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TRANSPORT TRENDS AND ECONOMICS

Studies on transport economics and track costs undertaken by other organizations

Transmitted by the European Conference of Minister of Transport (ECMT)

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CONCLUSIONS OF ROUND TABLE 120 :
"WHAT ROLE FOR THE RAILWAYS IN EASTERN EUROPE?"

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The ECMT held its 120th Round Table, "What role for the railways in Eastern Europe?", in Cambridge (United Kingdom) on 12 and 13 September 2001. The Round Table was chaired by Mr. K. Celinski (PL) and introductory reports were presented by Messrs. M. Brown (UK), M. Ponti (I), J. Siegmann (D) and L. Thompson (World Bank).

The main conclusions of the Round Table are outlined below.

1. STRENGTHS AND WEAKNESSES OF THE RAILWAYS, AN OVERVIEW

1.1   Overview

Governments in Eastern European countries have limited budget resources and many priorities on their social policy agenda, and especially financing pensions. Improving the efficiency of the railways could make more resources available in these countries by stemming the flow of public finances (i.e. tax revenues) used to cover the operating deficits of the rail sector. At the same time, railways have been

used to retain surplus work forces to avoid increasing levels of unemployment. The short-term benefits of this expedient are outweighed by the long-term costs. Examples of successful severance packages – financed by the State – were cited in Poland and Romania as well as in Latin America.

The fact that the railways of Western Europe cannot be held up as an example only reinforces pessimism about the rail sector in Central and Eastern European Countries (CEECs). Despite significant public investment in most western networks, no winning strategy has emerged for the future, with the possible exception of high-speed passenger transport. A feeling of "crisis" in the rail sector is shared by practically every country in Europe and this is linked to political uncertainty as to the strategic role in transport for railways over the long term.

At the same time, new challenges have to be met:

-   The integration of countries into the global economy is building a network of economic relations critically dependent on "supply chain management" and "extended logistics", i.e. in which economic relations are based on information technologies at European and indeed world level.

-   As standards of living rise, private car and air transport will occupy the strong position that they already hold in Western Europe, a foretaste of future trends in Eastern Europe.

-   Although there may be good reasons why the CEECs and the Commonwealth of Independent States (CIS) may want to foster the growth of their rail sectors, there will also be a number of social reasons -- such as population ageing -- why they will find it hard to put much money behind these policies. The CEECs and CIS railways may have to develop without much state financial support, except for critically needed social programmes for local transport.

-   The types of products and services that are increasingly in demand in the new economies will put a premium on higher quality of transport, which may mean that road haulage shares will grow much faster than rail shares, except in countries or regions where the road network is so rudimentary that no growth in road transport is possible. If economic development is successful, then structural changes -- both economic and social -- will favour flexible and individual transport modes, further reducing demand for rail transport, especially in the wealthier CEECs. The prospects for rail transport are far from reassuring.

EU accession will also be important for candidate countries in two ways: first, the accession countries are likely to receive a boost in growth and investment from their initial years of membership, and their growth is likely to spread to adjoining countries.

The issue that dominated the discussions was how to ensure that the railways of Eastern Europe play a larger role in meeting demands for transport services than they have over recent decades in Western Europe. The starting point for the discussions was a review of the strengths and weaknesses of the railways in the CEECs and the CIS, *even if important differences exist as to the future of the railways in these countries according to geographic, economic, social and political factors.*

1.2   Weaknesses of Eastern European railways

The Round Table identified several factors which indicated that the current decline in rail traffic in Eastern Europe could well become permanent.

- The decline of heavy industry, such as the steel and coal industries, in Eastern Europe could continue as the international division of labour proceeded. It was likely that the economies of these countries would specialise -- although the underlying trend would be roughly the same as that in the West -- i.e. unfavourable to primary sector industries. At the same time, productivity gains in Eastern European industries would reduce transport intensity per unit of GDP output. It was therefore clear that fewer tonnes would be transported for the same level of GDP, which would have an impact on rail transport in particular.

- Competition in the road transport sector would have a lasting impact, indeed more so in the CEECs than the CIS. It would be a major factor for both passenger and freight transport. In the passenger transport sector, competition from private cars would be merciless. The rate of car ownership per 1 000 inhabitants was rising steadily in the CEECs, and was close to the rate in Western Europe. As the road network was also being developed in these countries, rail would find itself under constant threat. Moreover, the advent of increased competition in the air travel sector will also pose a serious competitive threat for rail in the longer-haul passenger business. In the freight transport sector, the road haulage industry had consistently improved on productivity and service quality since the introduction of Community measures to liberalise road freight transport. This means that, while the level of service has improved, prices have dropped considerably. This trend will continue in the European Union and will be reflected in the CEECs in both domestic and international transport, principally because the privatisation of the road freight haulage industry is almost complete and because the logistics organisations set up in Western Europe will be imported into the CEECs. Inevitably, therefore, the railways of Eastern Europe will no longer be competing with not very efficient road haulage conglomerates but with flexible, high-performance firms like those that exist in the West.

- The productivity gap between rail and road freight transport is so wide that it cannot be bridged simply by internalising the external costs of road transport, if indeed that is a policy CEECs opt for. In other words, environmental protection will only be a positive factor in rail development if the railways make a determined effort to increase their productivity and service quality.

- Rail productivity is generally dependent on labour productivity in Europe. Productivity is unsatisfactory in railways all over Europe and has been aggravated in Eastern Europe by a substantial fall in traffic. Major restructuring will be needed to solve this problem and if governments of some countries resign themselves to the status quo, their railways will be deprived of a key element of the strategy for survival and success. In the future, increasing wage levels will cripple the railways if they cannot shed excess labour.

- The position of the railways is something of a vicious circle in which lack of competitiveness leads to lost markets and lost revenues, which in turn leads to under-investment and further erodes competitiveness. The involvement of private investment in the railway system may be one of the ways in which they can break the circle, but private investment will require a change in the mentality of the rail sector, giving priority to options very different to those that have so far prevailed. A change of this kind will always be slow.

- Intermodal transport may be a factor for growth but, because it is complex and road transport prices are low, it is difficult to create conditions in which it can be competitive. In the European Union, it is clear that it is no longer a growth market and could only become so with heavy subsidies, not only for equipment but sometimes for operation, too. Such a policy would come up against the shortage of government resources.

- Choices have to be made as to which services railways should offer. There is no such thing as a homogeneous market for any company, there are only profitable market segments. In other words, the rail sector may have to concentrate on a few priority markets that play to its inherent strengths, and try to make money from them. This would mean turning their back on the temptation to be a universal carrier, a role that road transport is better at. Such a change would exacerbate the problem of overstaffing.

- Railway undertakings will be handicapped so long as government rail policies remain ambivalent. Because of differing rates of progress in European Union countries, and the need to establish consensus on minimum degrees of change, reforms appear tentative. This weakens policy initiatives, when clear direction is needed. This is a problem that applies equally to Eastern and Western Europe.

1.3   Strengths of the railways in Eastern Europe

As well as the weaknesses mentioned above, the Round Table also identified the strengths of rail transport in Eastern Europe.

- Countries that had begun the process of overall reform early enough, may be able to ride out the crisis marked by the very substantial contraction of industrial output. Those that had relied on market mechanisms and private initiative may be seeing the end of recession and this is confirmed by the large increases in GDP growth rates in some countries. This has had a positive impact on rail freight traffic and there have been signs of a real turnaround since 1999-2000. However, the same cannot be said for rail passenger transport. A distinction should also be made between the CEECs and the CIS, where the long distances and underdeveloped road network are structural factors that may maintain or improve rail freight transport's position for many years to come.

- Although rail transport has been declining in the CEECs since the end of the 1980s, this could be regarded as normal since it mirrors the underlying economic changes. Some experts say that the decline may not indicate a "dramatic" weakness in rail transport at this time, just that it needs to adapt better to current trends. Policy can still play a role and build on the positive characteristics of rail in Eastern Europe, i.e. the density and size of its networks although, when considered in terms of costs, this can be viewed as both a strength and a weakness.

- The density and size of rail networks becomes an advantage from the standpoint of territorial development. There is no definite implication as regards land use. Of course, the market is very imperfect since location decisions, particularly by private individuals, do not always take into account the need for optimal access to city centres. In Eastern Europe, where urban sprawl is neither extensive nor irreversible as yet, residential densities are high, which is to the advantage of mass guided transport, and hence to rail. If governments in Eastern Europe give themselves the means to influence land use -- acknowledging that the opportunity costs of so doing are lower than the opportunity

costs of doing nothing -- the role of the railways can be safeguarded to a great extent. One factor which gives hope to the railways in Eastern European countries is that settlement patterns and densities were based, until a few years ago, on criteria dictated by public transport, and specifically so that they could be served by rail. This must be balanced, however, by the fact that the lack of land markets in the former socialist countries created habitation patterns that are to some extent artificial: while the heavy use of mass transport is potentially a positive factor for railways, the development of land markets may shift populations in a way that reduces use of mass transit. Moreover, since urban and suburban transport tends to be unprofitable for railways (because of socially determined rates and services), continuation or even growth in these services implies an even higher participation of governments in support for rail operations.

- Low salaries, for the time being at least, make Eastern Europe competitive in the transport market and particularly in the rail sector. This may encourage Western European rail companies to form alliances with rail companies in the CEECs or the CIS and pass on rights of access to Western European markets. All of which would strengthen the competitive position of rail transport in the CEECs and the CIS.

- As incomes rise, the need for travel will increase, giving rail an opportunity to capture part of this market which will be in both business and leisure travel. Lower birth rates are synonymous with population ageing and therefore greater dependence on public transport, although at the same time, they indicate a decline in the numbers of young people who will be dependent on public transport until it is supplanted by the private car.

To conclude this review of the strengths and weaknesses of rail transport in Eastern Europe, although there is a demand for transport in these countries, it is not necessarily for rail transport, except in the CIS where rail transport will remain largely dominant given that it will retain a structural role. It is therefore important that rail transport in the CEECs adapts and makes the strategic choices that will allow it to position itself on promising markets. The next section addresses the key issues it will face.

2. KEY ISSUES

Until rail companies offer complete, seamless, end-to-end services to customers, they cannot be competitive with other modes. All reforms must have as the primary goal achieving this focus on meeting the demands of the market and the client. Despite its disadvantages, separating freight operations from infrastructure may help by promoting new entrants to show the way where incumbent national railways have been too slow in innovating.

2.1   Open access as a model

Given the situation outlined above, there is no perfect solution for rail transport in Eastern Europe -- the problems are so complex that no single solution could solve them all – however, the Round Table did produce a series of recommendations.

- The national level was not necessarily the most relevant level for discussing rail transport, particularly freight transport. For the latter, the issues and markets are European. That the only sensible level for discussions was the European was borne out by the fact that more than 50 per cent of the freight revenues of DB and SNCF were from international traffic. However, this was not to say that existing companies should simply merge: the ideal solution would be to see new companies catering for the whole of

TRANS/2003/11
page 6

Europe to come onto the market and compete with existing companies. The rule at this level should therefore be open access.

- As regards local or regional passenger transport -- the levels at which the concept of public service arises -- competition between companies for the market should be the norm. The involvement of private sector companies in the provision of public services, where necessary, ensures that better quality services will be provided at lower cost. For example, virtually all of the railways in the Americas, including suburban passenger services and some major metro networks, are currently operated by the private sector. Governments would have to oversee the services and establish frequency, fares and other aspects such as service arrangements and equipment replacement rates.

2.2   Efficient pricing

The Round Table recommended open access to infrastructure for freight, coupled with basic requirements relating to safety, etc. Separating freight operators from infrastructure management is one approach to providing neutral conditions for access between competing operators and is the model to be followed by EU accession countries. This leads directly to the issue of infrastructure access pricing.

Marginal social costs are the appropriate starting point for charges that promote efficient use of the existing network, as the EU railway package sets out, but it is essential to go beyond this and provide, through charges, incentives for rational development of the network. At the same time, potential rent-seeking by the infrastructure monopoly (by under-investing where capacity is tight and simply increasing charges to ration use) must be prevented through structural or regulatory intervention. Infrastructure access charges should also send the right signals to the infrastructure owner as regards the need for investment on certain heavily trafficked sections, in order to reduce congestion on rail infrastructure.

The pricing mechanism should also promote efficient allocation of train paths among different users. On this point, the Round Table thought that the railways in Eastern Europe should use the latest available technologies to allocate train paths via an auction mechanism in which the bid entered by any company applying for a path is the measure of the importance it attributes to having that path allocated to it. It should be said that, until now, where infrastructure has been separated from operation - notably in the United Kingdom - infrastructure access charges have not been found to provide the right signals and have undergone several major changes Getting the prices right is not a simple task. A secondary market for slot allocation was seen as important in achieving liquidity in any auction system.

