

Transport and the Commonwealth Grants Commission

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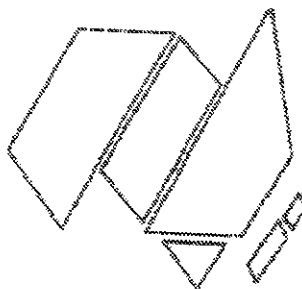
Abstract:

The paper describes the transport assessments (covering urban transit, non-urban passenger and freight services, and road maintenance) made by the Commonwealth Grants Commission in its 1993 Report on General Revenue Grant Relativities. It summarises the role of the Commission in Commonwealth - State finances, and calls for assistance by transport researchers in the task of identifying and measuring factors affecting the provision of public transport and road maintenance services

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1. INTRODUCTION

The Commonwealth Grants Commission (CGC) is a statutory authority whose main task is to recommend to the Commonwealth Government the shares for each State and Territory (hereafter referred to jointly as the States) of the pool of general revenue and hospital funding assistance. The Commission plays no part in determining how large the pool is — only its distribution.

General revenue assistance to the States (ie the money they can spend however they wish) for recurrent purposes amounted to about \$18 000 million in 1992-93. In theory, the Hospital Funding Grants of nearly \$4 000 million for that year are specific purpose payments but, in practice, this amount is added to general revenue before the application of the Commission's recommendations.

The Commission's recommendations are discussed at the annual financial Premiers' Conference when the Commonwealth makes an offer to the States on how much it is prepared to transfer and what the distribution between the States should be. The distribution within the Commonwealth's offer is usually based on the recommendations of the Commission.

The present system is that every five years there is a major review of the method of deciding the basis of distribution of general revenue funds. Between these reviews, there are annual recalculations to take account of more up-to-date population and other data. The **Report on General Revenue Grant Relativities 1993**, published in March, was the result of a quinquennial review and took nearly two years to complete. Unless the system is changed at the July 1993 Premiers' Conference, the methodology decided upon in that report will be used until 1998-99.

Recurrent grants are a very important source of State funds; in 1991-92, the States in total depended on transfers from the Commonwealth for 42 per cent of their recurrent revenue, with the less populated States relying on this funding for up to 80 per cent of recurrent outlays.

In all the Commission's inquiries, the guiding principle is what is known as fiscal equalisation. It is mentioned in the legislation under which the Commission operates and is included in the Terms of Reference for each inquiry. The recent report (CGC (1993)) states the principle of fiscal equalisation as being that:

each State should be given the capacity to provide the same standard of State-type public services as the other States, if it makes the same effort to raise revenues from its own sources and conducts its affairs with an average level of operational efficiency.

It is important to emphasise two things about this process:

- it is equity driven, in that it attempts to place all States on a level playing field; and

- it assumes an average efficiency level, so that if any service is provided at above-average efficiency, the State concerned gets to keep the ensuing benefits.

The application of the principle necessitates the study of differences in need and cost structure experienced by States in the provision of services, and, on the revenue side, differences between States in their revenue raising capacities. It is States' capacities to provide services, not their performance, with which the Commission is concerned. In summary, what we have in Australia is a system of general revenue grants based in part on an assessment of the specific functions of States to determine why they need to spend more or less to provide the average level of services.

2. THE CGC'S TRANSPORT ASSESSMENTS

Urban Transit, Non-urban Transport - Freight, Non-urban Transport - Passengers, and Road Maintenance are four of the State government services considered by the Commission. Together, they make up over 10 per cent of total State recurrent expenditures. In these, as in all other areas of State activity, an assessment is made of what each State would need to spend if it were to provide the standard (or average) level of service at the standard level of efficiency. The assessments are therefore based on what is actually happening in Australia, not on what the Commission or any other organisation thinks should be happening.

The assessments of States' relative expenditure requirements are done by what is called the factor assessment method. Under this process, disability factors (ie the influences beyond a State's control which result in it having to spend more or less than the Australian per capita average to provide the standard level of service) are quantified for each State, compounded and applied to the standard (or average) level of per capita expenditure. The result for any particular State is what it needs to spend to provide the standard level of service if it operates at the standard level of efficiency — what the Commission calls the standardised expenditure.

Disability factors can be anything affecting the level of demand (eg the numbers of people that require a particular service), or anything affecting the cost of meeting that demand (eg it might cost more to provide a service in country areas than in the city).

