

A MORE CRITICAL LOOK AT SOME OF THE ASSUMPTIONS USED IN
ALLOCATING COMMONWEALTH GOVERNMENT ASSISTANCE FOR LAND
TRANSPORT INVESTMENT

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ABSTRACT: *The history of recent Commonwealth assistance for roads and urban public transport reveals that there is often a dichotomy between, on the one hand, the assumptions used in both federal planning and programming and social cost benefit evaluation in relation to such assistance, and on the other hand, the practicalities of trying to centrally control and direct this assistance and the actual practices adopted by transport administrators when making their investment decisions. This paper looks at several features of recently evolved federal controls over the use of roads and urban public transport assistance provided by the Commonwealth. It then briefly examines divergences between the investment patterns indicated as warranted by social cost benefit evaluations and that pattern resulting from Commonwealth legislation. The views expressed in this paper do not necessarily represent those of the Commonwealth Treasury.*

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INTRODUCTION

An increased Federal influence on land transport planning was a major objective of legislation providing Commonwealth financial assistance for roads and urban public transport under the Labor administration. This paper examines the effectiveness of the approval process instituted over the last three years and comments on the means used to allocate federal funds to particular projects. In this paper consideration is limited to Special Appropriations based on the Commonwealth's powers under Section 96 of the Constitution.

The amount of Federal financial assistance provided for land transport since 1973⁽¹⁾ has been based largely on investment analyses which have utilised discounted cash flow techniques, usually social benefit cost analysis (SBCA)⁽²⁾.

As assistance for roads and urban public transport (UPT) accounted for an estimated 24% of specific purpose assistance to the States for capital works in 1974/75⁽³⁾ such in-

1. Assistance provided under the terms of the Roads Grants Act 1974, National Roads Act 1974, Transport (Planning and Research) Act 1974, Urban Public Transport (Research and Planning) Act 1974, States Grants (Urban Public Transport) Act 1974, Appropriation (Urban Public Transport) Act 1974 and Appropriation Act (No.4) 1974/75.
2. See P.6 and Annex D "Economic Evaluation of Capital Investment in Urban Public Transport", Bureau of Transport Economics, June 1972; Chapter I "Report of the Commonwealth Bureau of Roads to the Commonwealth Government on the Grant of Financial Assistance by the Commonwealth Parliament to the States in Connexion with Roads or Road Transport During the Period 1969-1974"; and Chapter 2 "Report on Roads in Australia 1973" Commonwealth Bureau of Roads, Melbourne 1973.
3. Readers are referred to "Payments to or for the States and Local Government Authorities 1975/76 - 1975/76 Budget Paper No.7", AGPS Canberra 1975 for background material on Section 96 assistance to the States.

vestigations appear to be needed and are generally accepted as a substantial improvement on past practices.

In the case of roads⁽¹⁾ assistance, the Commonwealth Bureau of Roads (BOR) recommended a program of assistance derived from the extensive data input collected for the Australian Road Survey; in the case of UPT, assistance was provided to those projects which satisfied the SBCA criteria and certain other guidelines. The latter evaluations have been largely carried out by the Bureau of Transport Economics (BTE).

It is important to note at the outset the fundamental difference in the basis of determining the investment "needs" of roads and urban public transport. The BOR in assessing roads needs does not primarily come forward with a detailed program of road improvements but rather recommends a program of a certain size (in dollar terms) as being "warranted and feasible". On the other hand, the BTE's analysis of UPT projects concentrates on particular projects which are evaluated prior to being "approved"⁽²⁾. There is no overall assessment of UPT needs corresponding with the BOR's Australia wide assessment of roads investment needs and no BOR project by project evaluation of individual road projects of the type conducted by BTE in relation to UPT.

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1. The Commonwealth Aid Roads Act 1969 did to an extent draw on the road needs calculations of the BOR for the period 1969/70 to 1973/74 however the appropriations reflect both past practice (Commonwealth Aid Roads Act 1964) and 1969 BOR input.
 2. The approval conditions to be met under the roads and UPT assistance programs are outlined in the respective Acts.

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Associated with this increased reliance on economic evaluation in determining the warranted level of assistance since 1973 has been an increase in the degree of control sought by the central Government. The nature of this involvement was indicated in the opening Speech made by former Prime Minister Whitlam at the June 1973 Premiers' Conference.

