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## Competition and ownership in land passenger transport: the Fourth International Conference—Part 2†

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### Rail sector issues: Workshop 3

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In the rail industry worldwide, there has been a search for new solutions, including restructuring, corporatization, and outright privatization, but the complexity of the rail industry offers special problems. In the Workshop we looked in detail at the British, Swedish, German, Australian (New South Wales) and New Zealand experiences, as well as considering more general issues such as cost structures, vertical separation and competitive tendering. Whilst it was agreed that some developments, such as greater contracting out, were clearly beneficial, other developments such as the separation of infrastructure from operations remained of uncertain value until the issues of efficient pricing and slot allocation were resolved.

#### 1. Introduction

This workshop considered rail sector issues. There were papers on access and access charging issues by Robinson and Austen, Dodgson, and Garnham. Bones and Withers, Nilsson described the system of separation of infrastructure from operations in Sweden and considered an auctioning mechanism to allocate track capacity to independent bidders. Linke's paper described the restructuring of German state railways. Evans considered how safety issues were dealt with under Britain's newly-structured and shortly-to-be-privatized system. Savage considered the issue of returns to scale and density in railways, using data from U.S. rapid transit systems. Truelove reviewed the history of the planning of the yet-to-be-built high speed rail link between London and the Channel Tunnel. In addition, Euan McQueen and Steve Voullaire explained the background to New Zealand Railways' privatization and its implementation.

The report will consider in turn objectives and control, the complexity of rail systems, alternative approaches to railway reform, vertical separation and track access issues, cost structures and competitive tendering and safety, before seeking to draw conclusions.

#### 2. Objectives and control

There was unanimous agreement that railways need to act commercially and have clear objectives from government. In other words, commercialization is more important than privatization *per se*. This means that managers and owners need to be prepared to bear normal commercial risks—and not expect government always to bail them out.

It follows that governments need to specify in advance what they want in terms

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of social services, and provide a clearly defined mechanism to pay for such services. This is formally accepted in many countries around the world, although there are still problems in practical implementation. These problems include escalation of subsidies, and the difficulty of withdrawing services against political opposition when the benefits that services provide (even when measured using social cost-benefit analysis) exceed the avoidable costs of providing them. The latter issue was mentioned in the keynote presentation by Derek Srafton.

Consequently the existing situation has not been regarded as satisfactory in many countries. There has been a search for new solutions. These solutions include restructuring, corporatization and outright privatization. One major aim has been to introduce more competition into the supply of rail services—competitive tendering is one example of this.

Regulatory issues are also still very relevant. There is a view that the old idea of regulating a monopoly supplier is no longer appropriate since railways face so much competition from other modes. From an early date, railways in most countries were subject to state regulation with regard to their charges and common carrier obligations because of their monopoly powers in the era before the motor vehicle. In many countries, including the United States and Great Britain, much of this regulatory apparatus has been dismantled with the growth of inter-modal competition. Similarly, in New Zealand it is not thought necessary to regulate the privatized railway's freight rates because of inter-modal pressures.

Although this old-style railway regulation has disappeared in many (but certainly not all) countries, new issues of regulation have arisen (as well as traditional ones like safety). These include issues of regulation of access charges in vertically-separated structures, and of passenger fares in congested urban areas. In particular, there is an important role for the Railway Regulator in the new U.K. system. The U.K. Regulator, who heads the new Office of Rail Regulation, is responsible for ensuring that access to the network and track charges are fair, that competition is promoted and that consumer interests—including those related to network benefits—are protected.

### 3. Rail complexity

Much of this conference was concerned with buses. However, this workshop believed that rail services are much more complex than buses, so that the challenges are greater. A major reason for the complexity of rail services is the existence of a separate railway infrastructure. The problems that arise from this include

- (a) the problem of allocating capacity (train paths, station platforms, etc.) to train operators;
- (b) the problem of allocating costs to these users—i.e. the problem of charging for infrastructure. Though the conference was concerned with passenger traffic, infrastructure charging brings in the issue of freight because of the existence of joint infrastructure costs in handling both freight and passenger traffic on the same network;
- (c) the problem of determining the overall level of costs, and of deciding whether users should pay the full cost of rail infrastructure.

Another difference between rail and bus (see the paper by Robinson and Austen, p. 457 of the record of this conference) is that entry barriers for rail services may be higher than in buses, so that less visible competition is likely to result.

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- (b) integrated regional
- (c) the European infrastructure operations, an-

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#### 4. Alternative approaches to rail reform

As Nash showed in his keynote presentation, there are alternative models for rail corporatization and privatization. These include:

- (a) integrated freight companies (North America, New Zealand, Argentina);
- (b) integrated regional passenger companies (Japan);
- (c) the European model, which involves some combination of separation of infrastructure from operations, franchising out of some or all passenger operations, and some degree of open access.

The workshop looked in detail at the British, Swedish, German, Australian (New South Wales) and New Zealand experiences. Different models of privatization or restructuring might be appropriate in different situations, and it is interesting to know why different countries have followed different paths.

##### 4.1. *The U.K. approach*

British Rail is being privatized at present. The infrastructure in the form of earthworks, track, signalling and stations has been transferred to a new company called Railtrack. The British government intend to float this company on the stock market in 1996. Railtrack is required to cover all its costs, primarily through charging train operators for the use of the network.

The rest of British Rail has been divided up into separate companies, and will be sold or franchised to the private sector. The Office of Passenger Rail Franchising (OPRAF) is responsible for channelling public funds for the operation of passenger trains to twenty-five passenger train companies which are being tendered in groups over the next few years. Potential operators are being invited to bid for subsidy. The Trainload Freight sector has been divided into three companies, which are being offered for sale. Parcels and other freight services are also being sold. British Rail's passenger rolling stock has been divided between three rolling stock leasing companies, which will provide stock for the passenger train operators. Track and signalling maintenance units within British Rail are also being put up for sale, and will provide services under contract to Railtrack. All other parts of BR, such as maintenance depots and consultancy firms, have been, or will be, transferred to the private sector.

One difficult issue, considered in Dodgson's paper, is the determination of track charges which both cover Railtrack's total costs and give correct signals for utilization of the existing network and for investment (or re-investment) in the system. The charges devised so far have been divided into 'negotiated' charges for commercial traffics, and 'administered' charges for subsidized passenger services. Although economic principles have been followed in ensuring that, for example, charges at least cover avoidable costs, the initial charges appear to vary too little with usage to ensure efficient use of existing capacity.

##### 4.2. *The Swedish approach*

In Sweden, a new rail infrastructure authority known as Banverket was established in 1988. A major aim was to achieve a fair balance with road, and users of both types of facilities pay marginal cost based charges. These comprise an annual charge per vehicle and a charge per vehicle-kilometre varying with the type of vehicle. They fall a long way short of covering total cost. Banverket also applies comparable social cost-benefit-analysis-based investment appraisal criteria to the roads sector, and this has resulted in a big increase in rail infrastructure investment. For the time being, the state owned

company (SJ) remains the monopoly train operator on the main lines, although secondary routes are put out to competitive tender. A greater degree of open access is under discussion, but there is no intention at present to privatize Banverket or SJ.