In the case of non-urban freight services, the Commission decided that no factors should be assessed; as a result, for this function, all States (with the exception of the ACT, which was judged to have no need to provide freight services) were set at the same level of net expenditure.

The disability factors applied in the other transport assessments cannot be influenced by the actions of the State Governments. This conforms with the Commission's objective of making the grant share received by any State independent of that State's actions. What a State actually spends on a service does not affect its grant share.

In deciding what disability factors to use, as in all aspects of the inquiry, the Commission consulted frequently with the States and others in conferences and

elsewhere. Submissions were invited from anyone interested, and a total of 90 was received. These, together with transcripts of the eight conferences held (including one specifically on transport matters) and working papers detailing the assessments, are available to anyone who wishes to see them.

Significance of the Assessments

One way of looking at the importance of these assessments for State general revenue grant funding is shown in Table 1, which gives the standard (or average) per capita expenditure in 1991-92 on each of the three functions of Urban Transit, Non-urban Transport - Passengers, and Road Maintenance, and the Commission's assessment of what proportion of that expenditure each State would need to spend if it were to provide the average level of service at the average level of efficiency. For example, Victoria was judged to need to spend 121 per cent of the Australian average to provide urban transit services, but only 91 per cent of that average for non-urban passenger services, and 94 per cent for road maintenance.

Table 1 Relative Costs of Providing the Average Level of Services, 1991-92

	Urban Transit	Non-urban Transport - Passengers	Road Maintenance
Australian average per capita net expenditure	\$150.00	\$30.83	\$76.32
	%	%	%
New South Wales	112	100	96
Victoria	121	91	94
Queensland	66	111	86
Western Australia	78	99	157
South Australia	105	103	99
Tasmania	54	124	90
Northern Territory	45	118	250
Australian Capital Territory	98	56	36
Australia	100	100	100

Source: CGC (1993)

It is this type of data that is frequently used by State Treasuries and others when the annual debate about funding for the next year is taking place. This is not the purpose of the assessments but it does give States some appreciation of how they compare with others in terms of both levels of service and cost of provision. The work of the Victorian Commission of Audit is a recent example of the use made of the CGC's findings; its report highlighted the difference between Victoria's actual transport deficit and that determined by the CGC as being necessary to provide a standard level of service.

Another indicator of the importance of transport activities is the impact of the assessments on the distribution of the total grants pool in 1992-93. This is shown in Table 2.

Table 2 Impact of Transport Assessments on Estimated State Grants, 1992-93

	\$m	\$pc
New South Wales	105.3	17.56
Victoria	119.5	26.72
Queensland	-129.8	-42.36
Western Australia	-50.4	-30.12
South Australia	11.0	7.49
Tasmania	-26.7	-56.38
Northern Territory	-11.7	-68.70
Australian Capital Territory	-17.1	-57.49
Amount redistributed	235.8	13.39

Source: CGC calculation.

Table 2 indicates that, because of the assessments the Commission makes of States' transport requirements, New South Wales, Victoria and South Australia receive about \$235 million more in funding and the other States a commensurate amount less. This illustrates that the importance of transport assessments on the distribution of general revenue grants is considerable, and I am sure the amount of money involved more than justifies the effort States make in assisting the Commission and preparing arguments to justify a change in the assessments. Note, however, that there is no requirement that these funds be spent on transport — the grants are general purpose funds which can be spent in any way a State wishes.

It might also be noted that the figures in Table 2 are the net effect of excluding all four transport categories, masking movements in individual categories which, as seen in Table 1, often go in different directions for individual States. For example, the exclusion of Urban Transit alone results in a redistribution of over \$275 million, \$150 million towards Victoria, but that State 'loses' some of this when Non-urban Passengers and Road Maintenance are also excluded.

The two most important transport assessments, Urban Transit and Road Maintenance, are discussed further below.