2.3   Separate accounting or separate institutions?

Accounting at least should be totally separate and the prevailing view at the Round Table was that institutions too should be totally separate in whatever proved to be the most appropriate way. When there is a balance of users, with no single user predominant, when there is a need for real competition among users on the same line and when the economics of the various services need to be clearly separated, then institutional separation becomes necessary. In this case, institutional separation does indeed seem to be the best arrangement for non-discriminatory open access. The Round Table's emphasis on open access partly reflected a desire to see new rail companies coming onto the rail transport market in preference to the alternative arrangement, which would be the merger of the incumbent public undertakings. It is essential that the process of change should not be left in the hands of the existing rail undertakings, which are not inclined to upset their practices and face competition with profit objectives. To this end, the Round Table thought that measures should be taken to encourage new companies onto the networks, which was quite the reverse of granting "grandfather rights" which favoured existing

undertakings. Faced with competition, the latter would be unable to remain set in their ways and this is indeed one of the objectives of the reforms to be implemented. Another point made during the discussions at the Round Table was that there was no fundamental reason why rail freight transport, to give but one example, had to be provided by a public undertaking. There was not a single example of a successful state-run rail service and there is nothing necessarily public about the provision of rail operating services.

2.4   Privatisation should not be a dogma

This said, there were historical, contradictory sociological and institutional realities that made calls for "privatisation of state-owned railways" meaningless. There is no basis for dogma regarding the role of the private sector and, as far as infrastructure is concerned, the experts at the Round Table took the view that privatisation could only be contemplated where there was no vertical separation between infrastructure and operations in a company (as was the case in the United States). Above all, companies should be encouraged to change by responding to competition and by adopting the internal operating rules of the private sector. With this in mind, one point that the Round Table emphasized was the need for cost accounting by activity centre for rail companies, so that their competitiveness, not the policy objectives imposed on them, will dictate the markets they can position themselves on. Monolithic rail companies in a market economy would guarantee failure and accounting procedures based on private sector standards would be a first major step towards avoiding this.

2.5   Non-core activities

Under a planned economy it was argued that really large entities, such as railways, could efficiently be independent of the rest of the economy because their needs were large enough to justify self provision. This would not be sustainable under market conditions because equipment, supplies and services can be purchased at lower costs and higher quality from sources outside the railways. It should also be noted that the process of spinning off these non-core activities has already begun in many countries and in the normal course of events should be brought to completion as reform proceeds.

However, it is not sure that selling railway properties situated in town centres is a useful initiative, inasmuch as by keeping a stake in these properties and in their development, the railways may gain a share in activities with a high transport utilisation. A shortage of sites for freight terminals in cities is a handicap for developing rail markets in many Western European countries.

3. STRATEGIES

3.1   Measures for railways

First, accounting systems based on cost transparency

The first priority is to put in place a line-of-business cost accounting system for operations, based on cost transparency principles. Cost transparency is essential for taking informed decisions: the aim is not necessarily railway growth in absolute terms, but to concentrate on profitable markets and market segments, like any competing company. On the contrary, this could mean a reduction in size.

It is therefore essential to base the structure around markets so that revenues and costs can be related to each market. Line-of-business management will require agreement on public service obligation payments from governments to operators for the provision of unprofitable passenger services that governments wish to preserve.

Second, introduce the same practices as any commercial company

The railways must help themselves by adopting the same strategies and practices as any commercial company. The adoption of a commercial paradigm implies a major change in management process. It is essential that senior management is committed to such change. An independent senior management team must be empowered to structure the organisation and to appoint and dismiss staff. This will also mean that new practices have to be shared by all staff. Clearly, therefore, an innovative strategy is needed, based on staff motivation and a management style that is geared to the railways, but inherited from private enterprise.

Third, the railways should position themselves on profitable markets, such as complete logistics services

The railways in Western Europe and the CEECs are basically geared to providing passenger services, with freight a minor concern. Markets are not homogeneous and they have various potentially profitable segments. The railways must aim to increase their penetration into these market segments and consider developing a logistics approach for freight transport. In other words, they must position themselves on promising markets.

Fourth, encourage investment in new technology

A key factor in the development of the railways depends on their ability to capitalise on the inherent features of rail, including its ease of automation. Contrary to what has been the experience to date, rail is inherently a technology-intensive, not labour-intensive industry. On this point, the Round Table considered it vital for the railways to get involved in new technologies, including automation technologies. The problem of overstaffing that this would inevitably expose should be resolved in collaboration with governments. In addition, they should invest in the acquisition and operation of the equipment necessary to calculate infrastructure costs and manage track capacity in a non-discriminatory way. This managerial software is critical to all of the transformations needed to support market-based management and no railway should undertake reform without it.

3.2   Measures for governments

The Round Table set out a series of initiatives that governments should take to resolve the problems posed by the railways in Eastern Europe.

First, open up access to the infrastructure as required by EU practice

For many experts, Western Europe had failed to implement the provisions of the Treaty of Rome with regard to the liberalisation of transport in the rail sector. A certain economic philosophy and special interest groups had caused some countries to shield state enterprises, especially railways, from market forces. Eastern Europe, then, should learn from the mistakes made in the West where past policy on rail transport cannot be used as a model. Attempts to co-ordinate the activity of different modes in the West had been very costly, since railway subsidies in the West per passenger carried are 15 to 20 times higher than in the East of Europe but had still failed to halt the decline in rail's market. What could be considered the key recommendation to emerge from the Round Table was that there must be open access to rail infrastructure for freight operators, i.e. open to new operators and open to the rewards of the free competition model. Competition is a major factor in efficiency and in responsiveness to the demands of the market.

Secondly, create a competitive framework for the transport market

In order to do this, the first lesson to bear in mind is the need to provide a framework for the transport market and give companies total autonomy. The responsibilities and freedom of every actor in the transport market must be harmonized in order to build a "level playing field". This is easy to say but more difficult to do, as the liberalisation of the transport market will mean establishing regulations on safety, the environment, market access, social conditions, charging, taxation, etc. However, there are numerous ways in which these principles can be introduced and each country can find a suitable way to do so.

Another objective of this kind of change is to put an end to the railways' hold on regulatory power, which is the result of the close relationship between the rail companies and governments.

Third, encourage new entrants

All national policies should have a common aim to encourage new entrants to the rail transport market as a matter of urgency, thereby preventing the existing companies invoking grandfather rights. Access rights are essential and must not discriminate in favour of established companies. Effective access rights can be provided by competition *for* the market as well as competition *in* the market. That is, competition for an exclusive suburban rail concession, with public subsidy under contract, can be a fully acceptable way of opening up the competitive use of infrastructure. In other words, the open access objective needs to be taken together with the enhanced competition objective if the best approach is to be found.

Fourth, give decision making back to companies

This kind of model can only work if companies are given a free hand in strategic decisionmaking in their operations. After the public needs for infrastructure capacity are decided, and social needs for operating services (primarily regional and suburban/urban passengers) are identified, governments must therefore hand the decisionmaking powers they still exercise back to rail company management. The managerial freedom of the companies is essential and can only be based on transparency of costs and revenues, as well as a direct relationship between market demands and enterprise performance. A point made several times in the course of the Round Table was the need for rail companies to have a standardized accounting system, i.e. a system that allows them to see the return on operations in each of their markets, in line with a cost accounting model. In addition, government oversight of rail performance is greatly enhanced if the rail accounts are relevant, accurate and comprehensible.

Fifth, grant public service franchises

For transport markets in which the open access concept is not realistic, such as local and suburban transport, governments may grant franchises to operators that submit the least costly bids. As governments subsidise these services, they will retain decisionmaking powers on frequency, fares, services operated, etc., but here too, new entrants will be encouraged to enter the market through invitations to tender.

Sixth, resolve problems at border crossing points

Problems at border crossing points are a determining factor for freight transport in that, as the Round Table stated, it makes little sense these days to talk about national issues for freight transport when the international dimension is so large. Governments should therefore promote cross-border competition and joint ventures between incumbent railways to the extent that this does not create barriers to new entrance.

Seventh, set up a regulatory body

Governments should institute a national regulatory authority in each country with powers to prevent anti-competitive practices and enforce compliance with the applicable laws. Independence of the regulatory bodies is important to give new entrants confidence to enter the market.

Eighth, do not overlook environmental concerns

An increasingly important influence on European transport policy is concern for the environment, which may materialise as incentives designed to promote rail traffic. Typically, they will include reduced or short-run marginal cost access charge regimes for rail freight and subsidies for urban or regional passenger transport. The danger that such practices diminish resources available to the infrastructure operator has to be overcome. But such incentives should only be valid for services with a demonstrable and quantified environmental benefit. The CEECs and the CIS have tended not to share the same environmental concerns as in the European Union, but will increasingly do so, even if it is particularly difficult for them to correct the environmental misbehaviour of their state enterprises.

Ninth, adopt a state-financed plan for overstaffing

Lastly, one of the most difficult aspects of the changes to be made relates to the overstaffing of established railway companies. This problem cannot be left in the hands of the rail companies alone. It is vital that it be resolved, even if the unit cost of labour in the CEECs is low at present. Savings in the region of 4 to 5 billion Euros per year could be made in the CEECs overall, in other words, enough to finance large-scale investments over five years. In order to find a satisfactory solution to this problem, governments must help to design and fund programmes for early retirement, training and redundancy compensation, etc., while at the same time taking care to retain and recruit high-calibre managers with the skills required for the business environment to be created in the railway sector. Examples from Latin America were cited during the Round Table: staff were generally reduced by fifty per cent, while taking care to attract quality personnel in new domains. Salaries must reflect individual merit. It helps to define and obtain general acceptance of planned redundancy payments first and then allow the enterprise to decide which personnel to keep. The agreed redundancy programme is then applied to employees who have not been offered a new job.

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**CONCLUSIONS OF ROUND TABLE 121:
MANAGEMENTS OF STAFF'S COMMUTING CHOICES AT COMPANY LEVEL**

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The ECMT held its 121st Round Table on transport economics, "Management of staff travel choices at company level", in Paris on 29 and 30 November 2001. The Round Table was chaired by C. Raux (F) and introductory papers were presented by Messrs M. Herry, H. Knoflacher and R. Thaler (A), T. Rye (UK), D. Shoup (USA) and J. Whitelegg (UK).

The main conclusions of the Round Table are summarised below.

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1. CAR PARKING FOR COMMUTERS -- A STRATEGIC VARIABLE

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1.1   Cash-out incentive schemes

The rest of the world is gradually catching up with the United States in terms of car ownership. The trend worldwide is towards ever greater numbers of private cars and it would be fair to say that the current situation in the United States provides a foretaste of what many regions around the globe can expect to see in the future.

In the United States, for example, over 90 per cent of commuters travel to work by car and as a general rule free parking facilities are provided for them at the workplace by employers; in contrast, no benefits are given to employees who do not travel to work by car. In a situation such as this, free car parking paid for by employers would seem to an irresistible tide that cannot easily be turned back; it offers a powerful incentive to employees to travel by car. Employees who use their car to travel to work receive more benefits from their employer. On the other hand, it has been proven that, as a general rule, higher parking charges encourage greater use of alternative modes of transport.

The idea which dominated discussions at the Round Table was that with regard to parking, and in the particular context of the United States, employees should be offered a choice between free parking or an equivalent cash benefit. Such a system would make car use no more advantageous than buying a season ticket for use of the public transport system. The payment of a cash equivalent to an employee who chooses not to make use of a free parking space would seem to be a measure that is simple to put in place and manage; in addition to which, such a provision would be fair in that everyone would be treated in the same way. The provision of free parking spaces, on the other hand, lessens the impact of one of the largest single components of the cost of car use, namely, parking charges.

In terms of fairness, offering free parking gives preference to high-income members of the car-owning population, which in the United States corresponds to white males. Paying a benefit for foregoing use of a parking space is therefore a means of ensuring a certain degree of fairness. Moreover, if such a benefit were to be taxable, it would in addition generate tax revenues that could be used to develop the supply of public transport. This would therefore be a means of creating tax resources through a measure that reintroduces fair treatment.

