionalization concept implies that regional authorities will, on the basis of regional laws, be responsible for determining the volume and quality of all regional and urban public transport services including rail services and for contracting them with operators. The opening-up of the rail infrastructure to 'third' operators as necessitated by Council Directive 91/440/EEC, transposed into German law, creates the possibility of introducing competitive tendering of regional rail services. However, it is within the discretionary power of implementing authorities whether or not to use this instrument. Similarly, the approach to compensating operators is to be defined by implementing authorities (*ex post* or *ex ante* subsidies).

The German regionalization concept establishes the regulatory preconditions for significantly enhanced system integration. It can be expected that integrated ticketing covering large geographical areas and different modes will become the usual practice in Germany.

Manual of Community policy instruments of relevance for passenger transport

Legal Instrument	Policy area	Transport mode	Main features/objectives	Official Journal
Council Regulation (EEC) No 11691/69 modified by Regulation 1893/91	Public services	All surface transport modes	Definition of scope for establishing public service requirements, obligations of public authorities to compensate for carrying out public transport services	L 156 of 28 June 1969
Council Directive No 93/36/EEC	Public procurement	All	Coordination of procedures for the award of public supply contracts	L 199 of 9 August 1993
Council Directive No 93/37/EEC	Public procurement	All	Coordination of procedures for the award of public works contracts	L 199 of 9 August 1993
Council Directive No 92/50/EEC	Public procurement	All	Coordination of procedures for the award of public services contracts	L 209 of 24 July 1992
Council Directive No 89/665/EEC	Public procurement	All	Application of review procedures to the award of public supply and public works contracts	L 395 of 30 December 1989
Council Directive No 93/38/EEC	Public procurement	All	Coordination of the procurement procedures of certain entities operating in the water, energy, transport and telecommunications sectors	L 199 of 9 August 1993
Council Directive No 92/13/EEC	Public procurement	All	Application of review procedures to public contracts now mainly covered by Directive 93/38/EEC	L 76 of 23 March 1992
Council Regulation (EEC) No 2407/92	Admission to the occupation, access to the market	Aviation	Requirements for licensing of air carriers	L 240 of 24 August 1992

Legal Instrument	Policy area	Transport mode	Main features/objectives	Official Journal
Council Regulation (EEC) No 1108/70	(Use of) Infrastructures	Inland transport	Introduces an accounting system for expenditure on infrastructure in respect of transport by rail, road and inland waterways	L 130 of 15 June 1970
Council Regulation (EEC) No 4060/89	Border controls	Road, inland waterways	Elimination of controls performed at the frontiers of Member States in the field of road and inland waterways transport	L 390 of 30 December 1989
Council Regulation (EEC) No 1192/69	State aid	Railways	Common rules for the normalization of the accounts of railway undertakings	L 156 of 28 June 1969
Council Regulation (EEC) No 1107/70	State aid	Inland transport	Rules on the granting of aid for road, railways and inland waterway transport	L 130 of 15 June 1970
Council Regulation (EEC) No 2830/77	Public undertakings	Railways	Measures to achieve comparability between the accounting of systems and annual accounts of railway undertakings	L 334 of 24 December 1977
Council Regulation (EEC) No 2183/78	Public undertakings	Railways	Lays down uniform costing principles for railway undertakings	L 258 of 21 September 1978
Council Directive No 82/714/EEC	Technical standards, safety	Inland waterways	Technical requirements for inland waterways vessels	L 301 of 28 October 1982
Council Directive No 76/135/EEC	Technical standards; safety	Inland waterways	Reciprocal recognition of navigability licences for inland waterways vessels	L 21 of 29 January 1993
Council Regulation (EEC) No 95/93	Access to the market, competition	Aviation	Common rules for the allocation of slots in community airports	L 14 of 22 January 1993
Council Regulation (EEC) No 2408/92	Access to the market	Aviation	Liberalization of the access for Community air carriers to intra-Community air routes	L 240 of 24 August 1992
Council Directive No 93/65/EEC	Technical standards, air traffic control	Aviation	Definition and use of compatible technical specifications for the procurement of air traffic management equipment and systems	L 187 of 29 July 1993