3. URBAN TRANSIT ASSESSMENT

In the 1993 Review, a factor assessment was made for Urban Transit for the first time. Previously, the assessment started from actual net expenditures, with adjustments being made to remove the effects of identified policy differences between the States. This method was discontinued because it was found too difficult to measure policy effects,

and because it was thought that the 'onus of proof' should be shifted to those who claim to have reasons for incurring above-average costs

The assessment for 1991-92 is shown in Figure 1

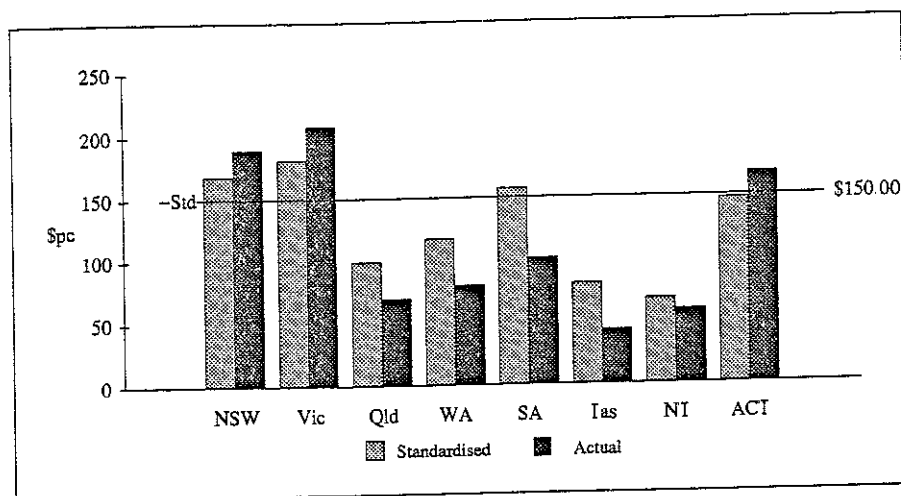


Figure 1 Urban Transit: Actual, Standard and Standardised Net Expenditure, 1991-92

The urban transit category was defined to include the net operating expenditure (including debt charges and superannuation but excluding depreciation payments) of all State operated rail, bus (excluding Burnie operations in Tasmania), tram and ferry services. Also included were any State subsidies paid to local government or private operators in the capital cities and in Newcastle, Wollongong, Geelong, Ballarat, Bendigo, Gold Coast, Townsville, Toowoomba, Cairns, Rockhampton and Launceston. These cities were selected because they had, at the time of the 1986 Census, urban populations in excess of 50 000 persons. The Commission considered that the transport task in those cities was essentially no different to that in the less populous capitals such as Hobart and Darwin.

Only the transport task within these provincial cities was included in the assessments. Any commuter traffic into those cities from outlying districts was ignored as it was likely to be minor and difficult to measure. Travel between the capital city metropolitan area (defined to include major commuting areas) and the other cities included in this assessment was treated as non-urban. In line with the category's coverage, the relevant population factor (the primary demand factor) was based on the populations of the capital cities and the urban centres of 50 000 persons or more, expressed as a percentage of total State population. On this measure, Victoria, South Australia and the ACT were recognised as having greater relative per capita demand for urban transport services.

The commuter population for each capital city was defined to include the following areas:

Sydney: north to Gosford/Wyong, south to Wollongong, west to Katoomba;

Melbourne: statistical division plus Geelong;

Brisbane: west to Ipswich, north to Caboolture, south to Beenleigh; and

Perth, Adelaide, Hobart, Darwin and Canberra: statistical divisions.

The Commission assessed that New South Wales, Victoria and South Australia needed to spend more per capita than the other States to provide the same level of urban transit services. As indicated in Table 1, for every dollar per capita of expenditure (net of passenger charges) spent in Australia as a whole on these services, it was found that New South Wales needed to spend \$1.12, Victoria \$1.21 and South Australia \$1.05. At the other end of the scale, the Northern Territory was found to need to spend just \$0.45.

In addition to the relevant population, six disability factors were used to arrive at the overall findings: age/sex composition; input costs; interest rates; socio-economic composition; urbanisation; and vandalism and security.

The age/sex composition factor took account of the demand for public transport by secondary school children, who on average made up 20 per cent of passengers. Victoria, Tasmania and the ACT, the States with the highest proportion of urban population in the 12 to 18 age group, were assessed as having a disability for this reason.

Input costs factors allow for differential wage and price costs faced by States which are beyond their control. Private sector costs were used as an indicator, and New South Wales and the two Territories were found to be at a disadvantage, while Tasmania had the lowest cost structure.

The interest rate disability factor recognised the disadvantage of the smaller States in the rates charged on their transport borrowings, and was set in line with the disabilities set for debt charges on general government borrowings.

Socio-economic composition factors allowed for the demand for transport services by concessional travellers and were based on the number of welfare beneficiaries, within the defined urban areas and eligible for public transport concessions, weighted by their average level of patronage (18.5 per cent). Queensland, South Australia and Tasmania had small disabilities on this measure, while the ACT had an advantage.