Parking is currently both free and tax-exempt in the United States. This advantage could be maintained if it were made conditional upon payment of an equivalent cash sum to those not using a car to travel to work, that is to say, through introduction of "cash out". The expenditure by firms on payments to reward non-utilisation of a parking space would be covered by the savings afforded by reduced size of car parking facilities which are needed by firms and which in many cases are extremely expensive to rent. This is the main thrust of the changes to the legislation currently under consideration in the United States and already implemented in California.

The introduction of cash-out incentives, that is to say, payment of a financial benefit for non-use of a free parking space, makes the opportunistic cost of parking visible. This cannot but raise the awareness of employees. Furthermore, the market, when it is undirected, creates discrimination in that free parking without any compensatory measures gives preference to certain categories of the population over others. Free car parking is extremely generous and tantamount to rewarding those who do not share the same environmental concerns and who already have certain advantages in terms of income.

Cash-out incentive schemes can mark the turning point for employees with regard to the use of environmentally-friendly modes of transport, even though some employees will clearly prefer to use their car regardless. Over 20% of car users have nonetheless opted for cash rather than free parking spaces in areas in the United States where cash-out schemes have been introduced. What is important is to offer a choice.

Cash-out schemes can be particularly appropriate in the event of changes in an employee's personal circumstances (new house, job, etc.). In such cases employees can make allowance in their travel plans for the fact that foregoing the use of their car will be rewarded by a cash benefit, and choose their place of residence or work accordingly.

Admittedly, one remaining obstacle to cash-out schemes is that firms are unaware of the cost of providing free parking spaces because it is buried in the overheads and they therefore cannot assess the exact cost of free car parking in cases where the latter is provided. However, what matters is to gain an idea of the market prices for parking spaces in the area in question and in this respect firms do have access to reliable sources of information.

1.2   Prerequisites for cash-out schemes

A number of prerequisites must be met if a cash-out policy is to work. Since changes must be made to current legislation and tax procedures, both firms and individuals need to be familiar with the latter. Furthermore, to ensure that everyone is indeed treated fairly, these measures must be applied uniformly, irrespective of the level and position reached by employees within the company. There can be no question either of people taking the cash payment and continuing to use their car, simply paying for alternative car parking space elsewhere. Hence the need for employees to sign a declaration to the effect that they will no longer use their car to travel to work. In addition, measures must be discussed within the company since the success of a cash-out scheme depends upon the way in which it is perceived by employees. Staff must be encouraged to think carefully about what they are doing. Lastly, physical support measures also need to be taken such as the possible provision of bicycle parking areas.

If cash-out is to be viable, then the provision of free car parking spaces, which are expensive for firms, must be made redundant. To enhance its effectiveness, a cash-out scheme must apply not only to parking spaces rented by firms but also to those owned outright by firms. What will happen to such spaces?

- In the short term, parking spaces will be made available for others. They could be used either for leisure activities or for shopping. The fact that there are fewer people commuting by car will reduce traffic levels during rush hours, which will improve conditions for other users during off-peak times. In areas where parking charges are levied, this will generate revenue for firms or local authorities.

- In the long term, land-use plans will provide for smaller numbers of parking spaces, which will automatically reduce the number of workers commuting by car and which will also allow firms to make financial savings.

It is essential that the regulations and change of tax framework on which cash-out schemes are based work towards the same goals in order to generate synergies and counter adverse impacts on the environment. Such a system cannot in fact be introduced incrementally by individual firms; it must be based on modification of the regulatory and fiscal framework.

1.3   Constructing a parking policy on the basis of cash-out schemes

Consideration should be given to extending the use of cash-out incentive schemes. The provision of parking spaces at the workplace is merely one element in an overall parking policy that should apply to all parking facilities. It would therefore be highly desirable for municipal authorities to introduce standard parking charges in all areas equal to the market value of the parking spaces in question. For example:

- Parking spaces around shopping centres should reflect the market value of street parking spaces, and the use of public transport should be encouraged by offering some form of incentive to users such as reimbursement of public transport tickets. This used to be

common practice in the 1950s but has since been abandoned in favour of the current practice of reimbursing the cost of a parking space;

- Commuters travelling to work by bicycle should be subsidized by an amount at least equivalent to the cost of travelling by car. This would be a far-reaching change that would dramatically change commuter perceptions.

Parking at the workplace comes at a very high cost which cannot be reflected by the market unless a sum of money is forfeited in exchange for the possibility of free parking, that is to say, a cash-out policy. Parking spaces have greatest value in densely populated areas. However, it is in these very areas that high-quality public transport is usually available. This suggests that cash-out schemes will result in changes in behaviour in those areas where they are most needed, that is to say, in areas experiencing difficulties in terms of both transport and the environment.

There nonetheless remain doubts over the effectiveness of such measures if powerful messages encouraging the use of private cars continue to be sent to users. These messages may consist in failure to cover environmental costs, poor-quality public transport and the resultant time losses, lack of safety on public transport or massive investment in road and motorway infrastructure. It is clear from this standpoint that benefiting from a cash incentive alone will not be sufficient to achieve lasting changes in behaviour. On the other hand, cash-out schemes can be seen as one measure among the array of instruments available to public authorities. They reveal the hidden cost of private car use and are a step in the right direction that brings us nearer to the ultimate objective. There is no need either for massive investment in public transport to encourage the use of such schemes, since in many cases employees who accept a cash incentive opt for car-sharing as much as they do for public transport.

The simplest change would be to introduce parking charges or taxes; however, such a solution would not offer an employee a fair market price in exchange for using another mode of transport. This would negate the strong perceived incentive in a cash-out scheme in cases where employees are asked to forgo use of a free and tax-exempt parking space. The difference is subtle, but nonetheless profound. In addition, making employees pay for use of a parking space would be hard to justify in political terms and in this respect cash-out schemes are merely a palliative for the widespread dysfunctions arising from the provision of free parking spaces, although this particular palliative does have the advantage of being politically acceptable.

It would therefore be fair to say that cash benefits in return for an agreement to forgo use of a free and tax-exempt parking space, as in the case of a cash-out scheme, can be incorporated into transport policy and are capable of changing perceptions even though they would be insufficient if used in isolation. While doubtless merely a very small step forward, cash-out schemes have the advantage of being universally acceptable. Consideration should nonetheless be given to optimising measures relating to company parking policy introduced by different firms at the regional level, in order to ensure that measures adopted by one firm are not cancelled out by those introduced by other firms. The success of such optimisation would depend upon the organisational ability of firms within a given area of activity (which includes schools, hospitals, government administrations, etc.) to ensure that, even if parking is not the sole instrument used, it is nonetheless integrated into an overall strategy.

2. POLICIES PURSUED BY FIRMS

2.1 Scope for change

An examination of the employees' behaviour with regard to journey-to-work trips usually reveals a 60/20/20 split:

- 60 per cent of employees are prepared to modify their behaviour and are receptive to ecological arguments, but remain unsure how to proceed. They are in favour of bicycle paths and better public transport services. It would be fair to say that their attitude differs substantially from that of politicians in that, unlike the latter, they are amenable to change;

- 20 per cent of employees already use environmentally-friendly means of transport; the aim here is therefore to increase this percentage;

- 20 per cent enjoy using their car and are not prepared to change their mode of transport.

It must be borne in mind that perceptions of transport are based on individual opinions regarding the relative quality of, and advantages to, each mode of transport. The aim must be to change these deeply entrenched patterns of behaviour which are both rational and irrational, conscious and unconscious. Beliefs and learning have an essential role to play in this respect, as does participatory democracy.

Consequently, the ECMT could act as an educator by spreading the message that most people are prepared to modify their forms of mobility and that politicians are often mistaken about people's expectations in this respect.

2.2   Company travel plans

The travel plans and schemes put in place by firms are a practical means of examining problems democratically and of considering solutions in no less a democratic manner. The starting point for the travel plans drawn up by firms is the observation that employees are demotivated by difficult travel conditions in which they waste time in traffic jams and in looking for parking spaces or must contend with shortcomings in the supply of public transport. Under such circumstances, a firms that wishes to expand must closely examine the issue of employees' journey-to-work requirements. Travel plans are even more essential in cases where a firm's premises are located at a distance from public transport communication hubs, but the very remoteness of the firm's location makes it difficult to draw up such plans. A sustained effort in such a context can ultimately reap rewards by raising the awareness of decision makers with regard to transport when choices have to be made about location.

One of the major agents of change consists in the factors that govern employees' choice of transport mode, information being one example. Other factors include decisions regarding the company's vehicle fleet, management of business travel, quality of public transport links, etc. In some cases, firms have introduced car share schemes, cycle paths and, in collaboration with local authorities, better public transport facilities. Most of the travel plans introduced by firms remain basic, however, and are limited simply to informing employees about the supply of alternative modes of transport and to promoting car sharing. Such plans usually reduce the number of kilometres travelled by private car by 5 per cent. By combining different incentive measures, such as reduced season tickets for public transport with deterrent measures such as parking fees for private cars, firms can reduce the number of kilometres travelled by private car by 15 per cent.

The successful implementation of such an array of measures cannot be left to chance. On the contrary, it can only ensue from in-depth discussions and collaboration between staff, staff representatives such as the unions and mobility managers specialised in transport issues. Consideration must be given to appointing transport experts, that is to say, mobility managers, who are either recruited directly by firms or put in place by government to advise firms. Their task is to help firms draw up travel plans and oversee their design. The travel plan drafting process initiated by mobility managers must be

democratic, that is to say, it must set out to evaluate employees' needs and find solutions. As pointed out in the first part of this report, these mobility plans are cost-free to firms in that, by reducing private car use, they allow the firm to make substantial savings on the supply of free parking spaces, while at the same time enhancing the image of the firm by portraying it as a social actor that is fully aware of its impact on the environment. This enables the firm both to attract and to retain high-quality staff while continuing to motivate staff already in place.

At all events, success will depend upon the democratic nature of the process and the involvement, in this respect, of all levels of employee within the company. It is particularly important to secure the support of the trade unions, which often try to obtain free car parking for all employees. At another level, management must give transport planners a free hand and, in addition, must not be left out of the schemes proposed. Rigorous and sustained monitoring of the implementation of travel plans is also essential.

There is no "miracle" travel plan universally applicable to all firms. It is simply not possible to establish a travel plan for a given firm until the requirements of firm's employees can be analysed in depth. Every firm has its own particular context which, to a large extent, is determined by the type of work it performs. A hospital cannot be readily compared to a plant manufacturing industrial goods, for example. Travel plans exhibit a wide degree of diversity, even though there may be similarities between plans established within a same given area where shared or interdependent solutions need to be sought. This is precisely the role of mobility co-ordinators who, in addition to the input provided by mobility managers within firms, optimise moves and changes of location of firms within a zone or region. The efforts of mobility managers must therefore be enhanced by such mobility co-ordinators, who in practice can play a crucial role in creating synergies between different regional aspirations and thereby ensure that the decisions taken by firms are not mutually contradictory.

When encouraging firms to adopt travel plans, it is advisable to emphasize the potential financial gains. For example, account needs to be taken of the positive impact on the productivity of employees who see a solution offered to their transport problem, or of the positive image which this democratic process that takes account of the environment brings to the firm. It is possible that not all firms are interested in seeking to reduce CO_2 emissions. However, mobility co-ordinators, whose remit is to serve the public good, can help such firms making substantial financial savings in units where mobility plans are introduced.

It is doubtless necessary to employ several instruments to discourage private car use and the image of social success that it conveys. The success of road lanes reserved for car-sharing is one example of the fact that it is also possible to work from within the road mode. However, in order to change patterns of behaviour it is necessary to radically change mind-sets, even if that requires strong measures. In Switzerland, for example, rules apply to the maximum area within which staff can travel by car and if that threshold is exceeded firms are fined. Another possibility is to make the criteria for awarding parking spaces contingent upon the capacity of the infrastructure in the vicinity of firms' premises.

In conclusion, what is needed in all cases at the level of the firm is to establish a precise objective which consists not only in improving transport conditions for employees but also, and above all, in reducing the environmental impact of employees' journey-to-work trips. Travel plans provide a basis for discussion within the firm by forcing people to talk about the issue of mobility. They can also influence individual behaviour patterns by making citizens aware of the pollution they personally generate. The onus is on the authorities to provide an appropriate framework for action.

3. POLICY FRAMEWORK

The Round Table opened discussions by considering the example of new ECMT Member countries. In countries from the former socialist bloc, the transport of employees had been organised by the industrial conglomerates which employed them. After transition, rising wage levels encouraged growth in car ownership and it became common practice for firms to provide cars for their managers, even those in middle management. During the same period, the international financial institutions recommended that public transport subsidies be abolished and tariffs aligned on costs. Because income failed to cover all the costs of public transport, prices rose substantially and patronage declined. The share of public transport in the urban modal split in some countries fell from 90 per cent to merely 50 per cent.