Legal Instrument	Policy area	Transport mode	Main features/objectives	Official Journal
Council Regulation (EEC) No 295/91	Consumer protection	Aviation	Common rules for a denied board compensation system in scheduled air transport ('overboarding')	L 36 of 8 February 1991
Council Regulation (EEC) No 2409/92	Price conditions	Aviation	Common rules on fares and rates for air services	L 240 of 24 August 1992
Council Directive No 89/459/EEC	Road safety	Road	Approximation of laws relating to the tread depth of tyres of certain motor vehicles	L 226 of 3 August 1989
Council Directive No 91/671/EEC	Road safety	Road	Approximation of laws relating to compulsory use of safety belts in vehicles of less than 3 5 tonnes	L 373 of 31 December 1991
Council Directive No 88/599/EEC	Social; road safety	Road	Standard checking procedures for the implementation of social legislation (Regulations (EEC) No 3820/95 and 3821/95)	L 325 of 29 November 1988
Council Directive No 93/89/EEC	Fiscality	Road	Fiscal harmonization	L 279 of 12 November 1993
Council Regulation (EEC) No 3925/91	Border controls	Aviation; maritime	Elimination of controls and formalities applicable to the cabin and the hold baggage of persons taking an intra-Community flight and the baggage of persons making an intra-Community sea-crossing	L 374 of 31 December 1991
Council Directive No 91/440/EEC	Harmonization of structures; development of Community railways, access to the market	Railways	Management independence of railway undertakings, separation of the management of railway operation and infrastructure from the provision of railway transport services, improving the financial structure of undertakings, access to the network of certain types of services	L 237 of 24 August 1991
Council Directive No 92/6/EEC	Road safety	Road	Installation and use of speed limitation devices	L 57 of 2 March 1992
Council Directive No 77/143/EEC	Road safety	Road	Approximation of laws on roadworthiness tests for motor vehicles	L 47 of 18 February 1977

Legal Instrument	Policy area	Transport mode	Main features/objectives	Official Journal
Council Directive No 80/1263	Road safety	Road	Driving licence based on a Community model; approximation of conditions for obtaining the driving licence; exchange of licences [1]	L 375 of 31 December 1980
Council Directive No 85/003/EEC	Road safety and technical standards	Road	Approximation of laws on weights, dimensions and other technical standards of vehicles	L 2 of 3 January 1985
Council Regulation (EEC) No 3820/85	Road safety, social policy	Road	Harmonization of rules on driving hours and rest periods of drivers and other social aspects	L 370 of 31 December 1985
Council Regulation (EEC) No 3821/85	Road safety; social policy	Road	Recording equipment (tachograph) for driving hours and rest periods	L 370 of 31 December 1985
Council Directive No 74/562/EEC	Admission to the occupation	Road passenger transport	Setting of common requirements for admission to the occupation of road passenger transport operators	L 308 of 19 November 1974
Council Directive No 91/0672/EEC	Access to the market; admission to the occupation, mutual recognition of certificates	Inland waterways	Reciprocal recognition of boat master certificates	L 373 of 31 December 1991
Council Regulation (EEC) No 3921/91	Access to the market	Inland waterways	Lays down the conditions under which non-resident carriers may transport goods or passengers by inland waterway within a Member State	L 373 of 31 December 1991
Council Regulation (EEC) No 684/92	Access to the market	Road passenger transport	Establishes common rules for the international carriage of passengers by coach and bus	L 74 of 20 March 1992
Council Regulation (EEC) No 2454/92	Access to the market	Road passenger transport	Lays down the conditions under which non-resident carriers may operate national road passenger transport services within a Member State	L 251 of 29 August 1992
Commission Recommend-ation No 922/82	Quality; development of railways	Railways	Definition of a higher quality, international passenger transport system	L 381 of 31 December 1982