"From now on, we will expect to be involved in the planning of the function in which we are financially involved. We believe that it would be irresponsible for the National Government to content itself with simply providing funds without being involved in the process by which priorities are set, and by which expenditures are planned and by which standards are met. We believe that the Government responsible for gathering and dispersing huge amounts of public money is obliged to see that the money is properly spent. We believe that most of the problems with which allocations from the National Budget are meant to deal cannot be confined to or defined by individual States. We believe that the provision of National Government assistance must be based on comprehensive information on needs and resources and expert analysis of that information - information I believe which should as far as possible be made public before decision".

FEDERAL PROJECT AND PROGRAM PLANNING AND APPROVAL

Introduction

Under the terms of the Roads Grants Act 1974, the National Roads Act 1974 and the Urban Public Transport Agreement

the Federal Government assumed a significant degree of responsibility and influence with regard to transport planning.

Administrative procedures under the current roads and UPT Acts strongly reflect the broad planning role for the Federal Government envisaged by Mr. Whitlam by way of procedures for project submittal, Commonwealth examination, and subsequent Commonwealth approval or rejection of State proposals. In the case of roads assistance, such comprehensive Federal oversight was a significant expansion of central control over that exercised by the Commonwealth under the Commonwealth Aid Roads Act 1969 and previous roads assistance Acts, while the UPT assistance program heralded for the first time a major provision of Commonwealth funds as one arm of the Labor Government's policy to improve the quality of city life (for a discussion of Labor's urban policies see Budget Paper No.8 - 1974/75). The UPT Acts provided for administrative procedures such as to ensure an all powerful role for the Commonwealth in determining the ultimate use of its funds.

Roads

On the question of the "need" for the involvement of the Australian Government, in the State road planning process, the Bureau of Roads stated in its 1973 Report on Roads in Australia (p. 253):

"It is because of the magnitude of the Australian Government's proposed financial contribution, as well as the clear national interest in many elements of the road system, that we have recommended much more involvement in physical matters than has so far been the case in the history of grants to the States for roads".

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The Bureau placed emphasis on conditions being attached to assistance provided for major urban arterial roads and national highways; the former to achieve a safe and efficient system which would meet the needs and preferences of the community and support overall urban strategies, the latter to create an interstate system to encourage trade, commerce, assist industry location, reduce transport costs and to aid tourism and defence programs.

Such suggestions of extensions of control were welcome to the new Government which showed itself ready to act in the general spirit of the Bureau's recommendations. This was one of the first major programs of Government expenditure to be reviewed by the incoming Government which took the opportunity to revamp the program in line with Labor philosophy. The Labor Party's enthusiasm for central control was not, however, shared by the Opposition parties who held the Senate majority and the roads Acts as ultimately passed represented a severe emasculation of the Bills as originally introduced for Parliamentary consideration but were, nevertheless, still a considerable inroad into the traditional State road planning and programming function.

The Commonwealth Aid Roads Act 1969 expired on 30 June 1974, but it was not until 18 July 1974 that the Government was able to introduce replacement roads legislation - the Roads Grants, National Roads and Transport (Planning and Research) Bills 1974. As a result of this hiatus, primarily caused by the double dissolution of Parliament, the Commonwealth Treasury had sought to institute interim roads payments to the States; (such arrangements were approved by the Treasurer on 15 July 1974).

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The passage of the Roads Grants Bill 1974 through Parliament coincided with and added to a period of considerable turbulence in Australian Parliamentary history, with the conflict on the roads legislation centering on the extent of federal planning power sought over the States.

In his Second Reading Speech (18 July 1974) Transport Minister Jones justified the proposed program approval arrangements (full submission of State programs of works for approval, and requirements for federal representation on State bodies responsible for programming and providing policy advice on matters relating to roads) on the grounds of achieving the development of the Labor Government's major transport goals.

Provisions which would have required the submittal of all State road projects (regardless of the source of finance and regardless of whether Commonwealth funds were used on the project or not) to the federal Minister for approval came under strong attack by the then Shadow Transport Minister, Mr. Nixon. As he put it (Hansard, 1 August 1974):

"The potential for delay, procrastination and argument before any road project can be put under way should be obvious to all.... These provisions create an impossible situation.the administrative work to send detailed programs to Canberra, to have them checked and approved and possibly argued about and then actual performance checked against the program, is an unwieldy and long and inefficient process.It is clear to see that the States are being forced into an impossible position with regard to roads, road construction, taxation of road users and the administration of their own works. This is a

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blatant attempt to ignore the constitutional responsibilities of different governments and to place even minor administrative decisions on all road matters in the hands of the public servants of Canberra....."