There are some special economic zones, however, where local government and transport managers organise bus services funded by public and private subsidies. A new policy of providing as many parking spaces as possible in the more important areas of cities is also starting to become apparent.

The conclusion that can be drawn from the example of the CEECs is that, as levels of car ownership rise, it is extremely difficult to organise mobility schemes for employees. This is a deep underlying trend that, if it is to be countered, requires several instruments of public policy to be brought into play.

3.1 Raising awareness

The facts are that there are **relatively few demonstrable cases** where travel plans for firms have been successfully implemented, in that private firms do not necessarily have the requisite travel planning skills to organise travel plans for their employees.

In view of the complexity of the problems to be solved, as well as the distinctive attributes of individual firms, the Round Table felt that it fell to the authorities to recommend the recruitment of **mobility managers** within firms, or the consulting of such specialists, and that it was also the responsibility of the authorities to provide **guidelines** on what to expect from carefully drafted travel plans.

This point illustrates the crucial role that mobility managers can play in taking action either within firms or at the level of a given development area under the supervision of mobility co-ordinators. Government must set an example by creating similar posts of mobility co-ordinators within public administrations. To ensure that appropriate structures are put in place and achieve success at a regional level, it may be advisable to set up regional advisory centres designed to inform and assist firms and to ensure the consistent implementation of national environmental and territorial development policies. It is essential to ensure that such policies are closely co-ordinated.

It is therefore clear that information plays an essential role and that it is the responsibility of the authorities to establish **methodological guidelines** and provide firms with access to managers in the public sector who are aware of all aspects of such issues.

Travel plans are needed not only for new but also for existing firms. This can be achieved by substantially increasing awareness of the central objective of travel plans, namely lower levels of environmental nuisance. An **overall approach** needs to be set in motion, which can only be done by organising resources on the basis of practical objectives and through **information campaigns.** A **soft approach that raises awareness** can prompt firms to initiate actions themselves, provided that such actions are part of an overall strategy.

It is important to make clear that travel plans are financially viable for firms and can greatly help to reduce CO_2 emissions. This latter aspect can encourage local and national government to provide support, even though a major financial commitment is not needed from government. Nonetheless, certain financial instruments can still be used, for example, making **access to subsidies** conditional upon drawing up a travel plan, although the experts at the Round Table particularly stressed the fact that not enough was known about the greenhouse effects attributable to pollutant emissions in the transport sector, a shortcoming which would have to be remedied gradually but surely. The media had to play their role to the full in this respect. In the same vein, **pilot schemes, informing the public** about such schemes and **teaching** based on information campaigns are some of the essential basic instruments that government must employ.

3.2   Fostering synergies between local initiatives involving finance

The role that government can play is not limited solely to explaining what the objectives are. Government must also encourage the formation of **partnerships**, for example, with transport authorities in the region in question. A problem that frequently emerges at the regional level is that it can be difficult to increase the supply of public transport such as bus services. This is the case when services are provided on a purely commercial basis and when the sole criterion followed by public transport operators is that of financial viability. Under such circumstances a firm which wishes to benefit from better services may have to provide substantial funding resources. However, in most cases the public transport network is managed by local authorities and an informed dialogue with the latter can be enough to secure additional services or the introduction of a combined ticketing system for, say, trains and buses.

In drawing up comprehensive travel plans, care must be taken not to exclude employees residing in regions that are distant from the centre of the industrial site. Travel plans must also take account of **rural areas**. This may require discussions with the managers of rail services in these remote areas. The upshot is that any measure taken by the authorities to organise rail services on a regional basis already contains within itself the seeds of success for travel plans organised by firms.

It follows from this that in the developments outlined above, the public authorities need to ensure the **transparency of the channels through which public transport is funded** so that firms can feel that it is within their ability to intervene in these channels and influence the structure of the services offered by public transport operators. Improving the services that ensue makes it possible to consider reducing private car use and therefore has implications with respect to parking.

3.3   Parking policy as a determining variable

While all buildings must have parking spaces, it is important to limit the number of spaces provided, at least in buildings with good access to public transport services. The physical structure must send the right signals to employees. The number and quality of trips that can be made by public transport should be inversely proportional to the number of parking spaces provided. In addition, common regional standards are needed to avoid cities competing against each other. This might undermine the decisions over location made by firms in that individual cities would attempt to attract as many firms as possible and would be less demanding with regard to measures designed to reduce the number of parking spaces.

Parking policy is determined by local authorities and, unless the latter can rely on support from national legislation, they will have great difficulty in imposing unpopular parking measures. Moreover, it should be recalled that municipal authorities are under pressure from firms which want to set up premises on their territory. A comprehensive framework for parking policy can therefore act as a bulwark against excessive demands by firms.

Due to the high levels of taxation in Europe, parking policy is a powerful means of government intervention and one that is undoubtedly more effective than it is in the United States. Much can therefore be achieved by taxing the parking spaces provided by firms or by ruling that, as in the United States, parking be subject to cash-out. It is precisely such change that requires the support of an appropriate tax framework.

3.4   Strategic role of taxation

At a general level, **taxation** plays a crucial role in that it lends a final touch which ensures the consistency of the messages sent to both firms and employees. For example, it is necessary that:

- the provision of free public transport tickets to employees is tax-exempt;
- no tax exemption should be granted for company cars;
- expenditure on travel by public transport be made tax-deductible;
- regulations in certain countries, setting a cap on the amount received for parking, be abolished;
- expenditure by employers on car parking facilities be made taxable;
- all tax deductions for expenditure on private cars used for work purposes be abolished.

In Europe, consideration must be given to introducing restrictive measures, in terms of the macroeconomic regulatory framework, as well as incentives at the microeconomic level. Taxation can be one component of such action but must be framed at a national level in that:

- treating each firm individually is a very lengthy and costly process. It is preferable to have a common and well-established fiscal framework;
- if there is a clear fiscal framework it is easier to win over the staff of firms and administrations;
- the travel plans of all firms within a given area must be consistent with one another; introducing individual travel plans on a piecemeal basis would rapidly reveal mutual inconsistencies.

3.5   A comprehensive regulatory framework

The general view of the experts at the Round Table was that instead of making the development of travel plans for the employees of firms mandatory, it would be better to put in place an appropriate regulatory framework. This **comprehensive regulatory framework** recapitulates the points outlined so far in this summary of discussions at the Round Table, namely:

- changes to the legislation in order to encourage the introduction of travel plans;
- a levelling of the tax system with regard to mobility. The tax system must not give preference to private car use over that of public transport;
- improved public transport services, facilities for cyclists and alternative modes of transport;
- a reduction in the number of parking spaces that firms are allowed to build when establishing their premises. The best solution is to set a maximum limit on the number of parking spaces.

The travel plans drawn up by firms must therefore be placed within a **co-ordinated framework** established by the authorities so that all plans are directed towards meeting the same objectives. Government must clearly explain what these objectives are. The failure to achieve widespread use of

travel plans in the United States may be attributed to the fact that they did not have clearly defined goals capable of arousing the interest of firms.

It is also important to place the freedom of each enterprise within a **context of responsible behaviour** in that, while firms must help to resolve the problems their activities have caused, any action they take must be placed within an overall framework to ensure that measures are neither contradictory nor implemented in isolation.

Government must set an example and to this effect it can require central and local administrations as well as airports, for example, to put in place travel plans.

The actions of the authorities should be directed towards providing **incentives** and seeking **complementarity** rather than towards imposing obligations in the strict sense of the term. Some **fine-tuning** of various aspects of the regulations may nevertheless prove necessary. The aim is to ensure the consistency of regulations concerning, for example, the regional organisation of transport services, transport subsidies, tariffs, ticketing, location of public buildings, highway construction and provision of parking spaces with a view to removing all obstacles and impediments.

Amendments must therefore be made to regulations and, to ensure optimum effectiveness, must be accompanied by action to meet the imperative need, outlined above, to harmonize tax rules.

Some experts at the Round Table expressed doubt over the possibility of making marginal changes to a transport system which until now had given high priority to private car use and which, with regard to the latter, had not even managed, for example, to internalise environmental costs. It was suggested in reply that it was very difficult to make changes to the macroeconomic framework in that this was an area where public hostility could ensure the failure of radical measures. It was probably best to seek synergies between **different instruments that could be mutually enhancing** and embrace the need for change in all their dimensions.

This would mean that at the local level, in addition to incentive schemes and co-ordination, all aspects of public decisionmaking, such as those taken by the Ministries of the Environment, Transport, Energy, Territorial Development, Health, Education, Construction, Industrial Policy, etc., would be placed within the same given **task unit.**

In the final analysis, there is a need **to put all the various instruments of public action properly into perspective.** This need embraces areas ranging from taxation to the built environment, regional autonomy, territorial development, location of industrial sites, transport subsidies, tariffs, information, etc. It may therefore be necessary to ensure that all these instruments send **signals that point in the same direction.**

4. CONCLUSIONS

The rationale behind company mobility plans is that of environmental protection and the need to reduce greenhouse emissions. This is a central objective and one that needs to be brought to the fore. It also needs to be addressed directly by government which must initiate a debate and foster awareness of the importance of safeguarding the environment at all levels wherever possible.

Creating incentives and motivating both firms and individuals provide the basis for the work that government must undertake. To ensure that these incentives do not become a dead letter, governments must amend regulations concerning transport to make them more effective with a view to the future adoption of mobility plans by firms and measures to protect the environment. It was felt that the tax

framework required particular attention in this respect. All that currently encourages private car use must be fought against to encourage adoption of another form of mobility.

The cultural differences between countries are such that, while in the United States it might be sufficient to modify the tax framework applicable to parking, in Europe parking is simply one element in an overall strategy.

All of the above are aimed at addressing the problem of how to make it more advantageous for employees to use public transport rather than their car. What is needed is a change in the way in which transport is perceived by the public and this will require action in the form of information campaigns. Information campaigns can be pursued at the level of individual firms through the recruitment or consultation of mobility specialists who would form a network of what might be termed mobility managers whose remit would be to help reduce employees' dependence on their cars.

The experts at the Round Table felt that, under present circumstances, government must provide an overall and consistent framework of incentives through a series of actions such as the publication of codes of good practice or revision of the tax framework, rather than seeking to introduce legislation immediately in order to make measures mandatory. In the final analysis, however, action urgently needs to be taken to promote other modes of transport rather than the private car, in order to avoid creating a climate of mobility comparable to that in the United States.

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CONCLUSIONS OF ROUND TABLE 122:
"TRANSPORT AND EXCEPTIONAL PUBLIC EVENTS"

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The ECMT held its 122nd Round Table on Transport Economics on 7 and 8 March 2002. The theme was "Transport and Exceptional Public Events". Chaired by Mr. M. Bernadet (F), the Round Table opened with reports by Mrs. F. Potier (F), Messrs. W. Heinze and R. Schnüll (D), Messrs. H. Koch and R. Thaler (A), Mr. L. de Vogelaere (B), Mr. F. Nunes Da Silva (P) and Mr. P. Bovy (CH).

The main conclusions to emerge from the Round Table are presented below.

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1. CHARACTERISTICS OF EXCEPTIONAL PUBLIC EVENTS

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No two exceptional public events are quite the same. This is obvious when we compare an event like the World Cup with the Tour de France. Each event has its own distinctive characteristics. Such events can be broadly classified by:

- Spectator capacity: an open or restricted capacity event (in a stadium), or a single- or multi-site event; alternatively, they can be classified by size, i.e. the number of spectators per day. In the latter case, further distinctions can be made between daily averages and peak attendance.

- Duration: one day (horse show), two to three weeks (Olympic Games), or several months (such as Universal Exhibitions). Events can also be classified by frequency, whether they have been held previously at the same site or different sites and, lastly, by whether they are held in the evening or during the daytime.

- Location: a single or multi-site event, in a town centre or the outskirts, in a specific location or all along a selected itinerary.

While this list is not exhaustive, since the number of variables involved make any typology very complicated, the characteristics outlined above help to differentiate one exceptional event from another and, most importantly, help to show that the term "exceptional public event" covers a multitude of possibilities. We also have to bear in mind that a public event may be composed of a series of separate events. The Olympic Games, which comprise a series of separate or concurrent events, are an example of this type of event. Each such public event has implications in terms of transport, mainly in terms of the logistics behind every constituent or separate event.