[1] This Directive will be replaced on 1 July 1996 by Directive 91/439

Legal Instrument	Policy area	Transport mode	Main features/objectives	Official Journal
Council Regulation (EEC) No 2018/93	Use of Structural Funds	All	Rules on coordinating regional policy instruments	L 193 of 20 July 1993
Council Regulation (EEC) No 2082/93	Use of Structural Funds	All	Rules on implementing regional policy instruments	L 193 of 20 July 1993
Council Regulation (EEC) No 2083/93	Use of European Regional Development Fund (ERDF)	All	Rules on implementing ERDF	L 293 of 20 July 1993
Council Regulation (EEC) No 2084/93	Use of European Social Fund (ESF)	All	Rules on implementing ESF	L 193 of 20 July 1993
Commission notice to Member States (URBAN)	Community pilot programme on urban areas	All	Eligibility criteria for supporting improvements to urban areas	L 180 of 1 July 1994
Commission notice to Member States (Interreg II)	Community initiative for cross-border regions	All	Eligibility criteria for supporting projects	L 180 of 1 July 1994
Council Regulation (EEC) No 2236/95	Trans-European networks	All	Rules for financial contributions to TENs	L 228 of 23 September 1995

Annex C

Cost recovery rates of urban public transport systems[1]

(%)

City	1985	1993	Change
Amsterdam	25	25	0
Athens	21	27	+ 6
Brussels	25	33	+ 8
Copenhagen	54	52	− 2
Dublin	80	96	+ 16
Frankfurt	44	45	+ 1
Helsinki	44	44	0
Lisbon	70	62	− 8
London2	57	79	+ 22
Luxembourg	24	18	− 6
Madrid	68	75	+ 7
Paris	36	33	− 3
Rome	16	10	− 6
Stockholm	37	34	− 3
Vienna	51	40	− 11

Source: Janes' Urban transport.

[1] Operating cost recovery from fare revenues only.
[2] London Regional Transport, 1993 figure is after depreciation is taken into account.

List of examples of good practice[1]

		Paragraph
The Netherlands	Bicycle centres at 80 railway stations providing guarded parking, bicycle hire, repair and sales. Operated by Dutch Railways	**31**
Spain; Sweden; United Kingdom	Accessible taxis	33
The Netherlands	Train-taxi ticket — allows travellers to transfer to a waiting taxi for the final leg of the journey for fixed supplement	**33**
Madrid, Spain	Experimental reservation of particular carriageways for high-occupancy vehicles	34
Munich, Germany	Integrated electronic traffic management	34
Sheffield, United Kingdom	Low-floor trams	**36**
Aalborg, Denmark	Low-floor service buses	**36**
Florence, Italy	Electric city buses	**36**
Bruges, Belgium	Low-floor city buses, running on clean diesel	**36**
Grenoble, France	Modern trams with a high level of accessibility	37
Manchester, United Kingdom	Metrolink tram system (which has replaced over a million car journeys per year into the city centre)	**37**
Rouen, France	Low floor trams	**37**
Leeds, United Kingdom	Guided buses which run on a dedicated busway	**38**
Graz, Austria	Signal announcing to waiting bus if an approaching tram is within a few minutes of the stop, allowing the bus to slightly delay its departure	41

[1] Illustrated examples are shown in bold

		Paragraph
Annemasse, France; Geneva, Switzerland	Two operators agreeing to harmonize the arrival and departure times of connecting services	42
The Netherlands	*Nationale Strippen Kaart* — integrated and harmonized ticketing system throughout the whole country	**43**
Dublin, Ireland	Multiservice payment card, used for public transport, parking charges, telephone calls (EU-funded project)	43
Paris, France	*Carte orange* travel pass covering all modes of transport	43
London, United Kingdom	Travelcard — valid on buses, underground and rail services	43
Freiburg, Germany	'Regional environment card' — allows passengers to travel throughout the region on services of 14 different companies	**43**
Rhein-Main, Germany	Single operational area with one ticketing system and fare structure	44
Brussels, Belgium	Smart ticket	**44**
Paris, France	Multimodal terminal under construction to make transfer between different modes of transport quicker and easier	45
Madrid, Spain	Electronic information boards to advise drivers of available parking spaces at a transport interchange	**46**
Berlin, Germany	Information on final destination and next stop displayed automatically on buses	47
Barcelona, Spain	Operation Assistance System (OAS). Control system which informs passengers of unforeseen delays by public address or by automatic displays	47
Hamburg, Germany	Night buses which stop directly outside passengers' homes on payment of a small supplement	48
Vienna, Austria	Reserved lane for tram	**50**
The Netherlands	'The right business in the right place' scheme (better known as ABC). Ensures that business and services are easily accessible by public transport	**53**
Bremen, Germany; Edinburgh, United Kingdom	Planning of new residential developments with no provision for cars	54
Portland, Oregon, United States of America	Integrated land-use planning and public transport provision	54