With its majority in the House of Representatives the Labor Government passed the roads Bills through that House on 2 August 1974 and in an effort to force the Senate to accept the Bills as passed by the lower House the Prime Minister and Minister for Transport threatened the withdrawal of the roads assistance interim financial arrangements. A "News Release" issued by Minister Jones on 8 August 1974 announced that if the Bills were not passed in the current session then there would be no alternative but to terminate interim financing.

Despite this threat the Senate on 16 August 1974 passed the Roads Grants Bill and incorporated amendments suggested by the Opposition parties. Faced with this determination the Labor Government backed down and decided to accept most of these amendments but sought to retain full financial and approval control over the urban arterials road category. The Senate accepted this and passed both major roads Bills on 17 September 1974.

It would be an understatement to say that the new federal transport planning and programming policies had got off to a very bad start. The Government had been defeated in its attempt to obtain the power to oversight and approve all State road projects, regardless of whether Commonwealth funds were used on the project or not; (although this universal power of approval was gained for the urban arterial roads category). Provisions which would have required repayment from the State to the Commonwealth of Commonwealth assistance in cases where

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States or local authorities had expended any monies on projects (other than for urban arterial roads) not included in the program of projects approved by the Minister for Transport were also rejected by Parliament. The Opposition further reduced the planning and programming influence sought by the Commonwealth by removing all reference to the Minister for Urban and Regional Development from the Act.

At the same time however there was general acceptance by the Opposition parties of the National Roads Bill 1974 under which approved projects for construction and maintenance on roads declared by the federal Minister for Transport as either national highways, or export roads or major commercial roads would be wholly financed from Commonwealth funds. The Government was successful in overriding a suggested amendment to the Bill which would have required the federal Minister to enter into agreements with the States when declaring these roads.

The States also showed a surprisingly favourable attitude to this legislation even though it represented a significant extension of federal authority. The Bureau of Roads had recommended that the Commonwealth meet 80% of national highway costs, had not suggested the commercial and export road category, and had recommended that all roads assistance be encompassed in one Act.

The National Roads Act 1974 must be seen in two lights - one in that it recognises the importance of a national roads network and seeks to coordinate this system across States and secondly, it represents an exercise in Federal/State muscle flexing of responsibility under the Constitution. The Constitution does not give federal Parliament specific road construction powers but does allow it to assume roads construction

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and maintenance responsibility for roads relating to the Territories (Section 122), to defence (Section 51(vi)) and to interstate and overseas trade and commerce (Section 51(i)). With these powers the Commonwealth could probably set up its own construction authority to do such works and this must remain as a potential threat to State Road Authority autonomy. Nevertheless under the National Roads Act 1974 the Commonwealth recognises the role of the State Road Authorities as the construction agency on works approved by the federal Minister.

The most notable example of the potential for the Commonwealth to intrude, under this Act, into State affairs concerned the proposed realignment of the Hume Highway in NSW between Goulburn and Albury. Prime Minister Whitlam seemed to treat this proposal of realignment as a further testing of the untried powers of the Constitution to declare, locate and possibly build "national" roads in the States, but the proposed realignment was strongly opposed by the NSW Government. In the event however the poor prospective economic return shown for this proposal, when evaluated by the BOR (1975), persuaded the Commonwealth Government not to proceed with its proposals to relocate and rebuild this section of the national highway network.

Comment

Although the existing roads Acts contain a considerable dilution of the extensive federal planning and programming powers originally sought by the Commonwealth it should be noted that no federal funds for roads (and transport planning and research) can be spent on projects which have not been approved by the Minister for Transport and that the Roads Grants Act 1974 empowers the Minister to penalise the States if there is any State or local government expenditure (from their own financial sources) on urban arterial roads which

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has not been approved by the Federal Government. The Minister also has the power to declare roads under the National Roads Act without consultation with the States and it would appear that the Commonwealth could seek to establish its own construction authority to execute works under this Act.