In the case of the Olympic Games, for instance, a great deal more has to be taken into consideration than just providing transport to take spectators to the site or sites. There are also all the logistics that enable the events to take place to consider: transport to get athletes to the event on time, for the media covering the events, for Olympics personnel such as referees, or voluntary stewards, for all event management needs, e.g. food, special equipment, etc.

The time available for preparing an event is thus an important factor. For small events, there is often not much time to prepare them; when the organisers have a commercial stake in the event, they often neglect the management side, including transport and security, leaving the responsibility for these to the public authorities. What happens in these cases is that the organiser automatically assumes that he is not responsible for taking care of transport arrangements. When politicians organise an event, they too often take the transport side for granted and forget that preparation time is needed, particularly for the transport operator. The latter then has to chase up the information needed. In practice, there is always a responsibility towards the public, but the perception of that responsibility will vary according to whether there are precedents for the event or it is a one-off occasion.

Every event that is not held at the same site on a regular basis should be viewed as a special case. Previous events can serve as a basis for organising repeat events, but some things will always be different. In fact, even with similar events, close analysis shows that there can be major differences each time, especially if they are not held at the same site.

Difficult as it is to classify exceptional public events, the exercise can be extremely useful for identifying transport parameters. The Round Table accordingly wished to see the work on a classification continue.

2. AIMS AND GENERAL TRANSPORT DESIGN

Exceptional events may be held for festive, religious, social, sporting, cultural or commercial purposes. The public authorities want the transport system put in place for the event to project a positive image of it. This means that the system must be safe, reliable, clean and environmentally friendly. The objectives for transport are therefore not the same as the main aim of the event itself, which is to generate interest and attract people. A punctual and reliable transport system contributes to the overall success of the event.

Transport is intrinsically linked to all of the other components which go to make up the event. For instance, it is linked to safety, accommodation, services, information, etc. On these grounds, the experts at the Round Table urged that, rather than speaking of transport, we should be speaking of exceptional event logistics.

For big events, the logistics are expensive since they include infrastructure costs as well as operating costs. These costs are sensitive to management errors such as the overestimation or underestimation of traffic peaks. Logistics are also sensitive to the unexpected, such as the cancellation

or postponement of an event in the Olympic Games. As well as this, logistics are dependent on the quality of information provided to the public, participants and staff.

As already mentioned, logistics for the Olympic Games have to reconcile the differing transport priorities of the athletes, VIPs, the public, etc. While the logistics are not visible to the public eye, they nevertheless determine whether the event will be a success. They therefore warrant close attention. Seen in this light, transport seems to be the key piece in the puzzle, one that is both complex and strategic.

Some of this complexity can be seen away from the event itself, where event-related travel is superimposed on a city's normal travel patterns, making mobility management infinitely more complex. This calls for effective transport management and, in particular, effective car traffic management. Furthermore, overall flow management is not sufficient; flows must be integrated in time and space, with peaks.

As a result, the public authorities quite often want the most efficient, safest, cleanest transport or want to organise environmentally-friendly mass transport, i.e. they want to plan transport services for the event around public transport and to restrict transport by car, which may be banned on certain days.

Quite clearly, an exceptional event must be accepted by the local population and will entail traffic moderation on public roads and proper targeting of restrictions. The festive and sociable side of the event, the friendly atmosphere, cultural openness and community spirit it generates must not be jeopardised because of transport, which is not safe enough, say. Developing a mass transport service that reduces the impact on local residents can be one way of achieving this, as was the case for a Universal Exhibition and the Olympic Games described throughout the course of the Round Table. Environmentally-friendly investments of this kind during and after an event give it a better public image. They become a wonderful legacy of the event in question. In this sense, it is true to speak of "the lasting impact of the ephemeral" and of a "laboratory" for new forms of mobility which will have a long-term impact.

Whatever the size of the event, but more so for major events, the experts at the Round Table considered that one transport objective was eminently possible and desirable: travel by car should be kept below a certain threshold. In order to achieve this objective, apart from heavy investment in public transport, such as the extension of underground transport lines for large-scale events, one possibility would be attractively priced transport by bus or the use of information campaigns advertising the services available. These should include train, air, coach and local services. One cannot leave it up to market mechanisms to guide individual choices: a transport system that channels people away from car travel must be provided, one that sets ambitious targets for switching the modal split towards environmentally-friendly modes. From this standpoint, it seems that the major cities have everything going for them, although all the different components still have to be integrated. In this light, forecasts of the number of visitors and traffic expected are a unifying factor in this integration process.

3. FORECASTS

The experts at the Round Table pointed out the irreplaceable role of experience with past events and lessons learned from them in forecasting flows of spectators and their transport choices. Previous or comparable events can give an idea of what works and what does not. For instance, they let us know that it is possible to opt for a modal split that favours environmentally-friendly modes for spectator transport flows for major events. This said, there is still a need to exercise caution as an event will not necessarily be an exact replica of a comparable event in the past.

It is also important to allow for the fact that real human beings do not behave as uniformly as classic transport forecast models suggest. These models are often based on home/work commuting patterns, and therefore do not reflect the factors that determine choices for leisure travel. Models are not always easily transposable. Behavioural surveys could prove very useful in this context, even though they are complex. The longer the duration of the event, the greater the uncertainties, the more indispensable such surveys become.

The Round Table pointed out that figures can take on a life of their own because of the need to create the impression of a major event and because forecasts can be influenced by private interests. Often in organising an event, the organisers are looking for sources of finance, both public and private. Under the circumstances, giving the impression that this is a one-of-a-kind, mega event is a strong argument in winning the funding battle. Clearly, forecasting errors lead to investment mistakes. On this point, the Round Table stressed the importance of using common sense in dealing with sophisticated tools. It is essential to avoid getting carried away and to select reasonable ratios. The need to call on specialists who are independent of any pressure group to do forecasting work was also stressed.

In addition, use should be made of every available source of information. For instance, by matching advance ticket purchases for travel by air, train or coach with reservations for accommodation and sharing the figures available, one could gain a good idea of the scale of the event. This method made infinitely more sense than the clearly risky venture of gauging the number of visitors from the maximum capacity of the facilities.

Nevertheless, although forecasts are indispensable, it is important to remain flexible, because information often changes and becomes steadily more accurate as the event approaches.

4. MEASURES TO BE IMPLEMENTED

Provided that the precautions outlined above are taken in forecasting, the data obtained can be used to design the transport system for the event in question. For a short-duration event, transport supply can be fairly rigid and inflexible. In contrast, for longer events one should not rely on transport services that will be stretched to the limit. Various measures should be considered, including a transport pricing policy.

The experts at the Round Table highlighted the need to ensure that transport pricing was consistent with objectives: ideally a single ticket would cover admission to the event itself and transport to and in the area. All-in ticketing would save visitors having to purchase three separate tickets, which might prevent them using public transport. Pricing policy should also be designed so that it is not cheaper for a family to go by car; car parking charges should therefore be higher than the cost of group travel by an alternative mode such as coach. Close attention should be paid to the respective prices of travel by car and travel by public transport. This can be the key to the success of an event that incorporates an environmentally-friendly perspective.

Quite frequently, errors in assessing the choice of mode of transport for travel to the event can be put down to the cost of the transport alternatives. In this case, one can hardly claim that visitors behaved irrationally. When high-capacity and conveniently located car parks are provided at a price that makes them less expensive for a family than public transport, it should come as no surprise that even the most efficient public transport services are relatively underused. In this respect, one cannot simply rely on market mechanisms: integrated transport planning is necessary.

At the same time, the challenge is to remain flexible enough so that all of the actors are able to adapt to changing conditions: car mobility plans must keep permanent track of traffic conditions -- when access by private car is not reduced to the bare minimum.

Having an all-in ticketing system reduces admission checks and ensures that the event proceeds more smoothly. However, in practice, political backing is usually needed to set up such a system. The fact is that high-level political support is often needed to secure a local consensus among actors who all have different agendas. Broad community support for the event can motivate policymakers to issue definite guidelines.

As far as open public events are concerned, it may be appropriate for the main transport operators to take the lead and offer an all-in fare, as they do for Berlin's "Love Parade": DB offers a special ticket for rail travel to the city. Transport operators should be kept informed of forthcoming events and invited to become involved in them. When costs are borne by the community but profits are private, it is very difficult, if not impossible, to implement integrated event marketing. So, organisers should be aware of the possibilities of entering into negotiations with the relevant transport operators to ensure close co-ordination between all the actors.

As the event draws nearer, it is essential to check out how infrastructure and the flow management plan are operating. As it is difficult to run full-scale tests – although this is done for the Olympic Games, for instance, where all the installations are tested a year in advance under the same weather conditions as when the Games will be held – it should be possible to test the independent subsystems. These tests are indispensable for permanent events where there has been investment in new transport services. Testing to evaluate the engineering measures selected for road traffic is also imperative. The tests provide a unique opportunity to validate procedures and facilities and to identify any shortcomings. This notwithstanding, reactions to incidents that might occur while the event is in progress should be planned for, and this requires a particularly good monitoring system. Indeed, it is essential to ensure that scheduled resources provide an adequate response to real-time event monitoring.

When such events induce a very substantial additional use of conventional means of transport, it may be advisable to organise parallel activities with a view to staggering peaks and avoiding concentrating all travel around the start or end of the main events. For events that call for no special heavy investment, it is also imperative to influence and channel demand rather than trying to base supply capacity on events that, when all is said and done, remain exceptional. This is a challenge for the organisers and they must rise to it by relying on high-quality information, designed to draw the public's attention to the range of activities available.

5. COMMUNICATION AND INFORMATION

It is important to let the public know in advance what transport options are available for travel to an event. Information networks should be set up for this purpose and should include, for instance, travel agencies, touring clubs, private transport operators, associations concerned with the main theme of the event, the press, media, etc. It may be appropriate to set up interdisciplinary working groups on information that covers the fullest possible range of communication channels, thus ensuring that the public is kept fully informed of all the transport options available and particularly of environmentally-friendly modes. Press conferences for different social groups or for a wide variety of media should be considered with this in mind. It is important to raise awareness about all the transport options available and to point out alternative modes.

More specifically, communication can be extended in two directions: externally to users and internally to enable all the systems provided to work together and react appropriately to incidents. The experts at the Round Table pointed out that badly designed communication could ruin everything. As concerns internal communication, panic should be avoided and contact should be maintained with all of the different components of the organisational structure. This requires a flow of real-time information both up and down the chain in order to keep the command centre informed and, at the same time, implement the procedures designed to rectify the incident. External information should be comprehensive and clear and communicated via all of the existing channels.

The fact remains that while the event is in progress, a fully integrated and fully operational command, control and communications centre is required. Such a centre requires the most sophisticated communications technologies. Actually, from this viewpoint, it can be said that the Internet facilitates and vastly improves communication and that communications technologies more generally are crucial to the success of the event.

Finally, it should be appreciated that the impact of information is not always straightforward and can sometimes be lasting. For example, providing better public transport and "communicating" about these improved services, may lead people to take it for granted that this is the level of service they can expect henceforward.

6. LINE OF RESPONSIBILITY

At any rate, the roles and exact responsibilities of each of the actors must be defined, bearing in mind that where there are shared responsibilities, there will be overlaps. Indeed, a rule of thumb is that where responsibilities are fragmented or overlap, the risk of chaos ensuing is great.

Liaison between planning and implementation is also imperative. Planning is a centralised function, while implementation is decentralised. What is needed, in actual fact, is to develop a culture of accountability throughout the entire system. Having a body that bears partial responsibility for something the whole way through the entire process is better than having successive compartmentalised responsibilities. Moreover, if a transport planner is also responsible for implementation and operation, one can be surer that the planner will also give thought to implementation needs.

The organisers of an event should look at the event as a whole. Each component should be considered in terms of its interactions with other clearly defined aspects. This entails setting up planning groups whose watchwords should be professionalism, flexibility and interdisciplinarity. While no one concept can be transposed to every situation, some guidelines do exist, such as having transport management closely integrated with the overall organisation right from the planning phase through to implementation. Transport operators should be involved in the event from the very beginning, in an advisory capacity initially, and later in the implementation phase.

Right from the start, a strategic transport plan should be drafted by the organising committee. The planner should co-ordinate with the organising committee at all times. Indeed, there is no assurance that the planner will be responsible for final implementation. Every country can find a method of organisation that takes local circumstances into account. At any rate, there should always be some link between the two planning and implementation bodies, even if it only takes the form of co-ordination.

Rules should be clearly stated and the persons responsible clearly designated. For large-scale events, the transition from the planning to the implementation stage can begin after full-scale testing. Implementation must be decentralised so that it can be more flexible and responsive, even when a transport manager, i.e. a clearly identified decisionmaking body, is in place.