The urbanisation factors, based on a measure of urban density, were the subject of much debate in the review. A number of studies were cited by those in support of an urban density factor. That most commonly referred to was Newman and Kenworthy (1989), which examined data for selected North American and Australian cities and found that density was a major determinant of demand. New South Wales conducted its own

study and found that, although there are many influences, only urban density and the level of vehicle ownership were of significance.

Other States maintained that routes in high density inner suburban areas, while having lower operating speeds and requiring more vehicles, had better cost recovery ratios because of higher passenger turnover. Some said that low density cities should be assessed as having disabilities, because of higher operating costs and lower revenue capacity.

It was decided to include a factor for urban density, resulting in substantial disabilities being assessed for New South Wales and Victoria and substantial advantages being assessed for the other States, with the exception of South Australia which had a density marginally above the average. The data are shown in Table 3.

The Commission's premise is, as in all other expenditure assessments, that the greater the demand for the service, the greater the cost to the State in providing that service. In the case of Urban Transit, some recovery of costs is made but the experience of all transport authorities in Australia is that, after taking into account debt charges and government operating subsidies, they incur net losses on all their operations. It follows that, in the present Australian environment and other things equal, the larger the urban population the larger will be the overall loss incurred by urban transit services. The question under debate, however, was whether, for any given urban size, a higher density of urban population adds further to net loss per head of population. In other words, should population density be recognised as a separate disability factor over and above the size of the relevant urban population?

The Commission considered urban density to be a factor affecting demand and thus, *prima facie*, there was a case for assessing a disability factor. Because urban density brings some revenue advantage through the fares paid, and thus recovers part of the transport cost, the factor (as with all others in this assessment) was applied to net expenditures.

One other factor was assessed, representing another aspect of urbanisation, this time on the cost side. A small disability was included for the two largest States in recognition of their greater problems with vandalism and security, and their consequent need to spend more combating the problems involved.

The application of disability factors to net expenditures represented a departure from the Commission's normal procedure of using gross expenditures, with a separate calculation of revenue capacities. In this case, it was considered that a net assessment was correct because of the offsetting revenue advantages and because it was thought to be a simpler presentation.

Other factors were suggested during the inquiry, to take account of differences in administrative scale economies; vehicle ownership; road congestion; availability and cost of car parking; levels of private transport operations; physical environment; and climate. These were rejected by the Commission as being either too greatly influenced

by State policy, as in the case of car parking and private services, or too difficult to measure, as in the case of physical environment and climate.

Table 3 Urban Density

	Population, 1986	Area (sq.kms)	Density
Sydney	2 989 070	175 558	17.03
Newcastle	255 787	24 413	10.48
Wollongong	206 803	19 253	10.74
Total NSW	3 451 660	219 224	15.74
Melbourne	2 645 484	164 852	16.05
Geelong	125 833	8 868	14.19
Ballarat	63 802	6 050	10.55
Bendigo	53 944	6 786	7.95
Total Victoria	2 889 063	186 556	15.49
Brisbane	1 037 815	94 588	10.97
Gold Coast	163 332	12 344	13.23
Cairns	54 862	7 504	7.31
Toowoomba	71 362	7 151	9.98
Townsville	96 230	14 604	6.59
Rockhampton	54 362	5 154	10.55
Total Queensland	1 477 963	141 345	10.46
Perth	895 710	83 774	10.69
Adelaide	917 000	66 359	13.82
Hobart	127 106	11 761	10.81
Launceston	66 286	9 065	7.31
Total Tasmania	193 392	20 826	9.29
Darwin	72 937	(a)	9.29(a)
Canberra	247 424	24 088	10.27

(a) Darwin set equal to Hobart and Launceston.

Source: ABS: Persons and Dwellings in Legal Local Government Areas, Statistical Local Areas and Urban Centres/(Rural) Localities. catalogue nos 2462.0-2469.0; and unpublished area data.

The New South Wales assessment can be used to illustrate how all the factors are drawn together in the final assessment. As noted earlier, that State was assessed as having to spend \$1.12 per capita for every dollar spent in Australia on average. This comes about because New South Wales has large demand for transport services, as measured by

urban density and its slightly higher proportion of population living in urban areas, and it faces disadvantages on the cost side in its vandalism/security problems and its relatively high wages structure. Offsetting this to some extent are the State's relatively low numbers of secondary school children and pensioners, and its capacity to borrow at lower interest rates. These factors interact, with the net result being the assessment of a 12 per cent disadvantage.