Glossary

Alpha numeric display	A display using letters and numbers
Cohesion instrument	Funds from the EU for development in 'cohesion' countries Greece, Ireland, Spain and Portugal
COST	European Cooperation on Scientific and Technical Research
dB(A)	Decibel A scale.
ECAC	European Civil Aviation Conference
ECMT	European Conference of Ministers for Transport
ECU	European currency unit
ERDF	European Regional Development Fund
EU	European Union
Eurocities	A grouping of European cities
GDP	Gross domestic product: The value of the production of a country
Green Paper	A consultative document
Hybrid propulsion	A vehicle using two or more fuels, for example, petrol and electricity
Intermodal	The relationship between two or more transport modes
Interreg	An inter-regional development programme funded from the ERDF
Interoperability	The ability of rolling stock to function on different systems. For example, the Euro-star trains which operate in Belgium, France, and the United Kingdom
MECU	ECU 1 million
Modal split	The proportion of journeys made by different modes
Mode	A means or type of transport: e.g. bus, tram, etc.
Multi-modal	A system involving more than one mode
OECD	Organization for Economic Cooperation and Development
Park-and-ride	A system where cars, or bicycles or motorbikes, are left in a car-park which is served by public transport
pkm	Passenger kilometre
POLIS	Promoting operational links with integrated services
R&D	Research and development
R&TD	Research and technology development
SAVE	Special action programme for vigorous energy efficiency
Subsidiarity	The principle that decisions should be taken at European level only where this adds value
Thermie	European programme to promote energy technology
UIC	International Union of Railways
UITP	International Union of Public Transport
URBAN	An urban development programme funded from the European Regional Development Fund

European Commission

The citizens' network — Fulfilling the potential of public passenger transport in Europe — Green Paper

Supplement 4/95 to the Bulletin of the European Union

Luxembourg: Office for Official Publications of the European Communities

1996, 57 pp. — 17.6 x 25.0 cm

ISBN 92-827-6225-4

Price (excluding VAT) in Luxembourg: ECU 7

In November 1995, the Commission adopted a Green Paper entitled 'The citizens' network — fulfilling the potential of public passenger transport in Europe '(COM(95) 605), with the aim of initiating a broad debate on the subject.

This document first looks at the trends and developments in transport which have brought us to where we are today, and emphasizes the importance of transport and mobility in the economic, social, and cultural life of the Union. It next details a number of practical measures which have promoted public transport, and lastly examines those areas where the Union has a role to play, either directly or indirectly.

Venta • Salg • Verkauf • Πωλήσεις • Sales • Vente • Vendita • Verkoop • Venda • Myynti • Försäljning

BELGIQUE / BELGIË

Moniteur belge/
Belgisch Staatsblad

Rue de Louvain 42/Leuvenseweg 42
B-1060 Bruxelles/B-1060 Brussel
Tel (02) 512 00 26
Fax (02) 511 01 84

Jean De Lannoy

Avenue du Roi 202/Koningslaan 202
B-1060 Bruxelles/B-1060 Brussel
Tel (02) 538 51 69
Fax (02) 538 08 41

Autres distributeurs/
Overige verkooppunten

Librairie européenne/
Europese boekhandel

Rue de la Loi 244/Wetstraat 244
B-1040 Bruxelles/B-1040 Brussel
Tel (02) 231 04 35
Fax (02) 735 08 60

Document delivery

Credoc

Rue de la Montagne 34/Bergstraat 34
Boîte 11/Bus 11
B-1000 Bruxelles/B-1000 Brussel
Tel (02) 511 69 41
Fax (02) 513 31 95

DANMARK

J H Schultz Information A/S

Herstedvang 10-12
DK-2620 Albertslund
Tlf 43 63 23 00
Fax (Sales) 43 63 19 69
Fax (Management) 43 63 19 49