From a broader perspective, where an event involves several public authorities, it must be possible to tell which body is ultimately responsible and that body must be an agency of whichever authority has the most political clout. If not, there is a risk that the event will fall prey to pressure by lobby groups and organised interest groups.

In the case of a primarily commercial event, it is the organiser who is responsible. However, even where this is the case, the public authorities can intervene and issue a specification containing compulsory objectives and requirements regarding the necessity of a "clean", environmentally-friendly event, for instance, and the definition of respective responsibilities. To facilitate this work, the public authorities in cities frequently called upon to host exceptional events may draft instructions for would-be organisers, specifying the public authorities' expectations and requirements.

Collective responsibilities rest with "politicians", i.e. elected representatives. In no case can collective responsibilities be transferred to the private sector. Elected representatives are in fact responsible for the community. The organisers nevertheless bear some responsibility and cannot just confine themselves to taking in the profits. Things therefore have to be spelled out clearly in black and white. When an exceptional event will bring benefits to the community, it is only natural for it to contribute to funding. The rule whereby the organiser bears all the costs it generates should therefore be interpreted on a case-by-case basis. This entails carrying out a prior analysis to determine costs and who will pay what.

At any rate, it is important to be able to identify who bears ultimate responsibility for the event. This is doubly important as one needs to know who will ultimately pay if the accounts cannot be balanced.

7. SECURITY

Since the Munich Olympic Games, security has become a crucial aspect of any event. In fact, transport, security and environmental protection form a whole by which the success of the event can be gauged. Security comes into play upstream of strategic transport plans. There can be no compromise on the security plan and its priority objectives are the basis for more detailed objectives for different categories of personnel. Security must be an integral part of a broader overall plan that includes transport and is shared by all of the actors.

Security is an ever-present concern at exceptional events. As a result of the attacks of 11 September 2001, the preference will now be for holding events in secured sites away from built-up areas and for the provision of buffer zones to make it easier to manage flows and ensure security. Mobility and security must be considered in conjunction with one another; security specialists must be kept informed of all decisions that will have repercussions for transport. In fact, security warrants a separate process of its own. It is a job that should be left to the experts. Each mode of transport warrants its own working group of security experts. During the event itself, policing should be low-profile, otherwise it may induce a "panic" reaction.

Lastly, the security issue requires an overall approach involving all security managers in every phase, from planning to implementation. These managers achieve their mission of protecting the public by addressing all of the areas concerned.

8. APPRAISAL

When the on-site organisation and staging of exceptional events requires extensive investment, particularly investment in transport, it is true to say that these events leave a legacy to the city.

In some cases, full-scale urban planning operations may be launched to rehabilitate and breathe new life into run-down areas. Redevelopment work on the area concerned provides it with high-quality community amenities and takes full account of the environmental dimension. In these cases, infrastructure evaluation must take into consideration the overall urban design of the area and its future development, and not focus too narrowly on just providing services to it. The appraisal should be wide-ranging and take account of the long-term impact. Thus, heavy investment in transport is not warranted just for the event itself, it must take into account the development potential of the area.

However, some sort of balance must be struck as there is always a risk of over-investment. The return on heavy investment should obviously be assessed over the longer term. It is also important to ensure that the increase in property values that results from the event does not accrue, recovering solely to property speculators, and that the public sector also benefits. A proper valuation of properties in the area is thus extremely important.

Whether it be the Olympic Games or a Universal Exhibition, events are a marvellous opportunity to modernise and look to the future. The return on such operations should therefore be assessed by multi-criteria analysis. While this type of analysis is unquestionably difficult -- since among the induced effects are visits by tourists and an enhanced image for the city, an inevitable by-product of exceptional events -- it is nevertheless essential. Indeed the analysis can serve as a point of reference for anyone else who wishes to stage such an event.

On this point, there is another valuable legacy that events can leave: the records kept of it, i.e. an analysis of how the event went. The method of organisation, how the event proceeded, any incidents, how they were handled, the resources used, should all be recorded and can serve as a basis for anyone wishing to stage similar events. This requires the creation of a database. Such a database would be invaluable for planning future events, and would be particularly useful to the transport sector where transport costs are often the second largest item of expenditure for large-scale events.

The experts at the Round Table were keen to see the creation of a network of all those with experience in staging exceptional events. A network of this type could be used by all would-be organisers of such events. Furthermore, the lead-time between the decision to organise an event and the actual staging of the event is often so long that policymakers change in the meantime. Having a database and setting up a network on large-scale events would enable each policymaker to gauge the size of the task to be accomplished from the time the decision is taken.

The experts took the view that the ECMT would be particularly well placed to lead such a network and manage the database.

9. CONCLUSION

Now that people have more leisure time, exceptional events are not really exceptional any more. The number of such events is increasing and many towns now organise them.

While addressing such events from the standpoint of their transport implications is something new, it is nevertheless quite clear that exceptional events generate major flows as well as very specific transport and logistics requirements. Security is another major consideration that is inseparable from transport and other key aspects of the event.

The Round Table took note of experience with such events in Europe and the rest of the world and concluded that ambitious objectives could be set for transport, more especially in terms of modal split, which could be influenced to promote "greener" modes. In order to do so, transport has to be an

integral part of the event, whether in terms of heavy investment, information, ticketing, car traffic flow management by traffic engineering and parking policies consistent with objectives, etc.

A chain of cross-cutting responsibilities must be set up so that throughout the entire process, which covers all the stages from centralised planning through to decentralised implementation, transport must be an integral part of a specification that clearly defines the roles.

Almost every experience is unique and it may be said that one of the main conclusions of the Round Table is that a record should be kept of each event and its organising and staging requirements so as to build up an event "memory", that would be available through the network to any potential event organiser. Accordingly, it would be advisable to draft a review of each event, covering all aspects of organisation and staging, that can be passed on to any third-party interested in setting up a specific event.

The economic and social review of the event should also be long term and it could usefully be included in the information records relating to the event; all the more so since exaggerated attendance figures are often circulated and take on a life of their own prior to the event. Organisers should be guided by prudent use of models and sound "common sense". All of which increases the need to keep track of every exceptional public event for the purposes of subsequent comparison.

CONCLUSIONS OF ROUND TABLE 123 : "VANDALISM, TERRORISM AND SECURITY IN URBAN PUBLIC PASSENGER TRANSPORT"

The ECMT held its 123rd Round Table on transport economics on the theme "Vandalism, terrorism and security in urban public transport" on 11 and 12 April 2002. The Round Table was chaired by D. Bayliss (UK) and opened with papers by Mmes S. Di Serio (I) and J. Stafford (UK) and Messrs A. Caire (F) and T. Feltes (D).

The main conclusions reached at the Round Table are described below.

1. MISTAKEN PERCEPTION OF THE DEGREE OF RISK

Subjective perceptions of the security risks involved in using public transport are high in all European countries. However, comparison of the number of robberies or assaults committed in public transport environments with those committed within the urban area as a whole shows that, while genuine, such fears are nevertheless exaggerated. There is a far greater risk of being attacked, robbed or sexually assaulted within an urban area as a whole than within a public transport environment. Indeed, three-quarters of all assaults take place within the home. Despite these figures, however, surveys show that a majority of public transport users do not feel safe when they use public transport services at night.

People feel threatened in a public transport environment and railway and underground train stations are focal points for their anxieties. While objective reasons for this fear exist, for example, poor station lighting or long corridors which create a feeling of claustrophobia, such factors are exacerbated by the presence of certain types of individual such as youths or foreigners who are perceived as potential sources of aggression.

Objective factors are therefore compounded by subjective factors, and this combination can make people fearful. A group of youths talking loudly in a station whose walls are covered with graffiti can be particularly intimidating. Graffiti are interpreted by underground users or train passengers as a sign that the public transport operator has no control over the public spaces he manages. This is a direct consequence of the fact that people do not have a high opinion of public transport in general, an attitude that is reinforced by any shortcomings in the latter. It is the association of different perceptions that

creates a feeling of unease. A chestnut vendor plying his trade against a backdrop of graffiti-covered walls, for example, is not perceived as a threat in the same way that members of an ethnic minority might be under the same circumstances.

Graffiti or station premises that are not impeccably clean are external manifestations of incivilities which create a sense of insecurity. Familiarity with a given location or space can be reassuring. The presence of large numbers of police in full public view will not necessarily reduce the anxiety that public transport users may feel; on the contrary, they may be seen as evidence that a danger actually exists and therefore may not necessarily help to calm users' fears. The presence of the transport operator's staff, on the other hand, does reduce the degree of anxiety felt by some users. Perceptions are therefore extremely important and women, due to their vulnerability, are the first to feel this sense of insecurity, however, the victims of assaults usually tend to be young men. In general, surveys of public transport users reveal that a sense of insecurity is prevalent among older members of the population, as would only seem logical, but it is also widely felt among young people. The latter do not feel safe on their trips to and from school or in the places they use for recreation. This is a worrying situation in that it may encourage them to use a car instead of public transport once they become financially independent.

The media also contribute to this situation in drawing attention to certain news items that help to create a sense of insecurity. Fears therefore arise outside the transport environment but strike a chord within that environment. This is particularly true in the case of public transport, where the risks to users receive far more attention than the risks of being involved in a potentially serious accident as a result of travelling by car.

Security is a central issue in the social debate and concerns the whole of society. Insecurity has a direct cost, namely, that of the measures taken to increase security; it also has an indirect cost, which in the case of transport can be measured in terms of the number of people who prefer not to use public transport because they are afraid to do so, resulting in loss of revenue and reduced use of more sustainable means of transport.

2. MAJOR SOURCES OF ANXIETY

The Round Table considered a number of factors that play a major role in creating a sense of insecurity.

2.1 Graffiti

The perpetrators of graffiti are clearly seeking fame and notoriety. This is explained by the fact that there is an entire culture, including a commercial infrastructure, that has grown up around graffiti. Information about the equipment required can easily be obtained from the Internet and paint manufacturers have pages on their websites where people can chat and ask questions. Graffiti artists also wear their own distinctive type of clothing and rap music is a rallying cry for taggers. The people engaged in graffiti are mainly young -- although a few are not exactly young any more, which shows the longevity of this phenomenon -- and crave fame. The fact that some media have portrayed graffiti as works of art has clearly had a considerable impact, as shown by the exposure given to certain perpetrators in the printed press. The context in which these acts are carried out therefore needs to be examined.

In an attempt at sociological analysis, some public transport networks have drawn a distinction between different categories of graffiti artists. Firstly, there are, so to speak, the professional artists. Aged between 20 and 30 and with a talent for the graphic arts, they seek notoriety. Others attempt to emulate their elders. Possessing little talent, they simply mimic the first category. They are aged between 12 and

18 and identify with rap culture. Another category consists in dilettantes who occasionally engage in graffiti and who simply seek excitement, even though they are socially well-adjusted. Lastly, there are the genuinely anti-social elements, marginalised individuals who have no real concept of what is lawful and who do not necessarily include representatives of ethnic minorities.

Graffiti are not a new phenomenon and can also be found in Eastern Europe. Often associated with a political message (Solidarnosc is one example that springs to mind), graffiti are not a purely Western phenomenon. In Paris, the number of graffiti has increased five-fold over the past seven years. Swift action by transport operators to remove graffiti from the sight of passengers can ensure that there is no perception among users that the phenomenon has spread. This rapid response deprives taggers of the publicity they seek by ensuring that their markings and pieces are not lasting. Rather than works of art, graffiti are first and foremost damage to property and damage that can sometimes involve high levels of risk-taking when perpetrators cross railway lines without due attention. Those engaging in graffiti sometimes carry weapons, particularly at night in order to escape from guards, which also represents a very high level of risk.

Graffiti clearly degrade the environment for public transport users; they give the impression that public spaces are unmanaged and that transport operators have no control over their premises. The direct economic cost of graffiti is high, particularly if the operator pursues a policy of systematic removal and clean-up. Another problem is "scoring", which is the practice of etching glass windows in buses and trains with a message or a name. It is a particular problem because it cannot be effaced and the only real solution is to replace the glass, which is costly. The cost of providing security guards for plant and infrastructure is also extremely high.