The powers assumed by the Federal Government have led to a cumbersome system of approvals under all roads Acts and such approvals do not appear to have achieved anything concrete. The Commonwealth Government did not accept (the apparently logical) Bureau recommendations to use the BOR as its expert body for examining State expenditure proposals. Instead it vested this power with the Department of Transport which did not have guidelines on how to assess State proposals nor, initially, sufficient staff to adequately process State programs.

The approval process has led to delays and uncertainties and has created a significant constriction on the orderly process of State road construction. Overall there is just no clear evidence to suggest either the federal erosion of planning and programming powers of the State Road Authorities has been warranted; or that the current Acts are achieving more desirable road expenditure practices than those which existed under the terms of the 1969 roads legislation, or whether there is justification in continuing with the instituted arrangements. This is particularly so when it is recognised that the Commonwealth provides something less than 40% of the total funds expended on roads and that, apart from Urban Arterials, the Commonwealth has no influence over where, and on what projects, the balance of the funds are expended.

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Urban Public Transport

The history and nature of the federal program of UPT assistance is, as stated previously, significantly different from roads. Commonwealth financial assistance for roads goes back to the 1920's while assistance for UPT commenced only in 1973.

The Commonwealth initiative in UPT actually dates from 1971 when the Australian Transport Advisory Council (ATAC) directed advisers to prepare as a matter of urgency, and with the assistance of the BTE, a report on the overall need for investment in UPT services and prospective sources of finance for this purpose in the years to 1979 (BTE 1972).

This Report was considered by ATAC in June 1972 and while no action arose directly out of that consideration the Report was subsequently the basis for election promises by then Prime Minister McMahon and Opposition Leader Whitlam.

These promises of improvements to public transport were only one part of the campaign to attract the urban voter through federal funding of activities which had previously been left almost entirely to the responsibility of the States. Federal assistance was also promised for such urban activities as sewerage, land commissions, growth centres, housing and education.

Presumably, the rationale for extension of Federal Government influence to these new areas of responsibility related to political gain rather than economic rationality because (with the exception of public transport) as far as we are aware there had been no examination of the economics of any of these initiatives.

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Even the 1972 BTE Report, on which both parties based their promises relating to UPT, was not an "in depth" examination of public transport needs and/or options and the BTE were quick to point out the severe limitations of its report as a basis for initiating a large scale program of assistance.

The Report states (at page 4) that the BTE

"has refrained specifically from comment on the administration of urban public transport, transport planning, pricing policies, urban development policies, decentralization and transport technology"

and that

"this does not imply that the BTE considers the existing institutional arrangements, pricing policies or urban development strategies to be optimal".

In addition, Victoria had refused to cooperate in supplying data and information to the BTE and the remaining States were poorly placed to provide well thought out lists of projects which could be readily implemented and justified in terms of their entire UPT needs.

Upon election however, the Labor Government proceeded, notwithstanding these qualifications, on a program to provide capital funds by way of interest free non-repayable grant to the States for expenditure on Commonwealth approved UPT projects.

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The Urban Public Transport Agreement⁽¹⁾ (UPTA) negotiated with all States required the States to provide information on a formidable number of aspects of a project before it was "considered" for assistance. A project eligible for assistance under the terms of the Agreement was to be an essentially self-contained investment directed toward improving or extending existing services, providing new services, improving operational or administrative efficiency or increasing patronage. In submitting proposals States were expected to explain how the project related to overall regional transport and land use plans and details of environmental studies or assessments that had been made of the project. Proposals were also to have been referred to the appropriate State regional planning authority for consideration.

Although the UPTA gave the Commonwealth access to this information in regard to projects which were submitted the use that the Commonwealth could make of such data was limited because the terms of the Agreement did not provide for any Commonwealth initiatives. The Commonwealth had no power under the Agreement to vary States' plans (short of refusing to approve the project), to change State priorities as between projects, or to initiate projects. The Commonwealth "planning and programming" power was therefore severely limited by the Agreement, and as such must call into doubt the bureaucratic processes pertaining to the approval (and post approval) controls wielded by the Commonwealth.

Furthermore as the Agreement encompassed provision of capital assistance only; ignoring issues such as pricing policies and operating practices and other matters relating

1. See Schedule, States Grants (Urban Public Transport) Act 1974.

to the operation of each facility, the Commonwealth role in total public transport policy is therefore at best shallow. In addition, as the Commonwealth did not have full control over all State UPT projects, this allowed the States significant scope to proceed with uneconomic projects entirely at their own expense (by relieving State budgets of the need to fully fund approved projects).