DEUTSCHLAND

Bundesanzeiger Verlag

Postfach 10 05 34
D-50445 Köln
Tel (02 21) 20 29-0
Fax (02 21) 2 02 92 78

GREECE/ΕΛΛΑΔΑ

G.C Eleftheroudakis SA

International Bookstore
Nikis Street 4
GR-10563 Athens
Tel (01) 322 63 23
Fax 323 98 21

ESPAÑA

Mundi-Prensa Libros, SA

Castelló 37
E-28001 Madrid
Tel (91) 431 33 99 (Libros)
431 32 22 (Suscripciones)
435 36 37 (Dirección)
Fax (91) 575 39 98

Boletín Oficial del Estado

Trafalgar 27-29
E-28071 Madrid
Tel (91) 538 22 95
Fax (91) 538 23 49

Sucursal

Librería Internacional AEDOS

Consejo de Ciento, 391
E-08009 Barcelona
Tel (93) 488 34 92
Fax (93) 487 76 59

Librería de la Generalitat
de Catalunya

Rambla dels Estudis, 118 (Palau Moja)
E-08002 Barcelona
Tel (93) 302 68 35
Tel (93) 302 64 62
Fax (93) 302 12 99

FRANCE

Journal officiel
Service des publications
des Communautés européennes

26, rue Desaix
F-75727 Paris Cedex 15
Tel (1) 40 58 77 01/31
Fax (1) 40 58 77 00

IRELAND

Government Supplies Agency

4-5 Harcourt Road
Dublin 2
Tel (1) 66 13 111
Fax (1) 47 52 760

ITALIA

Licosa SpA

Via Duca di Calabria 1/1
Casella postale 552
I-50125 Firenze
Tel (055) 64 54 15
Fax 64 12 57

GRAND-DUCHÉ DE LUXEMBOURG

Messageries du livre

5, rue Raiffeisen
L-2411 Luxembourg
Tel 40 10 20
Fax 49 06 61

NEDERLAND

SDU Servicecentrum Uitgeverijen

Postbus 20014
2500 EA 's-Gravenhage
Tel (070) 37 89 880
Fax (070) 37 89 783

ÖSTERREICH

Manz'sche Verlags-
und Universitätsbuchhandlung

Kohlmarkt 16
A-1014 Wien
Tel (1) 531 610
Fax (1) 531 61-181

Document delivery

Wirtschaftskammer

Wiedner Hauptstraße
A-1045 Wien
Tel (0222) 50105-4356
Fax (0222) 50206-297

PORTUGAL

Imprensa Nacional — Casa da Moeda, EP

Rua Marquês Sa da Bandeira 16-A
P-1099 Lisboa Codex
Tel (01) 353 03 99
Fax (01) 353 02 94/384 01 32

Distribuidora de Livros
Bertrand, Ld.ª

Grupo Bertrand, SA

Rua das Terras dos Vales 4-A
Apartado 37
P-2700 Amadora Codex
Tel (01) 49 59 050
Fax 49 60 255

SUOMI/FINLAND

Akateeminen Kirjakauppa

Akateemiska Bokhandeln
Pohjoisesplanadi 39 / Norra esplanaden 39
PL / PB 128
FIN-00101 Helsinki / Helsingfors
Tel (90) 121 4322
Fax (90) 121 44 35

SVERIGE

BTJ AB

Traktorvägen 11
Box 200
S-221 00 Lund
Tel (046) 18 00 00
Fax (046) 18 01 25

UNITED KINGDOM

HMSO Books (Agency section)

HMSO Publications Centre
51 Nine Elms Lane
London SW8 5DR
Tel (0171) 873 9090
Fax (0171) 873 8463