2.2   Acts of vandalism such as theft or assault

Acts of vandalism other than graffiti marking cover a wide range of offences ranging from stealing money from vending machines to throwing missiles, dropping objects onto public transport lines or damaging windows in buses or carriages. While it is not only young people who are responsible for these acts, the average age of offenders is often below the legal age of majority. Statistics on the nature and number of acts of vandalism vary substantially from one country to another in Europe, and it is therefore difficult to obtain a clear picture of the situation. The scale of vandalism is clearly underestimated in modern societies, however, since only a small number of incidents are reported. For example, the verbal abuse of women is a form of incivility that always has an impact but is virtually never reported. Statistics on theft, on the other hand, are far more consistent in that victims file complaints with the police. The number of thefts reported does not appear to be rising in all European countries.

In some European countries, the perpetrators of thefts are often children from non-EU countries working under the instructions of adults. In view of their young age, they cannot be restrained through prosecution and this type of offence is growing at a worryingly fast rate. In addition to such offenders, there are also adults who are extremely adept at robbing individuals in underground or railway stations. They can acquire very large sums of money in this way and in 90 per cent of cases they are criminals with prior convictions. The statistics available for Paris show that 20 per cent of these offenders had over 30 prior convictions, which casts doubt on the effectiveness of the penal system. The worst thing is to take such incidents for granted. The impression of public transport, that both the victims of such offences and those who simply hear about such robberies from others have, cannot fail to be poor.

Another form of vandalism consists in assaults on public transport employees during ticket inspections. The number of such incidents is increasing in most networks, although they are not

systematically reported. Other victims of assault are passengers in underground networks and drivers in the case of rail networks. These are acts of violence directed against institutions and can take a variety of forms. Mainly committed by young people who bear a grudge against society, and who are therefore liable to act aggressively towards its representatives, these acts of aggression are sometimes directed towards passengers who appear to belong to another social category or towards the representative of the transport operator present at the scene. These acts increase the sense of insecurity that public transport users feel when they are either the victims or witnesses of such violence, and result in the network being brought to a standstill until the problem is resolved or a strike being called by the operator in response to the incident. Hearing about such incidents also adds to the negative image of public transport.

The experts at the Round Table stressed that acts of vandalism committed in public transport networks were often a stepping stone to more serious offences. It would therefore be advisable to learn more about offenders in terms of where they come from, their past history and their motives. A sociological study in this area would undoubtedly be useful.

2.3   Basic qualitative factors such as lack of information

During discussion of the causes of anxiety among public transport users, the Round Table drew particular attention to not only actual acts of vandalism but also more qualitative factors such as the feeling of isolation felt by users when no information is provided. The frequent failure to inform public transport users of incidents, delays or unexpected changes adds to their sense of insecurity. It makes passengers feel that they have been more or less abandoned and left to their own devices. Even though public transport operators operate mass transit systems, they need to give the impression that their supply and their communications are addressed to the individual. There is no such thing as an "average user" for service suppliers who must accommodate rush hour traffic flows as well as recreational trips.

Public transport networks are not a place where the individual can take care of his own needs. It is therefore clear that the user will entrust that task to somebody else. If the provision of care is inadequate, the passenger will not feel safe. The response must match the seriousness of the incident when something untoward takes place. Public transport operators must compensate for their inability to provide a rapid response to the individual needs of users by providing high-quality information, which is one area where there are many failings and omissions. The fear that prevails in the public transport sector is due to a lack of communication. The public transport environment is often an inhospitable one. People kept waiting without information quickly start to feel unsafe.

While urban public transport systems are a fundamental part of life in society, many people do not appreciate this. The outcome is that use of public transport is perceived as an imposition, almost as a necessary evil. Public transport is still not associated strongly enough with positive societal values such as protection of the environment, with the result that using public transport is not necessarily a positive experience. In turn, this simply adds to the image of social inferiority that continues to beset public transport.

This disproportionate sense of insecurity encourages people to use their car instead of public transport, which is contrary to the public interest. Hence the importance of any measures that can combat this feeling of insecurity.

3.   SOLUTIONS TO PERCEIVED AND GENUINE INSECURITY

The Round Table distinguished between solutions to genuine insecurity, and the resultant perception of insecurity, at the level of the firm and at the local, national and international levels.

3.1   **Solutions at the level of the firm**

Ideally there should be no lasting trace of acts of vandalism such as graffiti and, more generally, damage to property. This requires a policy of rapid removal of the visible consequences of offences. Such a policy is extremely costly to implement and also calls for preventive measures such as guarding rolling stock at night and "hardening" potential targets with resistant surfaces. However, the cost of such action is partly offset -- although it is not possible to determine by how much -- by the increased patronage resulting from users' feeling of being in a public space that is properly maintained.

Station design must give priority to creating areas that have clear lines of vision and that are open, bright and uniformly lit; there must be no places where an individual might be trapped and the landscaping of grounds must ensure that there is no place for a potential attacker to hide or areas of shade. Architects, planners and operators should meet to discuss their ideas and share good practices, which would make it possible to identify problems and remedy critical situations. The Washington D.C. Metro provides an excellent example of designing a metro from the outset to be safe and graffiti free.

Technology is of great assistance to transport operators and the potential impact of new technologies in the transport sector is considerable, ranging from tried and tested techniques, such as graffiti-proof seats or protective films on windows, to more specific technologies such as the use of closed-circuit television cameras to monitor stations or buses and automatic incident detection software. It is striking that, on new public transport lines with dedicated routes and in stations where lighting of uniform intensity has been installed as well as CCTV surveillance and large numbers of emergency help points, vandalism is far less rife than it is on conventional lines. The feeling this engenders in passengers is that the operator has full control over public spaces, thus creating a sense of security. In some respects, improvements such as these are seen by those committing acts of vandalism as a challenge laid down to them by transport operators to find the weak points in the new systems put in place. The use of technology can nevertheless keep operators one step ahead, particularly in view of the wide range of possibilities it offers. Radio transmitters linked to GPS systems, for example, can allow security personnel to respond rapidly to attacks on bus drivers or other incidents on buses and partly reduces the need to consider increasing the number of staff in vehicles, a policy which admittedly has positive aspects but which is extremely expensive for public transport operators, constantly struggling to balance their budgets.

Another possibility afforded by technology, for example, consists in replacing tickets with a contact-less card, incorporating an emergency call system which allows the user to call for help in the event of an incident. Of course, no system is infallible; as in the case of surveillance cameras which do not necessarily improve security as much as might be thought, in that they do not guarantee the instant response by the operator that might be necessary in an emergency. Statistics show, however, that there are fewer or less serious assaults in public spaces protected by this kind of technology.

Technology also offers other possibilities, such as the ability to draw up highly detailed maps of unsafe areas and to monitor the trend over time of levels of insecurity in such areas. Different types of offence, for example, assaults and graffiti, can be cross-matched in order to concentrate resources on the most exposed areas and thereby ensure a more effective response.

Technology can only replace investment in human capital to a limited extent, however, and it is essential that operators train their staff in conflict management. Women are known to be better than men at defusing tense situations, and yet they tend not to be assigned to posts where there is a high exposure to conflicts. It is therefore preferable to form work groups in which they can make full use of their qualities. In this respect, deploying staff in larger numbers is reassuring when a different approach is

adopted towards passengers, that is to say, when staff play a role that does not consist primarily in deterrence but also in helping people. The effectiveness of such action is not always fully understood by staff, but is nonetheless real.

As noted in the section of this report dealing with the sources of passenger anxiety, one fundamental area in which public transport must make progress is that of communication with users. Failure to inform passengers of delays and operating incidents gives the impression that the transport operator is not in control of his network and/or is indifferent to the needs of passengers. Unlike a trip by car, passengers rely on the operator. It must therefore be kept clearly in mind that it is essential that public transport operators considerably improve their communications with users if they wish to avoid the latter being prone to anxiety. This is part of a strategy aimed at encouraging users to see public transport as a partner. Safety and a high standard of passenger service are essential components of an overall approach.

3.2   Solutions at the local level

3.2.1   Prevention

The measures that are effective at local level are those which consist in putting problems in a broader context than that of the public transport operator alone. This can be achieved by setting up partnerships at the local level, notably as part of a crime prevention effort.

The experts at the Round Table stressed that in many cases not enough effort had been put into prevention. Prevention must start at the earliest stage possible by going to schools, local associations and youth clubs to explain the role played by public transport and the essential social function it provides in the life of a city. One possibility is to hold open days, when visitors can see public transport operations from the inside and, in particular, the number of people who work to ensure the safety and security of passengers and to remove the traces of vandalism. Another possibility is to devote a few hours in the school timetable to the life of the city, during which children can be made aware of the role played by public transport. Staff from public transport companies could attend these lessons to explain to children the consequences that acts such as spraying graffiti on rolling stock or attacking public transport employees have on the company. Here, too, the role that public transport operators have to play in communicating with the public fits neatly into that of schools.

A difference of opinion emerged in the course of the Round Table between those who felt that an effort should be made to capitalise on the values expressed in graffiti by their perpetrators by channelling them in other directions and those who felt that it was totally impossible to capitalise on such values. In the view of the latter, graffiti culture was tribal in nature. It was a language containing codes and rituals used for communication between tribes and not with the general public. Other experts felt that, while admittedly there was a hard core of repeat offenders, young people should not be demonised and excluded from society. In their view, graffiti and other incivilities reflected a desire in young people to express themselves and to find a place for communication in a "system" that has nothing to offer them. It should be seen as a societal problem which, at the local level, should be addressed by increasing the number of neighbourhood projects, renovating derelict property and maintaining neighbourhood public services, that is to say, a series of initiatives that reflect a genuine urban policy at the local level. The aim would therefore be to rehabilitate rather than isolate people and to avoid dividing the world into "us" and "them". The approach required must be based on the fact that young people are a part of society. While, admittedly, it was a problem that concerned society as a whole, the Round Table felt its solution primarily required action at the local level. The policies pursued by the municipality only made sense if relevant measures were put in place at the local level with the help of young people, schools, associations

(football clubs, mountain bike clubs, leisure centres, sports centres, etc.) and all those who informally exercised social control. Furthermore, the social reintegration of young people from poorer housing estates, by creating jobs for them in crime prevention in public transport networks, was one measure that had already proved its worth.

3.2.2   *Partnerships*

All social actors involved with safety are in favour of the partnerships which were recommended by the Round Table and which have already been discussed in the section on crime prevention. The aim is to adopt an overall systemic approach. In determining who is responsible for ensuring safety, the discussion should be broadened to place it within the context of the city as whole, since the problem faced by public transport operators was a social one.

The partnerships proposed by the Round Table call for the creation of high-level forums in which all the experts involved would meet at regular intervals. Strategic decisions could be taken at this level and would commit all actors in the areas of crime prevention, policing and law enforcement. These actors must be represented at a high level so that the decisions taken will subsequently trickle down to all levels in a given unit. The aim is that each of the actors will ultimately assign resources and take measures in accordance with shared objectives. There, therefore, needs to a high-ranking spokesperson for the cause defended by these partnerships in each unit. Some experts suggested that all social groups should be represented in these partnerships and not simply the elite. Partnerships were designed to serve the community and were not intended to be an alliance against a threat to their community. This view was based on the premise that all people within a given community are equal in terms of the service provided by public transport.

It might be advisable in such partnerships to establish local security contracts, uniting all actors working in the area of safety in a shared commitment, under the responsibility of a mayor, for example. Only a few years ago, little interest was generally taken in transport security and to remedy this situation the aim was to introduce contracts targeting the transport sector. To this effect, the first step in the process is to establish the facts of the situation through continuous reporting of delinquency statistics. The forms that delinquency takes are evolving and the situation needs to be kept under close scrutiny. There must then be an exchange of views on the response being taken to delinquency and the new approaches adopted. The aim is to co-ordinate all the actors in pursuit of a common goal, rather than leaving them to take action individually. The purpose is also to define the level at which each institution intervenes and therefore to establish a framework for decisionmaking. In this respect, meetings must be held at regular intervals and it might be expedient to set quantified targets for reducing delinquency. This can focus efforts on the new measures introduced.

It may be difficult to set a quantitative objective in local security contracts in cases where such contracts include preventative measures, such as training classes for young people in schools, given that there is no precise way of measuring the positive effects of such actions. The Round Table clearly recognised the difficulty of estimating the impact of each individual safety measure but nevertheless did not dismiss the need to set precise objectives which could help to encourage actions and which also made it possible to measure the progress made. In addition, setting objectives was a way of communicating with the public, which was expecting to see an improvement in the situation.

Lastly, rules that are too strict help to fuel insecurity. For example, a public transport fare structure that does not provide major reductions for young people is a factor in fare-dodging offences and, as a result, assaults against the operator's staff during ticket inspections. Local public authorities

must therefore provide some form of compensation for operators who provide cheap fares for young people, and one way in which to do this is through partnerships.