4. ROAD MAINTENANCE ASSESSMENT

In the 1993 Review, road maintenance expenditures were assessed for the first time. Their exclusion from previous reviews reflected the fact that road construction and maintenance, as well as motor taxation, did not normally come within State revenue budgets. As well, there was a distinct financial arrangement with the Commonwealth for roads funding. Neither of these conditions was judged to apply now: the boundaries between roads budgets and revenue budgets have become increasingly blurred; and the Commonwealth has said that part of the general revenue pool will in future be identified as relating to roads. To be consistent with the treatment of other State provided transport services, road maintenance was included in the Commission's assessments.

Maintenance expenditures by States on all roads were included in the assessment, regardless of which tier of government (Commonwealth, State or local) had responsibility for the roads.

The first hurdle to be overcome was to identify recurrent expenditures (the terms of reference required capital expenditures to be excluded); after consultation with the States, a suitable definition was reached and, although not without problems, the Commission considered it allowed a sufficient distinction between recurrent and capital expenditures. A relevant point here was that differences in classification between States did not affect the disabilities assessed, only the weighting given to them. States did not benefit from any overstating of their maintenance expenditures.

A particular problem was the lack of specified purpose within the Commonwealth specific purpose payments for roads. Although described officially as capital grants, States can and do use some of the funds for recurrent purposes. The Commission, to avoid any State's policy having an effect on the outcome, assumed an average proportion of each State's road grants was a recurrent grant.

The assessment for 1991-92 is shown in Figure 2.

The Commission assessed Western Australia and the Northern Territory as needing to spend substantially more per capita than the other States to provide the same level of service.

Six disability factors were recognised: administrative scale; dispersion; input costs; land rights; road length; and road usage. The first four are factors of general application to most State expenditures and a general method was developed to determine their impact. In broad terms, administrative scale factors were used to allow

for the extra costs of the less populous States not able to take advantage of economies of scale related principally to policy development and central administration.

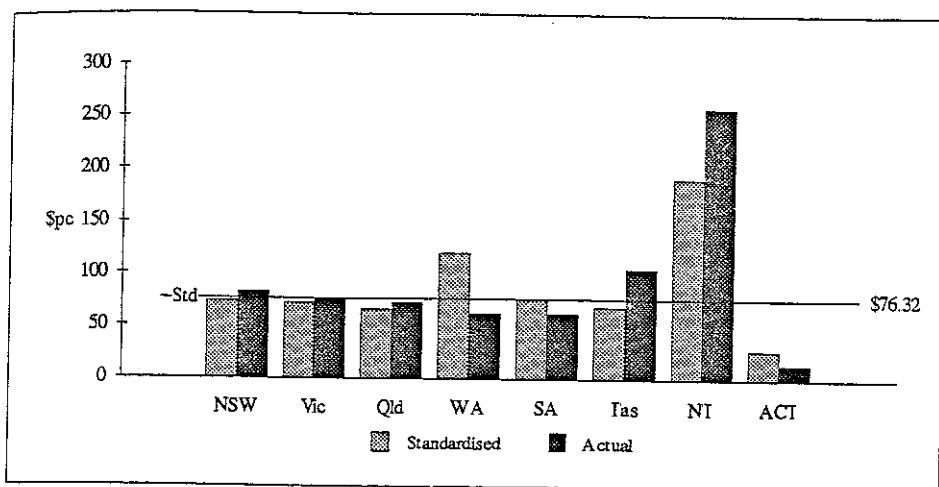


Figure 2 Road Maintenance: Actual, Standard and Standardised Net Expenditure, 1991-92

Dispersion factors recognise that the provision of government services to a dispersed population costs more than to a compact urban population through, for example, telephone, travel, freight, and staff transfer and locality costs. In the roads category, Queensland and the Northern Territory were found to face the greatest disability on this account, and naturally enough the ACT was seen as having the biggest advantage.

As for Urban Transit, the input costs factors allowed for differential wage and price costs faced by States which are beyond their control. New South Wales and the two Territories were found to be at a disadvantage, while Tasmania had the lowest cost structure.

The land rights factor is of minor importance. It recognises the costs imposed on the Northern Territory by Commonwealth legislation in this field.

The remaining two disability factors are specific to the roads assessment and are the ones driving that assessment. They were the subject of much debate with the parties to the inquiry. I will outline in some detail how these factors were derived.