#### 4.3. *The German approach*

In January 1994, the two state-owned German railways, DB (formerly West German) and DR (formerly East German), were merged into the German Rail Corporation, Deutsche Bahn AG. Traffic loss has been particularly rapid on the former Eastern system since reunification. The German government has taken over responsibility for much previous debt and for excessive staff costs on both former systems. In addition, it is to bear additional costs arising from the former DR's use of outdated technology and its environmental liabilities.

Track and signalling have been separated from operations. DB AG has been divided into three parts: Track Network PLC, passenger traffic, and freight traffic. There is to be open access to the infrastructure for third parties, and to this end a published system of access prices has been devised. These prices distinguish between ten categories of line, and then seven types of passenger train and five types of freight train. There are variations for track wear-and-tear related to the weight of trains, and for the operator's requirements in terms of punctuality. There are also discounts related to volume and advance purchase which have led to criticisms that the established operator will be at an advantage in relation to entrants. The charges are designed to cover out-of-pocket costs, although not depreciation or interest, and are wholly variable throughout. As a result, problems have also arisen over difficulties short-distance passenger train operators have in meeting the levels of track charges required for high frequency services, and further revision is expected.

#### 4.4. *Access in New South Wales*

Rail services in the state of New South Wales are provided by the State Rail Authority (SRA). Services are operated by three main divisions, CityRail for passenger services in the Sydney (plus Newcastle and Wollongong) conurbations, Countrylink for country and interstate passenger services, and Freight Rail for freight services. Rail services are affected directly by a new competition policy in Australia, following publication of the Hilmer Report. In 1995 each Australian State Government agreed with the Federal Government to implement a national competition policy under the Council of Australian Governments (COAG) National Competition Policy Agreement.

An aspect of this which has particular relevance for rail services is access to essential infrastructure facilities in Australia: these are those which are important to competition in other markets (i.e. are intermediate inputs), which would be difficult to replicate, and which are of national significance. New South Wales is developing its own rail access regime to comply with this. Users of the infrastructure should not be at a disadvantage in relation to the infrastructure provider, in other words there should be competitive neutrality. This is seen to require a clear accounting separation for rail infrastructure, but not structural separation on the British and Swedish lines. An infrastructure unit within the SRA will be responsible for negotiating access to the infrastructure. One major resulting requirement is for the SRA to improve its cost and revenue data allocation, and its negotiation and contract documentation. The National Rail Corporation, which has taken over loss-making inter-state freight traffic, requires access to SRA tracks and hence an access pricing

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regime, while SRA's own Rail Freight requires access to track and yards in the Sydney area. Other, private, companies are considering entry to the interstate freight market.

A mixed-formula approach to access charges has been rejected in favour of a cost-based system with negotiation of access prices with users or potential users. This raises similar issues of cost allocation and asset valuation as in Britain.

During 1994, State Rail established RailNet to manage the introduction of competition to the rail network. Barry Garnham, Director of RailNet, outlined the issues of asset ownership, interdependence, operator structure, access pricing, accounting separation, asset valuation and community service obligation policy that had arisen. One of the conclusions of the Hilmer Report was that incumbents should not also act as regulators of their own businesses. Consequently, RailNet is independent of the existing SRA business groups. RailNet has reviewed rail access approaches in other countries. It has not gone for vertical separation—nor does it expect that access charges can recover total infrastructure costs. Access charging started in July 1995 with global access charges for CityRail, Countrylink, Freight Rail and National Rail. In the longer term, it is the intention to develop usage charges and penalty and incentive systems.

A major issue is the charges for transporting Hunter Valley export coal. This has been a very profitable traffic for the SRA, and the profits have in the past been regarded as a kind of mineral exploitation royalty. Now with open access, the mining companies wish to handle the traffic themselves, or contract with third parties. However, the potential loss of cross-subsidy is a serious political consideration.

#### *4.5. The New Zealand approach*

In contrast to the other systems considered, New Zealand has gone for fully-fledged privatization of a vertically-integrated rail system, without open access. New Zealand Railways are predominantly freight, but there are some long-distance and commuter passenger services. The latter are provided under contract in Auckland and Wellington, but the long-distance passenger services are not supported by government. After initially being restructured as an 'arms-length' company, New Zealand Rail was offered for sale in 1992. There were eight groups of potential owners, and in September 1993 the company was sold to a consortium which included the U.S. railroad, Wisconsin Central. Staff numbers have fallen from about 26 000 in the mid-1970s, to around 4500 now, though there has not been a significant contraction in the route network. The company made a profit in 1994 of NZ\$38 million.

#### **5. Vertical separation and efficient access charging**

As the above discussion of various systems has indicated, a major consideration in deciding on the form of structure is the issue of vertical separation. One major reason for vertical separation is to achieve fair competition—this was a major rationale for the system that has developed in the U.K. However, the workshop heard of problems in achieving fair competition even with vertical separation in Germany because of complaints that the main operator would benefit from quantity discounts. In NSW, there is concern of potential entrants to the Hunter Valley coal market that Freight Rail as the vertically-integrated supplier will still retain control over operations.

However, in achieving vertical separation it is necessary to solve two core problems:

- (1) allocating capacity;
- (2) co-ordinating infrastructure and rolling stock investment decisions.

The problem is to devise a practical access pricing system which promotes efficiency in these two areas. None of the examples we looked at had solved this problem—especially with complex networks. The paper by Nilsson considered an interactive bidding system that was designed to achieve optimality by giving bidders for track capacity the incentive to reveal their preferences truthfully in a system that converged to a mutually-consistent use of fixed track capacity. This system was tested using an experimental approach where bidders had monetary incentives to optimize their bids. The resulting Vickrey-type auctions did seem to get close to optimal capacity allocations, but the approach now needs to be extended to more complex networks than the simple single-track block section dealt with in the paper. (In Vickrey auctions the winner pays a sum equal to the second-highest bid.)

A further issue is whether rail access charges should cover total rail infrastructure costs. As we have seen, they are supposed to do so in the vertically-separated U.K. system and in the vertically-integrated New Zealand one, but not in the German, Swedish or New South Wales systems. The issue is closely related to that of securing a level playing field between different modes. This leads to the problem of comparing the treatment of infrastructure costs in the rail sector with those in the roads sector. It is however very difficult to achieve a fair comparison in practice.

With regard to investment, there are problems in co-ordinating infrastructure investment decisions when train operators do not own the infrastructure. This problem has already arisen in the franchising of the British West Coast main line, where major infrastructure renewal is required. Paul Truelove's paper highlighted the difficulties in private sector involvement in new rail infrastructure building (even without vertical separation) in Britain by chronicling the decision process in choosing a route for the proposed high-speed line from the Channel Tunnel to London. Political indecision over the route and choice of terminal, together with escalating costs and legislative restrictions on public financial support, have so far prevented construction of a high-speed link on the British side of the Channel. Truelove characterizes the process as 'disjointed incremental decision-making' (Truelove, p. 584 of the record of this conference).

#### 6. Cost structure issues in relation to rail privatization

The form of rail privatization will in part be related to industry cost structures. Ian Savage's paper considered this in the light of evidence on cost structures of U.S. rapid transit systems. Data on 22 heavy and light rail systems for the period from 1985 to 1991 were used to estimate a short-run translog cost function for the industry. The resulting function showed economies of density, but approximately constant returns to scale with regard to network size. This evidence is consistent with much of the earlier evidence on main line railway costs. Savage suggests that this means that the larger systems could be privatized, for example by means of limited period franchises, by splitting up their networks into smaller units. This suggestion was taken up in regard to Australian commuter systems in Serafson's plenary paper.