ICELAND

BOKABUD
LARUSAR BLONDAL

Skolavordustig, 2
IS-101 Reykjavik
Tel 551 56 50
Fax 552 55 60

NORGE

NIC Info a/s

Boks 6512 Etterstad
0606 Oslo
Tel (22) 57 33 34
Fax (22) 68 19 01

SCHWEIZ/SUISSE/SVIZZERA

OSEC

Stampfenbachstraße 85
CH-8035 Zurich
Tel (01) 365 54 49
Fax (01) 365 54 11

BÅLGARIJA

Europress Klassica BK Ltd

66, bd Vitosha
BG-1463 Sofia
Tel /Fax (2) 52 74 75

ČESKA REPUBLIKA

NIS ČR

Havelkova 22
CZ-130 00 Praha 3
Tel /Fax (2) 24 22 94 33

HRVATSKA

Mediatrade

P. Hatza 1
HR-4100 Zagreb
Tel /Fax (041) 43 03 92

MAGYARORSZAG

Euro-Info-Service

Europa Haz
Margitsziget
H-1138 Budapest
Tel /Fax (1) 111 60 61 (1) 111 62 16

POLSKA

Business Foundation

ul. Krucza 38/42
PL-00-512 Warszawa
Tel (2) 621 99 93, 628 28 82
International Fax&Phone (0-39) 12 00 77

ROMÂNIA

Euromedia

65, Strada Dionisie Lupu
RO-70184 Bucuresti
Tel /Fax 1-31 29 646

RUSSIA

CCEC

9,60-letiya Oktyabrya Avenue
117312 Moscow
Tel /Fax (095) 135 52 27

SLOVAKIA

Slovak Technical
Library

Nam. slobody 19
SLO-812 23 Bratislava 1
Tel (7) 52 204 52
Fax (7) 52 957 85

CYPRUS

Cyprus Chamber of Commerce
and Industry

Chamber Building
38 Grivas Dhigenis Ave
3 Deligiorgis Street
PO Box 1455
Nicosia
Tel (2) 44 95 00 46 23 12
Fax (2) 36 10 44

MALTA

Miller Distributors Ltd

PO Box 25
Malta International Airport LQA 05 Malta
Tel 66 44 88
Fax 67 67 99

TURKIYE

Pres AS

Dunya Infotel
TR-80050 Tunel-Istanbul
Tel (1) 251 91 90/251 96 96
Fax (1) 251 91 97

ISRAEL

Roy International

17, Shimon Hatarssi Street
P O B 13056
61130 Tel Aviv
Tel (3) 546 14 23
Fax (3) 546 14 42

Sub-agent for the Palestinian Authority

INDEX Information Services

PO Box 19502
Jerusalem
Tel (2) 27 16 34
Fax (2) 27 12 19

EGYPT/
MIDDLE EAST

Middle East Observer

41 Sherif St
Cairo
Tel/Fax (2) 393 97 32

UNITED STATES OF AMERICA/
CANADA

UNIPUB

4611-F Assembly Drive
Lanham, MD 20706-4391
Tel Toll Free (800) 274 48 88
Fax (301) 459 00 56

CANADA

Subscriptions only
Uniquement abonnements

Renouf Publishing Co Ltd

1294 Algoma Road
Ottawa Ontario K1B 3W8
Tel (613) 741 43 33
Fax (613) 741 54 39

AUSTRALIA

Hunter Publications

58A Gipps Street
Collingwood
Victoria 3066
Tel (3) 9417 53 61
Fax (3) 9419 71 54

JAPAN

Procurement Services Int. (PSI-Japan)

Kyoku Dome Postal Code 102
Tokyo Kojimachi Post Office
Tel (03) 32 34 69 21
Fax (03) 32 34 69 15

Sub-agent

Kinokuniya Company Ltd
Journal Department

PO Box 55 Chitose
Tokyo 156
Tel (03) 34 39-0124

SOUTH and EAST ASIA

Legal Library Services Ltd

Orchard
PO Box 0523
Singapore 9123
Tel 243 24 98
Fax 243 24 79

SOUTH AFRICA

Safto

5th Floor, Export House
Cnr Maude & West Streets
Sandton 2146
Tel (011) 883-3737
Fax (011) 883-6569

ANDERE LANDER
OTHER COUNTRIES
AUTRES PAYS

Office des publications officielles
des Communautés européennes

2, rue Mercier
L-2985 Luxembourg
Tel 29 29-1
Télex PUBOF LU 1324 b
Fax 48 85 73, 48 68 17

07

CM-NF-95-004-EN-C

Price (excluding VAT) in Luxembourg: ECU 7

ISBN 92-827-6225-4

OFFICE FOR OFFICIAL PUBLICATIONS
OF THE EUROPEAN COMMUNITIES
L-2985 Luxembourg