The repercussions of concentrating on capital requirements can be seen in the policy conflicts which subsequently arose. At the same time as Prime Minister Whitlam was exhorting State Premiers to reduce the losses on their business undertakings his Government was supporting projects which, on the basis of BTE analyses, and State pricing policies were not financially viable. Of course this is not necessarily a bad thing per se, but the assistance program has ignored all questions of operating subsidies, deficits, capital replacement provisions, pricing policies and the like.

It is obvious that transport planning should comprehend a much wider range of issues than capital investment and economic viability on SCBA criteria if it is to be effective. The UPT scheme introduced under the Labor Administration concentrated to a great extent on the capital backlog aspect with minimal concern for the whole range of other matters which influence the effectiveness of transport plans.

Despite these drawbacks the UPT Agreement, by which capital assistance was provided to the States, did emphasise the need for careful planning of individual projects. The Commonwealth Government was not to be liable for cost increases due to faulty planning; master plans and specifications had to be submitted to the Commonwealth for approval, and \$1 million was provided under the Urban Public Transport (Research and

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Planning) Act to assist the States with planning and research. Federal controls under the Agreement were designed to ensure that financial planning was adhered to. However the fact that monies available to the States are tied to particular projects has to date not allowed States the flexibility to switch funds between projects according to their own priorities or according to prevailing circumstances. In the event this restriction has been one of the major reasons why expenditure on this program has been consistently below the Commonwealth Government's budget estimates (which in turn are based on the estimates provided by the States).

COMMONWEALTH EXPENDITURE

	Initial Estimate (at Legislation) \$m	Budget Estimate \$m	Actual Expenditure \$m
1973/74	31.09	31.09	NIL
1974/75	50.31	67.49	45.26
1975/76	27.67	40.30	n.a.

A practical example of the effects of this tying of monies to particular projects was the situation which arose in the 1975/76 Budget context. If projects had proceeded on schedule it would have been necessary for the Australian Government to budget for expenditure of \$27.67 million on continuing work on projects previously approved (excluding cost escalation). However due to delays in the completion of projects some \$40.3 million has had to be set aside for this work (excluding cost escalation) and this higher than expected carry-over figure limited the extent to which the Commonwealth could support new projects in the 1975 Budget. In fact no new projects were approved and while some States were unable to fund much

needed new rolling stock/bus acquisition from Commonwealth grants in 1975/76 they did have Commonwealth funds available for (probably) lower priority projects approved in previous years.

Comment

There are then, as we see it, three major reasons why the Federal planning and programming controls for UPT have been limited in their effectiveness. The first reason is that the scheme implemented was aimed at only one area of urban transport need - capital - and failed to adequately comprehend other factors such as pricing and operating policies.

Secondly, the Agreement negotiated with the States did not allow the States sufficient flexibility in their use of available funds with the result that not all available funds have been used and that States have been locked into their priorities of 1973 and 1974 in 1975 and 1976. Further the haste in implementing the scheme seems to have led the States to be frustratingly over-optimistic in their estimates of ability to complete works on schedule, and to give little thought to priorities between years.

Also the States seem to have been involved in too many projects with the result that a number of them are well behind schedule and imposing increasing demands on available funds with the public suffering as a result of both the fund dispersions and slow progress.

Finally, the assistance program was introduced in order to achieve certain federal objectives. However the Agreement has not allowed the Commonwealth to specify projects itself or to force the pace on approved projects submitted by

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the States. These limitations in effect leave the Commonwealth with very little effective planning and programming power.

From the federal viewpoint it can be concluded that under the current UPT assistance Agreement, the federal planning and programming responsibilities are of limited use, and have probably added to the delays in State implementation of approved projects. It is evident that the Commonwealth should either seek to extend its powers over the State or alternatively to retreat considerably in its functions of control and leave the States with the responsibility of improving their respective UPT networks. In this context it will be interesting to observe how the present government applies its "Federalism" policy in this area.

IS SCBA OF USE AS A PLANNING TOOL?

Roads

The BOR in its 1973 Report outlined the evaluation processes followed in reaching its recommended roads assistance program for the five year period commencing 1974/75. The BOR claimed that its recommendations would, if implemented, lead to a rational allocation of resources in and to the road construction industry.