#### 7. Sub-contracting, competitive tendering and franchising

Another area of major agreement in the workshop was the important role of sub-contracting. There are many tasks that railway companies have traditionally

undertaken 'in-house'—each other for the world's important ones such as Competition in such markets.

Competitive tendering will play a role to play. The respective distinction between the freer hand in the determination of contracts, whereas competitive tenders by the tendering

Given the complex forward for railways. I experience in Britain to commercial freedom for information, connectivity

Safety implications considered. Safety issues are separate safety responsibilities. However, we think that the of Andrew Evans's paper being handled in the B

Under the new system which set out their safety interfaces with other organizations. Health and Safety Executive. As part of the safety case, This may be done through assessments of what can happen to the history of rail operations. Railtrack's hazard identification. Evans's paper considers the analysis, industrial risk, distinguishes between intolerable and elimination of accidents. The main evaluation criteria are the tolerability of risks faced by individuals, individual risks faced by drivers, at level crossings, and the cost-benefit analysis. The argument is broadly right.

There was broad agreement that was agreed: that railway objectives and payment mechanisms for achieving competition and maintenance by competitive

undertaken 'in-house' which can be undertaken by outside agencies competing with each other for the work. Such tasks include roles such as catering, but also more important ones such as rolling stock maintenance, and infrastructure maintenance. Competition in such markets avoids the complications of on-track competition.

Competitive tendering or franchising of passenger services also has an important role to play. The respective meanings of these two terms is problematic. We take the distinction between them to mean that franchising is a process that gives operators a freer hand in the determination of what services to provide and at what quality levels, whereas competitive tendering involves more specific definitions of service requirements by the tendering agency.

Given the complexity of on-train competition, this looks a promising way forward for railways. It should be a major topic of the next conference, drawing on experience in Britain and elsewhere. One major issue is the balancing of greater commercial freedom for operators against the benefit of network co-ordination—information, connections, through-ticketing, and ticket inter-availability.

### 8. Safety

Safety implications of railway restructuring and privatization also need to be considered. Safety issues in a disaggregated railway are complex, especially given the separate safety responsibilities of different train operators and other agencies. However, we think that they are capable of resolution—on the basis in particular of Andrew Evans's paper on how interlinking safety cases and risk assessment are being handled in the British system.

Under the new system, all railway operators are required to prepare safety cases which set out their safety arrangements, and their arrangements for managing interfaces with other operators. Railtrack's safety case has to be approved by the Health and Safety Executive, while train operators' cases are approved by Railtrack. As part of the safety case, organizations have to assess the risks their operations face. This may be done through previous experience of accidents, and from hypothetical assessments of what could go wrong with existing systems. Because of the long history of rail operations (and of systematic investigations of previous accidents) Railtrack's hazard identification has primarily been based on previous experience. Evans's paper considers different ways of evaluating risks, including cost-benefit analysis, industrial risk evaluation (for risks to particular individuals this distinguishes between intolerable, acceptable and 'as low as reasonably practicable' risks), and elimination of accidents that have been identified as being avoidable. Railtrack's main evaluation criterion is the Health and Safety Executive's framework for the tolerability of risks faced by particular individuals. Numerical targets are set for individual risks faced by passengers, members of the public, road vehicle occupants at level crossings, and track staff. Beyond this, proposals are subjected to a standard cost-benefit analysis. Evans's paper concluded that this framework for risk assessment is broadly right.

### 9. Conclusions

There was broad agreement on a number of issues concerning the rail sector. It was agreed: that railways needed to act as commercial organizations, with clear objectives and payment for social obligations; that there was considerable scope for achieving competition in the supply of inputs such as rolling stock and track maintenance by competitive tendering; and that even such major reforms as that

underway in Great Britain need not threaten safety provided that appropriate mechanisms for its regulation were in place. Franchising rail passenger services was seen as a promising approach, but with many unresolved issues requiring further research. Separation of infrastructure from operations was seen as desirable only if the problem of designing an efficient regime of access charges could be resolved, and none of the systems currently in place was seen as adequate in this context.

## Regulatory reform and transport policy development: Workshop 4

EWEN MICHAEL (Rapporteur)

This workshop considered a number of issues under the heading 'Regulatory Reform and Transport Policy Development', where discussion focused largely on competition policy as the driving force for change in the international environment. The workshop report highlights key elements of the debate affecting the changes to competitive practice and the role of government.

### 1. Introduction

This workshop considered regulatory reform and initiatives in transport policy development in three categories: the effects of regulatory reform, with papers by van de Velde, by Wilson and Halvorsen, by Wilson and Shaw, and by Wilson and Richardson; current directions of transport policy, with papers by Mayes, Allen and Greenough, by Michael and by Toleman; and empirical results from contemporary policy practices, with papers by Mills and by Bonnel and Chausse. The workshop was chaired by Gordon Mills.

This report reviews the workshop discussion under four headings: concepts of competition, competitive practices, the role of government and problems in the new regulatory approaches. On this basis, some conclusions are made and some directions for future research are recognized.

### 2. Concepts of competition

The focus of the workshop's concern with transport policy development was the emergence of *competition policy* as the global force for change. The point is too easily forgotten, but it is often assumed that competition has the same contextual meaning in all policy environments. In short, transport analysts and others familiar with the economic debate often slip into the neo-classical paradigm without recognizing that the actual basis of decision-making depends on the specific political and cultural background of the state. Thus, what passes as a move to competition in one country may well be perceived as a regulatory nightmare in another.

There would appear to be significant differences in the practice and application of competition policy between states. In particular, it would seem that the vision in some countries (notably Australia, Britain and New Zealand) sees the benefit of competition in terms of Smith's invisible hand and the pursuit of optimum output at the lowest production cost. Alternatively, many others, and notably those from continental Europe, see competition in public transport as a supplementary issue where equity and social needs tend to prescribe the economic agenda.

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*Allocative efficiency* appeared to be treated in different conceptual terms according to national experience. The policy approaches in Australia, Britain and New Zealand seemed to aim at minimizing unit production costs, to reduce cross-subsidies and, consequently, to lower costs for all producers. The alternative argument preferred to view public transport services more comprehensively, seeing them as the means to provide the infrastructure that enhances total production. The distinction is not simple, and might well be arguable only among those states with the capacity to pay for the luxury of such infrastructure. As discussion evolved about competition policy, the emphasis shifted to the differences inherent in a government's pursuit of *efficiency* or *effectiveness*. Most believed that the mind-set for Australian, British and New Zealand policy makers was firmly locked on *technical efficiency* (i.e. minimizing the costs of performing each transport task) whereas the Europeans and North Americans were more concerned with effective service delivery: although it may be that the debate about the implications of a competitive transport sector for the whole economy has yet to begin in these policy environments.

This line of argument was based not on a quibble over the definition of competition, or its associated economics, but rather about the recognition of a community's expectations of what competition would deliver in the way of benefits in each unique case. There is mileage for further work on topics of this nature, particularly as the evidence offered by the international experience suggested that the expected benefits from a competitive market would be defined differently according to each community's cultural, social and political basis. This implies a clear warning of failure for those who try to prescribe the competitive solution in every circumstance.