3.2.3   Policing

The police must work in collaboration with the operator's own staff and transport police where there is an in-house force and organise patrols in areas most at risk in accordance with rotas that offenders are unable to predict or guess, since offenders must be caught in the act. This poses the problem of appropriate punishment. Young people must be made aware of the consequences of having a criminal record. In addition to which, the possibility of repairing the damage caused, particularly in terms of financial compensation, must be explored with the courts. There is a basic issue here, which is that of making courts aware of the cost of damage. Similarly, the banning of persistent offenders from the system, as has been done on the London Undergound, was seen to be an undue infringement of personal liberty in many European countries. There is always a danger that rising levels of delinquency may breed a form of familiarity that ultimately leads to lighter sentencing. In this respect, the experts at the Round Table felt that, at the local level, operators had to establish contacts with magistrates and the judiciary to ensure that the latter take a firm approach to offences committed within public spaces used by public transport operators. The experts thought that the judiciary was not lenient as a general rule, but did feel that there were differences from one court to another that could be eliminated if operators were to maintain regular contacts with the local judiciary. In many cases, rather than increasing the severity of penalties, the legal system, particularly in the case of young people, had to be seen to move swiftly. To increase the speed of the legal system, it might be helpful to involve the courts in local security partnerships, since the courts cannot always be counted upon to treat transport offences with the seriousness they deserve.

The idea of zero tolerance was discussed only briefly at the Round Table. First introduced in New York, such an approach does not seem suitable for Europe, in that forms of policing in which there are no exceptions can easily become too repressive and any police excesses would lead to a public outcry. The view in Europe is that, rather than treating the symptoms, it is better to look at the causes and pursue an overall strategy based on prevention.

3.2.4   Role of the media

The transport operator must also communicate with the local media whose role must not be restricted solely to reporting bad news about insecurity, but must also consist in informing the public of the policy pursued by the operator and local authorities to remedy the situation. The media must be treated as partners and operators must forge a close relationship with them so that the latter can inform the public about the costs to the operator of dealing with vandalism, the preventative measures taken and the success of the operator's actions. As a general rule, local media have a role to play in portraying public transport operators as key players in the life of society. In many cases, this message is conveyed more successfully through the local, rather than national, media.

3.3   Actions at the national level

Ministers of Transport also have a stake in the measures to be adopted, in that the price to pay for insecurity in the public transport sector is that of fewer passengers and, consequently, lower revenues. The increased car use that results from this situation also has implications for government in terms of the economic and environmental sustainability of transport. In the final analysis, the person who foots the bill for declining use of public transport, higher costs of repairing damage to property or higher external costs of ensuring mobility is the taxpayer. This aspect is exacerbated by the fact that non-use of public

transport leads to increasing car use and increased risks of accidents, all of which are of direct concern to both the community and government. Only a reliable and safe public transport system can meet the expectations of the community, and society must not be broken down according to whether or not individuals have access to a given form of transport. The issue of social equity is therefore another reason why government must not ignore these problems.

Furthermore, ensuring security is one of the sovereign duties of the State. Government must therefore take basic actions that will create synergies between initiatives at the local level. Local security contracts, agreed between local partners, could therefore be overseen by the representative of the State's authority at the local level, such as the prefect in the case of France. Government must remain firmly in control of the issue of public safety.

In terms of exchanges of experience on best practices, many of the actions that can be considered at the national level have been presented as falling within the remit of international bodies. In many respects, the actions taken by governments, particularly with regard to information, transcend national borders and increasingly take on an international dimension.

3.4   Actions at the international level

3.4.1   *Exchanges of information*

The main point to emerge was the need to share information at the international level. The experts at the Round Table suggested that lists of documents of interest to transport operators be drawn up and published, either in the form of manuals or on websites. The aim of this would be to explain the procedure for initial assessment and problem analysis, and there are clearly a number of relevant items that need to be taken into account. The first step is to identify problems, after which it would be useful to have a list of techniques that could be used to alleviate the problems encountered. Descriptions of both successful and unsuccessful measures would undoubtedly be instructive, and it would also be helpful to establish criteria for judging whether measures are relevant to local situations and the extent to which given techniques are appropriate in specific contexts. Lastly, it would be helpful to provide information on methods that can be used to assess results.

The pooling of experiences mentioned earlier consists in creating a network in which information can be exchanged. Best practices must be presented in the light of the knowledge that has been acquired about urban transport safety and the factors that help to create a sense of insecurity. This overview, as the first part of this report emphasizes, is not restricted solely to objective factors. It also takes account of unseen factors that can have a positive or negative effect, one example being the existence of a corporate culture. It is therefore important at this level that all factors are taken into account by all networks to improve the public transport travel experience and maintain and enhance ridership. Such an approach should be based on a sociological analysis of both subjective factors, that is to say, what users feel, and the assessments made of the impact of measures. With regard to the latter point, the Round Table felt that it was better to work on small models of creative measures rather than full assessments of large-scale programmes.

In conclusion, the Round Table confirmed that international bodies and organisations should give high priority to the comparison of research results. The experts asked for comparisons of programmes to be made at the international level and for access to be granted to the results of such comparisons. The dissemination of knowledge was of paramount importance and an analytical framework had to be established in order to determine whether measures were transferable from one network to another,

primarily by placing measures firmly in context. It was also necessary to establish a common vocabulary to allow data to be cross-matched.

3.4.2   *Safety in a context of liberalisation*

With regard to possible action by governments at the international level, the Round Table also addressed the question of the potential impact of the liberalisation of public transport that EU bodies have, to some extent, recommended.

It should first be noted that changes of operator, and therefore rates of staff turnover, in a fragmented industry are inevitably higher. This suggests that a record should be kept of the actions taken and the reasons for the introduction of given measures, in that a failure to keep such records forces firms to repeat the learning process and means that decisions are based on superficial analyses. A database must therefore be set up and there is clearly a general need for such a database at either national or international level. Obviously, the demands placed on an operator and his staff must remain in place during the handover of responsibilities and the transition from one regulatory regime to another. This is as true of efforts to curb vandalism as it is of the fight against terrorism.

The issue is complicated by the wide variety of actors, customers and contracts involved. Each party must have a clear idea of what to do, since the aim is not only to share the costs but also to determine which institution should intervene and at what level. It is therefore necessary to establish a coherent framework that can be used to determine both the outcomes of partnerships and the breakdown of charges and responsibilities. In the event of an incident, it is often difficult to determine who is primarily responsible.

The Round Table did not provide a clear answer to the question of whether safety should be a barrier to liberalisation. Determining who was responsible for resolving societal problems and who should intervene need not necessarily delay the opening-up of competition in service provision. The area of competence of an enterprise must be clearly specified in the transport contract. Competition between public transport undertakings would not be desirable in the area of safety, however, in that internalising the safety costs in fares would inevitably price them out of the market. The process of competition should not put expenditure on safety and the priority it is given at risk. Safety is one of the major reasons why it is not possible to auction off parts of a public transport network unless responsibility for safety is transferred to an operator outside the publicly funded network. While it is perfectly feasible to create a separate institution responsible for safety, the operator would no longer have control over all aspects of the network, even though such control is not necessarily a prerequisite.

In conclusion, the experts at the Round Table considered that safety should not determine how public transport was organised. On the other hand, if it was thought that solely a public monopoly could be given subsidies to ensure the safety of services, there is always a danger that such money might not be used properly, particularly in the light of the efficiency losses associated with public monopolies. An exchange of best practices might therefore be appropriate with regard to liberalisation.

4.   TERRORISM, A FACTOR RAISING SPECIFIC ISSUES

The first reaction of the experts at the Round Table was that terrorism and vandalism in the public transport sector were separate issues. They acknowledged, however, that because the public transport sector was frequented by large numbers of people, it was often singled out as a target for terrorist attacks aiming to maim or kill. In addition there were clearly areas where terrorism and vandalism overlapped, one example being preventative measures, such as calls for public vigilance or the use of video surveillance cameras.

The distinction that can be drawn between terrorism and vandalism is that while operators could address both the causes and consequences of vandalism, through preventative measures aimed at young people, there is much less they can do on their own account to counter terrorism. To combat terrorism it is first necessary to know who the enemy is, and this is the domain of specialists who have specific knowledge that must remain confidential. This issue therefore lies outside the field of competence of public transport operators.

When not aimed at killing people, the aim of terrorists is to draw attention to their cause through their actions. The Round Table noted that while the vast majority of bomb alerts were false alarms, they could nevertheless cause severe disruption to services. Prior to 11 September 2001, the risk of being the victim of a terrorist attack was very low and the main impact of terrorism was therefore to create a loss of confidence and instil a feeling of fear in the population that is comparable in all respects to the impact of vandalism. In this respect, terrorism and vandalism are similar in that they result in a loss of confidence in public transport services and a loss of patronage that cannot easily be reversed. Since 11 September 2001, however, we know that terrorism can kill on a massive scale and that it can have a major impact on social and economic relations.

With regard to the publicity attracted by terrorists mentioned previously, it should be noted that anti-terrorist forces use procedures to distinguish between false alarms and plausible attacks in certain kinds of terrorism, such as long-running sectarian terrorist campaigns. Messages from terrorists are decoded according to established procedures and protocols. Here, too, there is a corpus of experience and knowledge that differentiates terrorism from vandalism. However, some other kinds of terrorism, often "international" in nature, rely on the element of shocking surprise and aim to kill and sometimes use suicide tactics. This kind of terrorism has been seen recently in Israel and, of course, in the infamous attacks on New York's World Trade Centre on 11 September 2001.

In view of the above, it is clear that measures must be taken to protect the potential targets of a terrorist attack. In many cases terrorist attacks are not aimed at targets perceived to be the locations most at risk. In all cases, trained personnel such as the operator's staff, firemen, police or medical personnel are needed in order to limit the damage caused by attacks. Legislation is needed to regulate the surveillance of public spaces, particularly video surveillance. Public transport users also need to be kept informed and advised in order to ensure that they remain vigilant and co-operate actively in anti-terrorism measures.

Lastly, international co-operation, based on shared development costs, would be welcome with regard to research into new technology for detecting explosives or large-scale bacteriological attacks. Here, too, the pooling of experience can prove vital.

5.   CONCLUSIONS

Greater safety in the public transport sector can be assisted by greater use of public transport during off-peak hours, lower costs of repairing damage, declining levels of staff absenteeism and less disruption to services. In addition, educational measures aimed at preventing delinquency can also be of benefit to the community. Governments therefore cannot afford to disregard the problem of vandalism in public transport. Furthermore, since public transport uses spaces through which thousands of people pass every day, government must exercise some form of control.

In addressing the problem of vandalism, it is first necessary to gain insight into its causes, the places where it occurs, the main forms it takes and how it evolves. It is then possible to establish primary objectives. It is essential, for example, to respond immediately to offences, since speed of response is a factor that will be taken into account by offenders. Infrastructure and rolling stock must also be better

designed in order to make them less vulnerable to acts of vandalism. The use of modern surveillance and information technologies can also help to alleviate the problem. However, the measures that need to be taken are not solely of benefit to the transport operator.

The Round Table therefore recommended the creation of local partnerships between all actors involved in crime prevention, policing and law enforcement. Working under the supervision of government authorities, they would seek to focus efforts on common high-level objectives that would be translated into specific measures to be taken by each actor.

At a more general level, providing local units with shared experiences, practical guidelines on crime prevention and infrastructure design, as well as information about the successes and failures of specific measures, would allow them to properly target their actions. One of the tasks that national and international authorities urgently need to address is, therefore, the classification of individual measures and their interrelationships.

There are two key factors that emerge from an overview of this area: firstly, the need to understand the reasons behind acts of vandalism; and secondly, the need to involve the public in efforts to combat this phenomenon. The public need to be involved because the impression that public transport belongs to nobody can only be countered by fostering a sense of civic pride, which in recent times has been significantly eroded. Over the years, tolerance thresholds for anti-social behaviour have been imperceptibly rising. All actors in civil society must therefore support the actions of government and once again make citizens responsible for their acts. Parents, for example, are directly responsible for their children, and this is one area where further analysis and reflection are essential. The causes of vandalism are to be found in changes within society and in society's ability to integrate all its members. This is a long-standing problem relating to the social policy of governments, but one that should be reconsidered in the light of developments in certain cities.

Terrorism, in view of its distinctive nature and the changes it has undergone since the attacks of 11 September 2001, must be dealt with on a much broader basis and therefore requires special treatment. Here, too, there is clearly a need for international co-operation.

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