Our claim is that in practice the recommendations of the Bureau were so altered by Government in their implementation as to effectively rupture any nexus between the Bureau's "warranted and feasible program" and the actual implementation of works by the State Road Authorities.

The warranted (on SCBA grounds) and feasible (on financial and resource availability) program recommended by

the BOR suffered many changes before emerging as the Roads Grants Act 1974, the National Roads Act 1974 and the Transport (Planning and Research) Act 1974. Readers familiar with the current roads legislation and BOR 1973 Report will be aware of the differences between the recommendations of the Bureau and the Acts as they emerged (e.g. Commonwealth assistance at a lower level than that recommended, multiple Acts rather than the single Act recommended, the inclusion of the Export and Major Commercial Roads program which was not assessed by the Bureau, the exclusion of federal assistance for roads maintenance (other than for Rural Locals, where expenditure on construction and maintenance cannot be separated, and National Highways), the inclusion of the beef roads category against Bureau advice, the dropping of equalisation and supplementary grants for Western Australia and Tasmania and so forth). Such decisions are obviously within the prerogative of the Commonwealth Government to make even though in some cases, there is an obvious wedge driven between the rational program as defined by the Bureau and the federal assistance program.

Two further matters give us reason to question the usefulness of the BOR evaluation as a planning tool so far as Australian Government assistance for roads is concerned.

First, the Australian Road Survey, which is the basis of the Bureau's 1973 input for its evaluation model, was used to identify almost a quarter of a million potential projects. By necessity this analysis must be "broad brush" by nature and must call into question the precision of the BOR recommendations and the authority they command. This problem aside, the BOR evaluation process also involves a scheduling process whereby:

"all road projects were arranged in descending

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order of priority according to their worth as determined from our social and economic evaluation procedures" (P.46 - BOR 1973 Report).

It is our concern that, despite this implied priority which should be placed on the scheduling of potential works, there is no formal mechanism whereby public investment for individual road works is guided by this merit list. This seems to us to be a serious logical deficiency in the formulation of roads assistance, that is to expend considerable time and effort in preparing a ranked list of needed works, based on SCBA priority ranking, and then to ignore this ranking when dispersing Commonwealth road grants.

Secondly, the SCBA procedures of the BOR (after due consideration of feasibility of work constraints) provide a desirable distribution of expenditure across road categories. The following Table shows the divergences between BOR distributions and the Commonwealth grant distribution (at the time of legislation).

It is evident that there is a degree of arbitrariness in formulating the BOR recommended Commonwealth road grant as seen by the divergence in fund distributions for each category between the first two columns. There was an even greater degree of arbitrariness exercised by the Commonwealth in reaching its grant distribution (compare second and third columns). These divergences are too significant to be ignored.

Comment

Despite claims by successive Commonwealth Governments as to the development of a rational roads assistance program based on the results of SCBA, the divergences between

SELECTED COMPARISONS OF ROAD FUND
DISTRIBUTIONS - STATES ONLY (% OF TOTAL)

	1974/75 to 1978/79 Warranted and Feasible Program (all Govt. sources)	1974/75 to 1976/77 Aust. Government Recommended (by BOR) Grant	Actual Grants 1974/75 to 1976/77 as at 1974
	%	%	%
Nat. Highways (Const.)	10.6	20.9	29.3
Nat. Highways (Maint.)	1.1	2.8	3.5
Export & Major Comm. Roads	-	-	3.6
Urban Arterials	<u>26.5</u>	<u>35.3</u>	<u>32.3</u>
Sub Total (a)	38.2	59.0	68.7
Rural Arterials	16.8	18.2	11.7 (b)
Rural Locals	13.7	15.3	14.2
Urban Locals	6.2	1.5	2.7
MITERS	2.0	2.7	2.7
Road Maintenance	23.1	3.3	-
Total	100.0	100.0	100.0

(a) Since the Export and Major Commercial Roads category was in fact basically evaluated as urban arterial roads, a better comparison is made at this degree of aggregation.

(b) Includes Beef Roads - (not recommended as a separate category by BOR).

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the recommendations of the Commonwealth Bureau of Roads and the provisions of the legislation must cast strong doubts on the economic and social merit of federal roads assistance, and possibly the need for such extensive studies by the BOR.