These differences about the expectations of competition policy were particularly apparent when comparing Bonnel and Chausse (France), van de Velde (The Netherlands) and Mayes *et al.* (Canada) with the stance apparent in the papers of Michael (Australia) or Toleman (New Zealand). Van de Velde, in particular, exposed the nature of these differences in his study of the Dutch experiments into contracting out local bus services, where he noted that government was not seeking to change cost and price structures under their perception of competition policy but rather to enhance service levels within the existing policy framework. The tendering system in this case generated some improvements in service levels and an increase in the supply of timetable-kilometres, noticeably in off-peak periods where the marginal cost of production was at its lowest.

### 3. Competitive practice (including tendering, contracting, etc.)

There was considerable interest in exploring the effects of regulatory reform and policy change on industry practice, particularly on the road-coach industry and on the potential role of contracting (or tendering) to bring competitive forces into the transport market.

Nigel Wilson explored the functioning of contracts and their operations in the road-coach markets of the U.S.A. and the U.K. The relationship between contracting and economic policy was established, and the mechanisms to ensure an appropriate transfer of information between the contracting parties were exposed. The paper by Wilson and Halvorsen is one of those rare gems that provide the researcher with a user-friendly introduction to contract economies along with enough application to quickly build the reader's understanding of how the specific form of a contract can be set to achieve the varied goals of the policy maker.

Wilson and Shaw compared the different approaches to labour contracts in the U.S.A. and the U.K., where ostensibly the operators in each case were trying to reduce costs. The comparison suggested that the small independent operators, typical of the U.S.A. environment, had achieved significant cost reductions through flexible labour contracts and the greater use of part-time workers, that matched the sort of cost reductions achieved through...sweeping changes to the public transport organizational structure in the U.K.

Contracting or tendering arrangements were clearly perceived by the workshop as a *principal-agent* relationship. In most cases, government was normally held to be responsible for determining the *quality* and *quantity* of public transport services to be provided and, hence, responsible for establishing the conditions for a contract to operate.

It was argued that this contractual arrangement between government and operator was flawed by the absence of the third party to transport services; that is, the interests of the consumer were never directly represented in the tender process! Evidence suggested that governments and operators were beginning to understand the incentives that needed to be incorporated into the process; but, as yet, no mechanisms were being pursued to motivate the consumer to join these arrangements.

A problem was perceived with the rationale of the tendering process, for it assumes that the optimal outcome has been identified prior to the contract commencing: when, in fact, the outcome should be flexible to meet the consumers' actual needs (not the tender writer's vision of a future outcome). Bus operators, and perhaps the managers of other small-scale services, were adamant that they could read their customers' requirements, but other members of the workshop remained sceptical. A point well made on this issue was that the transport profession might need to brush up on its understanding of *quality* and how to achieve it in the delivery of public transport services. Indeed, discussion of this topic was firmly recommended for the next conference.

Wilson and Richardson expanded further on some of the dangers inherent in the current drive to privatization in the bus industry. They observed that the contracting process in Victoria (Australia) often saw the government and the bus proprietors in a conflict between service levels and cost reductions, particularly when information was not equally shared. They used a game-theoretic approach to demonstrate that co-operative strategies between government and bus operators could enhance the outcomes from contracting in preference to the current tendering system.

The special association of New Zealand as the host nation of the Conference, led to considerable interest in the success of their approaches to tendering after such radical reform over the last five years. The benefit of the New Zealand scheme is that tenders are let by Regional Councils who are able to determine specific local needs and priorities. As funds are at least partly based on local taxes, there is some obvious restraint on the community's willingness to pay. One concern, emerging from the new system, is the loss of the benefits that were once associated with integrated planning and centralized scheduling. This occurs because each new private tender is independently structured and, hence, serves to fracture the market. While the contract process itself can be designed to remedy the problem, it was felt that the degree of specification necessary on the part of the local authority was starting to become intrusive and unwieldy. Mindful of the complexities that had evolved in the British experience, the advice from British and New Zealand practitioners was to keep tenders as simple as possible, allowing them to evolve over time to match local needs.

The workshop sought a normative role for government that spanned three continents that government should have proper authority to...population; but, ... why some services are underlines the incoherence of the private sector and for much confusion in western Europe.

Some effort was made to... government was the natural use of public transport that they are the financing of New Zealand and France, provision of local transport in the community's understanding.

Consideration was given to the failure or conflict between... agency. For some regions, achieving fair competition through regulation was more than competition.

Few perceived regulation's financial role, appropriate subsidy... the policy maker's potential to blot up vast amounts of taxpayer... The capacity of... seriously questioned. Some inner urban areas where economic society. A... evidence in the papers' a result of moves to decentralization and in New Zealand.

When challenged, it might warrant subsidy for socially disadvantaged groups identifying who such people are. One example, unique to... *et al.*, which concerned communities in Canada's community service obligations candidates for subsidy is being subsidized because of the costs between modes.

#### 4. The role of government

The workshop sought to address the role of government as the *provider* of public transport. It surprised us from the outset that we could offer no clear prescriptive or normative role for government. It was surprising because the group's membership spanned three continents and seven nations, yet no individual felt positioned to argue that government should carry out *specific* public transport tasks to meet certain economic or social goals. There was general agreement that government was the proper authority to ensure that public transport was actually available to the population: but, . . . how it should be provided . . . by whom . . . at what cost . . . and why some services and not others . . . always remained unspecified. This discussion underlines the inconsistencies in the division between the appropriate roles for the private sector and for the public sector in different countries that is the source of so much confusion in western policy-making.

Some effort was made to argue that the perceived inconsistencies in the roles of government was the natural outcome of the vast gulf that separates the tax base from the use of public transport services—in short, the taxpayer often fails to recognize that they are the financial supporters of local transport systems. Experience from New Zealand and France, two countries where local taxes are levied directly for the provision of local transport services, still did not seem to have enhanced the community's understanding of what services they wanted and at what cost!

Consideration was given to the proposition that there was some public interest failure or conflict between government's joint roles of *market regulator* and *funding agency*. For some regulation was often seen to be the effective public mechanism to achieve fair competition, equity and access; while others preferred to argue that regulation was more the means to avoid waste through the elimination of unnecessary competition.

Few perceived regulation (by either interpretation) as being at odds with government's financial role, where the issue seemed to be, 'who should receive the appropriate subsidy . . . the operator (public or private) or the consumer?' From the policy maker's point of view, Toleman noted that: ' . . . public transport has an ability to blot up vast amounts of money, often with little obvious benefit to the taxpayer . . .' The capacity of publicly funded enterprises to control their costs was seriously questioned. So, too, was the purpose of funding public transport in many inner urban areas where the beneficiaries were claimed to be the upper echelons of the economic society. A little hope in the effort to reduce subsidies was offered by evidence in the papers by Michael and by Toleman of substantial unit cost changes as a result of moves to deregulate and open markets in the state of Victoria (Australia) and in New Zealand.

When challenged, the Workshop found it difficult to specify which social groups might warrant subsidy or support from the public. There was total agreement that the socially disadvantaged warranted protection in the transport market, but actually identifying who such people might be in any given society produced little consensus. One example, unique through it may be, was clearly observed in the paper by Mayes *et al.*, which concerned the transport and mobility needs of isolated indigenous communities in Canada; and, while Mayes sought to clarify VIA Rail Canada's other community service obligations, there were few other examples nominated as viable candidates for subsidy. In these circumstances, recognizing the transport benefit that is being subsidized becomes confused when there are substantive differences in the costs between modes.

An alternative approach, put forward particularly for inner-city congestion debates, suggested that the positive externalities of public transport outweighed the minor distortions of funding benefits for specific groups, even where those groups had no welfare need for subsidy. In this view, the externalities alone justified the continuation or expansion of public subsidies for transport. The issue remains open!

Pursuing the same theme, Toleman presented a paper that reviewed New Zealand policy, part of which argued that public subsidies should be targeted at the individual-in-need rather than at operators or providing authorities. Toleman indicated that the New Zealand government was reconsidering its role in public transport and had recognized that the demand for public transport was changing. Services would need to focus on the needs of individuals in the future, and governments might well find it more appropriate to subsidize individual choices rather than fund operators in the conventional manner.

### 5. Problems in practice

Bonnel and Chausse of the Laboratoire d'Economie des Transports, Lyons, raise some fundamental questions about the direction of competition policy. They reviewed the organization of competition between private vehicles and public transport, arguing that the slight underpricing of private transport had a Snowball effect... leading to the domination of one particular mode of transport. Bonnel and Chausse examined a number of European cities to demonstrate how different policy approaches had produced different growth rates in transport supply between public and private modes.

Bonnel and Chausse's observations were derived from extensive modelling of the costs and externalities of both private and public passenger transport modes. The model is among the most sophisticated to have been developed for policy analysis, but, as much of the outcome is dependent on the values placed on externalities, acceptance of the results will depend much on the reader's own predilections.

In a subsequent paper by Mills, the benefits of privatization policy continued to be questioned. While starting from the conventional premise that user charges for private vehicles on public roads were economically justified, he analysed the current policy of fully privatizing the construction, operation and maintenance of tollways in New South Wales, asking whether privatizing the revenue-risk could actually deliver benefits to the public. He observed a paradox whereby if revenues do not meet costs, then the community would be saddled with unnecessary infrastructure, but if government makes a financial contribution then the market test itself has been eliminated. Mills suggested that perhaps decisions about creating such infrastructure truly belonged in the domain of government, although contracting out each stage of construction and operation in a competitive framework might still deliver many of the cost benefits that the current privatization policy is hoping to deliver anyway.

### 6. Conclusions

Despite the divergence of opinions and interests, there was general agreement that the moves towards competition policy had now become the global engine driving the changes (desired or not) to transport policy. In this context, the recurring theme throughout the workshop was trying to identify who was benefiting from the changes. In this sense, the outcome falls in line with Toleman's observations that the basis of policy is changing to focus on people and on needs, rather than on services and organizations.

The group identified

- (i) Should government regulate?
- (ii) How accessible?
- (iii) What is fair competition?
- (iv) How effective is regulation?
- (v) How do you measure success?

## International experience

BARRY T

This workshop focused on the operations of land transport (the challenge in maintaining transport costs) v. integrated transport systems and sustainable land use.

In recent years, many countries (partially) and/or privatized passenger transport (the land passenger transport system) competition among transport modes, the cost of land passenger transport, countries in the competition noted that countries face without its disadvantages (systems). Rather than operating a passenger transport system if it meets society's costs.

The plan of the passenger transport systems are discussed factors that are key to sustainable land passenger transport.

Prior to 1980, the regulation. Beginning of deregulation were passed to promote effectively deregulated restrictive control of transport services (except in London) amending quality control and sale of assets) the state

The group identified the following critical issues for research.

- (i) Should governments fund people or services?
- (ii) How accessible should public transport be for people?
- (iii) What is fair competition in the public transport market?
- (iv) How effective is the tendering process?
- (v) How do you measure quality in the delivery of public transport services?

## **International experiences in competitive operations of land passenger transport: Workshop 5**

BARRY TURLEY (Chair) and WAYNE TALLEY (Rapporteur)

This workshop surveys the experiences of several countries in competitive operations of land passenger transport. A common theme is that countries face a challenge in maintaining the advantages of transport competition (e.g. lower transport costs) without the disadvantages (e.g. unco-ordinated and non-integrated transport systems). Key contributors and recommendations to promote sustainable land passenger transport systems are discussed.

### **1. Introduction**

In recent years, many countries have introduced economic deregulation (at least partially) and/or privatization (via the sale of assets and/or via contracting-out) into the land passenger transport sector. Their primary purpose in doing so is to promote competition among transport providers (companies or operators) in order to reduce the cost of land passenger transport services. In this paper, the experiences of several countries in the competitive operations of land passenger transport are discussed. It is noted that countries face a challenge in maintaining the advantages of competition without its disadvantages (e.g. unco-ordinated and non-integrated transport systems). Rather than only promoting competition, the goal of a sustainable land passenger transport system should be promoted. A transport system is sustainable if it meets society's commercial and social transport needs at a cost efficient level.

The plan of the paper is as follows: Transport competitive experiences of several countries are discussed in Section 2. Section 3 discusses transport sustainability and factors that are key contributors to its obtainment. Recommendations for promoting sustainable land passenger transport systems are presented in Section 4.

### **2. Transport competitive experiences**

Prior to 1980, the bus passenger industry in the U.K. was subject to economic regulation. Beginning in 1980, a number of bus deregulation and privatization acts were passed to promote competition within the industry. The 1980 Transport Act effectively deregulated long-distance (or intercity) bus services—liberalizing the restrictive control of fares, making it easier for new services to be introduced and freeing services of quantity control. The 1985 Transport Act deregulated local bus services (except in London and Northern Ireland)—removing quantity controls, amending quality controls and reducing barriers to entry. It also privatized (via the sale of assets) the state-owned National Bus Company.

During the 1980-1986 period, a more relaxed licensing regime initiated some competition, but new entrants were few; the introduction of minibuses on high-frequency urban bus routes was the first significant innovation in the industry in many years. The 1987-1990 period witnessed substantial competition in some urban areas between established bus companies and new entrants—driving down fares, the quality of service, staff wages and working conditions and eclipsing trade union power. Competition regulatory bodies intervened both in investigation of mergers and alleged unfair competitive practices.

The 1990-1995 period witnessed the gradual growth (via the purchase of incumbent bus companies) of very large (2000 or more buses) publicly-quoted bus companies and the failure of a number of small companies. The increasing competition to buy bus companies led to significant increases in the prices paid for them and effectively eliminated the ability of smaller companies to expand by acquisition. The larger companies accelerated their fleet replacement programs, realizing economies of scale from fleet standardization. By the end of 1994, the U.K. bus passenger industry consisted of six national companies controlling over 60% of the market; the largest company, Stagecoach, controlled over 21% of the market. In 1995, Stagecoach's U.K. operations included over 20 separate bus passenger companies or divisions from the South Coast of England to the Highlands of Scotland and two companies in London, employing nearly 14 000 staff in Britain. Stagecoach is also the U.K.'s largest overseas bus operator, having bus operations in Africa, New Zealand and Hong Kong and recently acquiring operations in Portugal.