It must also be said that the planning and programming controls exercised by the Commonwealth (except in the case of 100% financing) must also be deficient. First, the portion of expenditure within a category financed by the Commonwealth is somewhat arbitrary. Secondly, little purpose seems to be achieved in relation to overall roads expenditure (from a Commonwealth viewpoint) if only certain projects are examined at the Federal level. It would appear more logical to seek full control over a given road category (as is the case with national roads and urban arterial roads) or to relinquish all such decisions to the States. The halfway house situation which now exists, allows the States to finance any roads (but the above two categories) which are not approved by the Commonwealth. Admittedly the Commonwealth can claim that its roads assistance is being monitored, but the full expenditure on roads by all levels of Government can still be at odds with that pattern of expenditure indicated by SCBA.

Urban Public Transport

An examination of the civil and construction works evaluated by BTE in its 1972 Economic Evaluation of Capital Investments in UPT reveals the following breakdown of costs and benefits. (1)

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1. Data relates to projects (1) and (21) evaluated in the Report. Projects (1) and (2) are not counted separately but regarded as part of (3), similarly (4) and (5) are regarded as part of (6).

(b) Includes Beef Roads - (not recommended as a separate category by BOR).
 -- comparison is made at this
 -- evaluation.

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\$M DISCOUNTED AT 7%

Capital Cost		118.219
Operating Savings	48.350	
Benefits to Existing Passengers	103.434	
Benefits to Generated Passengers	15.957	
Benefits to Converted Passengers	98.982 (a)	
Benefits to Remaining Road Users	19.860	286.583

(a) Includes \$33.94 million accruing to one project.

The benefits which "justify" the projects examined in the Report are diverse in nature and accrue to different sectors of the community. It is inevitable given, first, the nature of benefits and, secondly, the pricing practices and policies which have been allowed to develop in Australia that the undertaking of these projects would have added substantially to the annual subsidy required for public transport operators notwithstanding that the projects were warranted on SCBA criteria.

An examination of each category of "costs" and "benefits" shows why this must be so.

Capital Costs are met by the State or Commonwealth Governments by way of loans or grants. While the financial implications of providing assistance by way of loan funds rather than grant moneys are obviously significant, the foregone return on grant moneys is just as significant a cost to the community as is the cost of loan repayments and interest to the transport authority. Under the terms of the UPTA there is an explicit capital subsidy of two-thirds of the cost of each approved project; a non-recovered public cost and a subsidy

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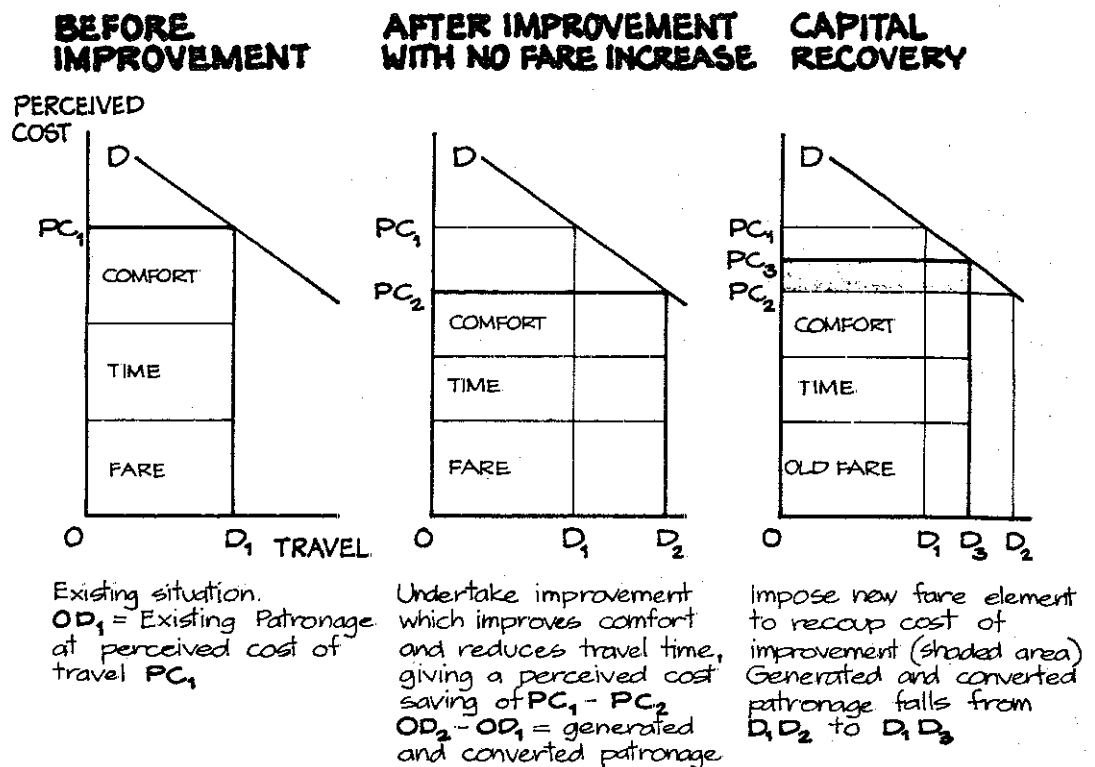
to UPT users.