Under economic deregulation, bus service in the U.K. has expanded but patronage has declined by an equivalent percentage. Public funding and operating costs fell by 55% and by an average of 30% between 1986 and 1994, respectively. Local authorities have contracted-out and subsidized socially desirable but uneconomic services (i.e. through competitive tendering). In some areas, the instability in bus service has prompted some passengers to lobby for re-regulation. The perception by some politicians that bus competition is unpopular with customers and open to abuse by national bus companies may result in these politicians supporting legislation for re-regulation of the bus industry in the near future.

In New Zealand, the transport law reforms of 1989 deregulated land passenger transport with implementation taking place in 1991. The Transport Services Licensing Act of 1989 replaced the previous quantitative licensing system with a qualitative system having few restrictions on entry. The Transit New Zealand Act of 1989 established regional councils as the planning and funding agencies for passenger transport, requiring all payments by these councils as the planning and funding agencies for passenger transport to be subject to competitive pricing procedures. The aims of these laws are to: (1) provide integrated land transport planning; (2) provide a clear picture of transport system costs; (3) reduce bureaucracy; (4) encourage innovation in land transport; (5) devolve appropriate responsibility to local government; (6) provide for fair competition among commercial transport operators; (7) improve consumer service and safety; and (8) provide greater efficiency in public expenditure.

Deregulation has affected bus passenger service in Auckland (New Zealand's largest urban area with 28% of the country's population) in a number of ways. The average unit cost of bus service has declined, reflecting the advent of competition and/or labour market reform (from the threat of competition and potential jobs lost from contracted-out services). In some areas, service frequency has increased and new

service has been provided at the expense of service quality in the market with poorer quality providers. The requirements encourage competition and fragmented divisional bidding for single tender. The fragmentation of the transport system

The fragmentation of the transport system is incompatibility between the regime which encourages the environment, transportation market, but it is exactly the challenge is to develop contestability, but with

In South Africa, the regulation of the passenger transport market, the passage of the Road Transport Act within and between provinces, develop in isolation from the environment.

Since 1987, transport policy has been guided by the Paper on National Transport Infrastructure that makes the provision of basic mobility policy are to reduce regulation of the market and promote private sector devolved to the 'lower government' be responsible for competitive tendering and subsidies to the protected factors that limit the implementation of legislation protecting job security and representation.

In addition to its impact on transport, it has also been affected by the changes between different racial groups. Many black people face discrimination in public transport services, some rural areas. The segregation policy has led to the public transport system in townships to employ more than 1995 fiscal year.

The public transport system has to keep pace with the demand in the last twenty years. The mode of transport has developed. The modes of transport operate urban and inter-

service has been provided. Where competition has emerged, it has often been at the expense of service quality: e.g., in some cases, successful tenderers have entered the market with poorer quality vehicles, inevitably generating complaints from customers. The requirement to offer competitive tenders at sufficiently small size to encourage competition from new entrants has in some cases led to an inefficient and fragmented division of services which should logically have been offered as a single tender. The fragmentation of services has reduced the public's comprehension of the transport system and ability to transfer between some routes.

The fragmentation of transport services suggests that there may be a fundamental incompatibility between developing an integrated passenger transport system and a regime which encourages competition for the transport market. In a competitive environment, transport service providers seek to differentiate themselves in the market, but it is exactly this differentiation that an integrated system seeks to minimize. The challenge is to develop a transport system that maintains the advantages of contestability, but without the disadvantages that excessive competition brings.

In South Africa, the Road Motor Transport Act of 1930 established economic regulation of the passenger transport industry; regulation was extended with the passage of the Road Transportation Act of 1977. Regulation restricted competition within and between modes and promoted protectionism. Modes have tended to develop in isolation from one another, each operating within a monopoly-created environment.

Since 1987, transport policy in South Africa has been guided by the 1987 White Paper on National Transport Policy, concluding that transport is a basic economic infrastructure that must facilitate economic and social development through the provision of basic mobility and accessibility at minimum cost. The cornerstones of the policy are to reduce regulation, encourage effective competition, ease entry into the market and promote private enterprise. Passenger transport decision-making is to be devolved to the 'lowest level of government possible' and that the 'lowest level of government' be responsible for the payment of subsidies. It is recommended that competitive tendering be used to increase competition and possibly reduce the level of subsidies to the protected public transport sector. However, there are a number of factors that limit the introduction of competitive tendering—the current regulatory legislation protecting public transport from competition, the concerns of unions regarding job security and the complicated nature of competitive-tendering documentation.

In addition to its regulation policy, transport development in South Africa has also been affected by its racial segregation policy, i.e. a policy of spatial separation between different racial groups. The Group Areas Act forced the resettlement of many black people far from their jobs, increasing journey-to-work travel on subsidized buses, some running over 100 kilometres each morning and evening. This segregation policy has distorted land utilization and transport services—a high-cost public transport system was developed to transport (primarily black) workers from townships to employment centres, requiring a subsidy of \$US 700 million in the 1994–1995 fiscal year.

The public transport system (e.g. bus and train services), however, has failed to keep pace with the demands of (predominantly black) commuters; as a consequence, in the last twenty years a parallel, unsubsidized mode—the kombi (minibus) taxi—has developed. The mode uses van-type vehicles with up to 15 passenger seats which operate urban and inter-urban services at fares set by taxi associations. The kombi

taxi's superior service (although at a higher fare) has resulted in its capture of all of the growth in the urban public transport market in recent years, diverting significant passenger traffic from buses and trains. Since 1982 the bus and rail industries have lost approximately 31 and 22%, respectively, of their passenger trips to the kombi-taxi mode—currently capturing approximately 50% of the total black commuter market and consisting of approximately 140 000 taxis, mostly having black owners.

The only aspect of the kombi-taxi mode subject to strict regulation is vehicle size, but there is no enforcement of maximum passenger loads to match the seating capacity. The kombi-taxi permit system has gradually become ineffective. Approximately 50% of kombi taxis are operating legally, i.e. having operating permits. The South African government has tolerated kombi taxis because it has felt powerless to stop them. However, kombi taxis have filled a pronounced need for both users and providers, providing: (1) users with transport service to parts of townships not served by public transport; (2) an alternative to avoid the violence on trains; and (3) a way into the economy for black people that has been proven to be impossible to stop.

Current transport planning in South Africa seeks to maximize the use of traditional (i.e. bus and train) transport modes and minimize the level of subsidies by minimizing the costs of these traditional modes. However, the growing availability of the kombi taxi, the new assertion of the rights of black people, and the likelihood of more flexible land use policies in the future suggest that traditional transport modes will find it increasingly difficult to satisfy the demand for journey-to-work trips. There is a need to integrate and co-ordinate traditional transport and kombi taxi modes. Also, should kombi taxis be subsidized given that bus subsidies exist or should bus subsidies be eliminated so that two modes can compete on more of a level playing field?

In the U.S.A., the typical local passenger bus (or transit) company is owned by the local government, receiving subsidies from all three levels of government (federal, state and local). In addition to bus service, the company may also provide other fixed-route services such as light rail and heavy rail (or subway) as well as non-fixed route services such as demand responsive services. In the 1980s, the Reagan Administration held the view that public (or local government-owned) transit companies were cost inefficient and that the private sector could provide transit services at lower cost. In 1984, the U.S. Urban Mass Transportation Administration issued its privatization policy, establishing the privatization (via contracting-out) of services of public transit companies as a condition for receipt of federal transit operating subsidies. By 1987, 66% of public transit companies were involved in some type of contracting-out.

The contracting-out of services in the U.S. differs in several ways from that found in the U.K. and New Zealand. First, it is the public transit company rather than an independent agency that decides which service or function is to be contracted-out. Second, the public transit company is therefore not a bidder in the contracting-out (or competitively tendering) process to be the provider of a contracted-out service. Third, it is typical for only part of a public transit company's services or for certain specific functions, e.g. major overhauls of transit vehicles and certain administrative services, to be contracted-out. These differences suggest that the relative cost savings from contracting-out in the U.S. are expected to be less than that found in the U.K. and New Zealand.

Cost savings in substituting privately-provided, contracted-out services for transit services formerly provided by public transit companies have been attributed primarily

to the lower labour labour). In addition, the remaining service fearful of job losses management agree in hand, there is also ev the remaining serv contributed to an in public transit bus dri to labour and the en

In the medium-sized transport service is provided by operators that are using transport service in n.e.g. the three-wheeled minibus) services apparently began, attributable policies. In some m competition has rest drivers in an attempt

In the state of Tar exist. Although the g than five vehicles, this and public bus opera more satisfied with p and safety; the excepti more satisfied with p comparative quality. large vehicle fleet and sector has a comparat given its apparent ab sector.

A common theme of land passenger tr disadvantages (e.g. competition brings modes, the transport transport system. A and social transport transport service is to instability among pro with sustainability. I that transport service

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to the lower labour costs of private providers (from using lower-cost non-union labour). In addition, evidence suggest that contracting-out has reduced the cost of the remaining services provided by public transit companies, where unionized labour fearful of job losses have agreed to cost-saving, work-rule concessions in return for management agreeing to limit further contracting-out in the future. On the other hand, there is also evidence to suggest that contracting-out has increased the cost of the remaining services. Specifically, evidence suggests that contracting-out has contributed to an increase in the hourly earnings of both union and non-union public transit bus drivers, apparently due to higher-wage concessions by management to labour and the employment of more experienced drivers.

In the medium-sized cities (200 000 to 500 000 inhabitants) of Indonesia, public transport service is provided primarily by privately-owned minibus (an average capacity of 12 passengers) operators rather than by government-owned, big-bus (or transit) operators that are usually found only in large-sized cities. In the early 1960s, public transport service in medium-sized Indonesian cities consisted of non-motorized modes, e.g. the three-wheeled pedicab and horse-drawn carts. In the 1970s, motorized (or minibus) services appeared; also, the disappearance of traditional unmotorized modes began, attributable to competition from the minibus and restrictive government policies. In some medium-sized cities, there is an over-supply of minibuses; the competition has resulted in the deterioration of minibus safety caused by reckless drivers in an attempt to attract passengers (along a route) from competitors.

In the state of Tamil Nadu in India, privately- and publicly-owned bus operators co-exist. Although the government restricts a single private operator from running more than five vehicles, this vehicle ceiling has not restricted the competition between private and public bus operators. However, evidence suggests that passengers are relatively more satisfied with public than private bus services, particularly in regard to reliability and safety; the exception is passenger comfort, regarding which passengers are relatively more satisfied with private bus service. It appears that the public bus sector has a comparative quality-of-service advantage in providing long-route services, given its large vehicle fleet and its maintenance and infrastructure facilities, while the private bus sector has a comparative quality-of-service advantage in providing short-route services, given its apparent ability to provide a more personalized service than the public bus sector.

### 3. Transport sustainability

A common theme across countries is the challenge in maintaining the advantages of land passenger transport competition (e.g. lower transport costs) without the disadvantages (e.g. unco-ordinated and non-integrated transport systems) that competition brings. Rather than the goal of only promoting competition among modes, the transport goal should be one of promoting a sustainable land passenger transport system. A transport system is sustainable if it meets society's commercial and social transport needs at a cost efficient level. If cost efficiency in the provision of transport service is to be achieved via deregulation and the promotion of competition, instability among providers of transport service is expected and therefore is consistent with sustainability. However, in meeting the needs of society, sustainability requires that transport service from the perspective of the user (or passenger) be stable.

There are several factors that are expected to be key contributors to the achievement of sustainable land passenger transport systems. A sustainable transport

system is expected to have:

- (1) strong providers (or transport companies) that invest in monetary and human transport capital;
- (2) an antitrust policy that counters monopoly practices;
- (3) providers and government with compatible objectives and decision-making practices; and
- (4) co-operative planning and delivery of integrated transport services.

#### 4. Recommendations

In promoting sustainable land passenger transport systems, it is recommended that:

- (1) a government policy be established to promote the stability of transport service from the perspective of the user;
- (2) a government policy be established to promote cost efficiency in the provision of transport service as well as investment in monetary and human transport capital;
- (3) antitrust legislation be enacted to address market concentration and anti-competitive practices in the provision of transport service;
- (4) co-ordination between transport providers and government decision-makers be promoted;
- (5) co-operative planning and delivery of integrated transport services be promoted; and
- (6) the informal (or non-traditional) transport sector (e.g. the kombi taxi in South Africa) be allowed to fill the void in the provision of transport service not provided by traditional modes (e.g. the bus and train).

#### Foreign summaries

Les stratégies de concurrence et de propriété la fourniture de transport terrestre de passagers, essentiellement bus et chemins de fer, sont toujours d'actualité et d'importance pour la réforme du secteur du transport à travers le monde. La quatrième conférence internationale sur la concurrence et le type de propriété pour le transport terrestre de passagers qui s'est tenue en 1995 à Rotorua, Nouvelle-Zélande, a rassemblé 120 individus de différentes nations pour débattre du pour et du contre des paradigmes alternatifs de la fourniture de services et d'infrastructure. Les ateliers couvraient cinq thèmes: (1) Les modèles de concurrence et leur impact; (2) Les besoins des usagers; (3) Les problèmes liés au domaine des chemins de fer; (4) Les réformes de la réglementation et le développement de la politique de transport; et (5) Les expériences internationales lors d'opérations concurrentielles. Cet article en deux parties résume le débat et les recommandations émanant des différents ateliers, en fournissant une synthèse des principaux problèmes auxquels les gouvernements, régulateurs et opérateurs font face.

Wettbewerb und Organisationsform des Personenverkehrs, insbesondere des Bus- und Schienenverkehrs, sind weiterhin weltweit wichtige Themen in der Reform der Verkehrswirtschaft. The 4. Internationale Konferenz zu diesen Themen in Rotorua (Neuseeland) brachte 120 Experten aus aller Welt zusammen, um die Vor- und Nachteile alternativer Ansätze bei der Bereitstellung von Verkehrsleistungen und Verkehrsinfrastruktur in fünf Arbeitsgruppen zu diskutieren: (1) Auswirkungen verschiedener Wettbewerbsstrukturen; (2) Benutzeransprüche; (3) Schienenverkehr; (4) Deregulierung und Entwicklung der Verkehrspolitik; (5) Internationale Erfahrungen mit Wettbewerb in der Verkehrswirtschaft. Dieser zweiteilige Beitrag fasst die Diskussionen und Empfehlungen der Arbeitsgruppen zusammen und beschreibt damit die wichtigsten Probleme, die heute von Regierungen, Betreibern und Regulatoren gelöst werden müssen.