Turning to the benefits, the largest of these are "Benefits to Existing Passengers". Such benefits comprise primarily improvements in comfort and savings in time. It would appear that no attempt has been made to recoup the cost of capital works giving rise to these improvements although implicit in the evaluation process is the assumption that beneficiaries are willing to pay for such improvements. In that the existing passengers receive these benefits without being required to pay for them they are in the nature of private windfall gains, not generating any benefits to the public transport operator or the non-users of the improvements.

Looking at "Benefits to Generated and Converted Passengers" it is generally impossible to recoup the full cost of providing these benefits (again largely time and comfort improvements) by way of higher fares. Once a higher fare is charged a proportion of the benefits disappear as the fare increase reduces the perceived cost differential between the base and project facility. This is illustrated in the following simplified diagrams. (Page 24)

The third diagram shows that if an attempt is made to recover the costs of the improvements (or part thereof) (increasing the perceived cost to users above PC2 and perhaps returning to the original position PC1, but with a different combination of perceived costs) then the generated and converted patronage which would have been achieved at the old fare level cannot be achieved.

The actual position which will be reached will depend on the slope of the demand curve and the level of fare increase necessary to recoup the cost of the investment. It



is obvious, however, that all the potential generated and converted benefits (and related patronage level) will not be achieved if an attempt is made to recover investment costs. It is thus impossible to both pass on the maximum benefit to users and for the operator to recoup the full cost of providing the benefits.

Turning to "Remaining Road User Benefits", in the absence of any form of road pricing it is impossible to recoup any contribution towards the capital cost of public transport improvements by charging for these benefits. These benefits are therefore again in the nature of private benefits.

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In the BTE "corridor evaluations" the cost of freeway construction saved (by conversion of travellers to public transport) is included as a benefit. This "saving" assumes that at a certain level of congestion road capacity would have been increased rather than the peak allowed to expand. In reality however decisions on the expansion of road capacity (particularly by way of freeway construction) are determined by a number of factors (including Government policy and the availability of finance) and in these circumstances the supposed "savings" are at best hypothetical and, we would consider, would not be significantly dependent on public transport improvements. It is therefore suggested that these "savings" should not be regarded as benefits in the same sense as other benefits having a more direct causal relationship with the public transport improvement.

Of all the categories of benefits only "Operating Savings" result in savings to the operator. All other categories of benefits accrue to individuals and while the assumption is made that individuals are willing to pay for the benefit in some cases it is not possible to charge for it and in others the SCBA merit will suffer drastically if any attempt is made to incorporate a cost recovery assumption in the analyses. Thus the undertaking of many of these projects would result in an increased subsidy from the taxpayers as a whole to the users of the facility.

Comment

It is apparent then that while UPT projects may appear to be worthwhile investment on SCBA criteria the benefits which justify the projects would in many cases accrue to a particular section of the community which is not contributing proportionately more toward the cost of the project than the community as a whole. The undertaking of improve-

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TOWARDS AN INTEGRATION OF MACRO TRANSPORT MODELLING AND MICRO-ECONOMICS

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ABSTRACT: *The paper is addressed to some problems in the use of macro transport models (large network models) for social cost-benefit analysis. After outlining the components of such models and some desirable properties for them, the welfare-theoretic basis for evaluation is sketched and the consumers' surplus approach extended to include the perceived/resource cost distinction. Issues arising from this distinction are discussed. A model of demand for trips is proposed and some results of an application given. Deficiencies in macro transport models are considered and an approach to land-use interaction suggested. Finally a number of aspects on the interface between operations research and economics are suggested as requiring further work.*