Las estrategias sol terrestre de pasajeros, interés en la reforma d Conferencia. Internac llevada a cabo en Ro países con el fin de d provisión de facilidades los siguientes temas: (1) (3) Temas relacionado política de transporte artículo en dos partes proporcionando una : reguladores y operado

Professor David Hei  
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Wendell Cox & Jean  
Wendell Cox Consu  
Nick Newton  
Office of Passenger i  
A Summary of Inter  
Copenhagen, London

Alan Cannell  
Transcraft Consulta  
The Curitiba Bus (R

Professor Chris Nasl  
Institute for Transpo  
Rail Privatisation—

Dr Derek Srafton  
Urban Transport In  
The Potential for Co

Ian Wallis  
Travers Morgan (N  
Urban Bus Reform I

Dr Danie Ackerman  
Department of Tran  
Constitutional and In  
Africa

Dr Patrick Bonnel &  
Laboratoire d'Econ  
Urban Travel: Intra

Las estrategias sobre competencia y forma de propiedad para la provisión de transporte terrestre de pasajeros, principalmente por bus y tren, continúan siendo temas importantes y de interés en la reforma del sector transporte que se está experimentando en todo el mundo. La 4a Conferencia. Internacional sobre Competencia y Propiedad en Transporte de Pasajeros. llevada a cabo en Rotorua, Nueva Zelanda en 1995, congregó a 120 personas de muchos países con el fin de debatir las ventajas y desventajas de paradigmas alternativos para la provisión de facilidades y servicios. Se desarrollaron talleres de análisis en profundidad sobre los siguientes temas: (1) Modelos competitivos e impactos; (2) Requerimientos de los usuarios; (3) Temas relacionados con el sector ferroviario; (4) Desarrollo de reformas a la regulación y política de transporte; y (5) Experiencia internacional en operaciones competitivas. Este artículo en dos partes resume el debate y las recomendaciones efectuadas en los cinco talleres. proporcionando una síntesis de los temas clave que deberán enfrentar los gobiernos, entes reguladores y operadores.

**Appendix: Papers presented at the conference***Conference Chair***Professor David Hensher**

Institute of Transport Studies, University of Sydney, Australia

*Urban Public Transport Futures: Broadening the Policy Debate**Keynote speakers***Wendell Cox & Jean Love**

Wendell Cox Consultancy, U.S.A.

**Nick Newton**

Office of Passenger Rail Franchising, U.K.

*A Summary of International Urban Transport Competition with case studies:  
Copenhagen, London and San Diego***Alan Cannell**

Transcraft Consultants, Curitiba, Brazil

*The Curitiba Bus (R)evolution: Integrated Transport Systems as mass Transport***Professor Chris Nash**

Institute for Transport Studies, University of Leeds, United Kingdom

*Rail Privatisation—The Experience So Far***Dr Derek Srafton**

Urban Transport Inquiry, Australia

*The Potential for Competition in Australia's Suburban Rail System***Ian Wallis**

Travers Morgan (NZ) Ltd, New Zealand

*Urban Bus Reform Down Under: Six Years of Words, Actions and Achievements?**Workshop sessions***Dr Danie Ackerman**

Department of Transport, Pretoria, South Africa

*Constitutional and Institutional Changes in the Provision of Public Transport in South Africa***Dr Patrick Bonnel & Alain Chausse**

Laboratoire d'Economie des Transports, Lyons, France

*Urban Travel: Intra or Inter-modal Competition?*

**Professor John Brander & Dr B. Cook**  
University of New Brunswick, Canada

*The Contestability of Urban Passenger Transport Markets: Market Size and Market Density*

**Brian Cox**  
Stagecoach, U.K.  
*Stagecoach—International Experiences*

**John Dodgson**  
University of Liverpool, U.K.  
*Separating Railway Infrastructure & Operations: the British Experience*

**Professor Andrew Evans**  
University College and Imperial College, London, U.K.  
*Rail Safety Cases and Railway Risk Assessment in Britain*

**Adrian Gargett**  
Passenger Transport Board, South Australia

**Ian Wallis**  
Travers Morgan (NZ) Ltd, New Zealand  
*Quasi-commercial Bus Service Contracts in South Australia*

**Barry Garnham**  
Railnet, NSW, Australia (In conjunction with Terry Bones & Nigel Withers)  
*Open Access to Rail Infrastructure: the NSW experience*

**Greg Goebel**  
Queensland Transport, Australia  
*Performance-based Contracts as a Substitute for Competition Models*

**Dr John Gunaseelan**  
Voorhees College, Tamil Nadu, India  
*Service Efficiency: A Competitive Effectiveness Study in Bus Transport in India*

**Professor Sergio Jara-Diaz**  
University of Chile  
*Differentiated Fares in the Santiago Subway System: Foundations and Experience*

**David Kilsby**  
Sinclair Knight Merz  
**Leo Flynn**  
NSW Office on Ageing, Australia  
*Transport Provisions and Concessions for Older People in NSW*

**Dr Heike Link**  
German Institute for Economics Research, Germany  
*Railway Reform in Germany: Chances, risks and first experiences*

**Dr Sheelagh Matear, Stephen Bacon & James Henry**  
University of Otago, New Zealand  
**Michelle Clare & Stuart Knarston**  
Otago Regional Council, Dunedin, New Zealand  
*Using Geographic Information Systems to identify Bus passengers*

**Robert Mayes, Mary**  
Transport Canada, C  
*Current Policy Developments*

**Barry Mein**  
Auckland Regional Council  
*Is Competition working?*

**Dr Ewen Michael**  
La Trobe University  
*Privatisation Policy: i*

**Antony Middleton**  
Department of Transport  
*Transubstantiating Transport*

**Professor Gordon Miller**  
University of Sydney  
*The End of the Private Sector*

**Dr Jan-Eric Nilsson**  
Centre for Research in Transport  
*Allocation of Track Capacity*

**Dr Neil Paulley & Dr**  
Transport Research Institute  
*Concessionary Fares /*

**Dr John Preston & G**  
Institute for Transport  
*The Franchising of Public Transport*

**Dr Ian Radbone**  
Transport Systems Centre  
*Meeting the Needs of*

**Ian Robinson & John**  
Department of Transport  
*Competitive Access to Transport*

**Gabriel Roth & John**  
U.S.A. and Indonesia  
*Alternative Approaches*

**Professor Yasuo Sakai**  
Teikyo Heisei University  
**Kazusei Kato**  
Kansai Gaidai College  
*Airport Access in Japan*

**Professor Ian Savage**  
Northwestern University  
*Scale Economies in Rail Transport*

**Dr Nariida Smith & Jim**  
Institute of Transport  
*Using Geographical Information Systems to identify Bus passengers*

**Robert Mayes, Mary Allen & Joe Greenough**  
Transport Canada, Canada

*Current Policy Developments in Canadian Surface Passenger Transportation*

**Barry Mein**  
Auckland Regional Council, New Zealand

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