The Commission accepted the argument made by several States that maintenance costs were related more to road length than usage but that both influences were relevant; from NRTC (1992) data, weights of 60 and 40 per cent respectively were used in the assessment process.

Some States had concerns about the extent of policy influence in a road length factor, but most supported its assessment. The Commission used the length of arterial roads expressed in per capita terms, as shown in Table 4.

Table 4 Arterial Road Length Per Capita by State

State	1991-92 population	Arterial road length kms	Road length per capita kms/000 pop	Raw road length factor
New South Wales	5 941 347	30 559	5.14	0.8418
Victoria	4 439 597	22 618	5.09	0.8338
Queensland	3 001 711	19 500	6.50	1.0632
Western Australia	1 650 741	18 014	10.91	1.7859
South Australia	1 454 168	9 734	6.69	1.0955
Tasmania	469 091	2 866	6.11	0.9999
Northern Territory	167 984	2 849	16.96	2.7756
ACT	292 362	284	0.97	0.1590
Australia	17 417 001	106 424	6.11	1.0000

Source: Australian Road Research Board (1992).

On these figures, the Northern Territory and Western Australia faced particular disadvantages, while the ACT had a large advantage because of its low length of roads. However, the Commission accepted State arguments that road maintenance expenditures were also affected by differences in surface type, road width and the degree of responsibility for local roads. Adjustments were made to the raw road length factor in Table 4 to take account of these influences.

The adjustment for surface type was made by applying a weight to sealed roads. All urban arterial roads and a standard proportion (to remove policy influences) of rural arterial roads were assumed to be sealed, based on data from NAASRA (1984). The Australian average proportion (over 75 per cent) was applied to each State's rural arterial road length to obtain notional sealed rural arterial road lengths.

Data from Mulholland (1989) indicated that the difference between maintenance costs for urban sealed roads and non-urban unsealed roads was in the order of 2:1. Accordingly, a weighting of 2 was applied to sealed arterial roads (urban and notional rural) and a weighting of 1 was applied to unsealed rural roads. Table 5 shows the basis of the adjustment for surface type. It shows that the ACT had a disadvantage in road

maintenance of over 11 per cent compared to the rest of Australia because of its high level of sealed roads.

Table 5 Calculation of Surface Type Adjustment

State	Weighted total arterial roads kms	Weighted compared to actual arterial road length	Surface type factor
New South Wales	54 928	1 7974	1.0006
Victoria	39 021	1 8050	1.0049
Queensland	34 812	1 7852	0.9938
Western Australia	32 385	1.7978	1 0008
South Australia	17 439	1.7916	0.9974
Tasmania	5 161	1 8006	1.0024
Northern Territory	5 059	1 7755	0.9884
ACT	568	2.0000	1.1134
Australia	189 373	1.7963	1.0000

Source: Australian Road Research Board (1992)

An adjustment for road width was undertaken using unpublished average number of lanes data obtained from the ARRB. These data were supplied for urban and rural arterial roads. Notional average numbers of arterial lanes were calculated, and then discounted by 50 per cent to remove inherent policy influences in the number of lanes. The road width adjustment is shown in Table 6. Again, the ACT was found to be at a disadvantage, from a maintenance point of view, because of its greater number of lanes.

The Northern Territory argued that its greater degree of responsibility for local roads was an influence on its road maintenance expenditures. An adjustment was made to take account of this greater responsibility based on the Territory's above-standard expenditure on local roads, due to the lack of a local government sector, during the period 1977-78 to 1986-87; a factor of 1 5000 was assessed by judgement.

Table 7 shows how the road length factor was calculated after adjustments for surface type, road width and local government.

Table 6 Calculation of Road Width Adjustment

State	Number of lanes - arterial roads	Raw road width factor	Discounted factor
NSW	2.6	1.0833	1.0417
VIC	2.6	1.0833	1.0417
QLD	2.4	1.0000	1.0000
WA	2.1	0.8750	0.9375
SA	2.3	0.9583	0.9792
TAS	2.4	1.0000	1.0000
NT	1.6	0.6667	0.8333
ACT	3.3	1.3750	1.1875
AUST	2.4	1.0000	1.0000

Table 7 Calculation of Road Length Factor

State	Raw road length factor	Surface type adjustment	Road width adjustment	Local government adjustment	Combined factor(a)	Road length factor(b)
NSW	0.8418	1.0006	1.0417	0.9952	0.8732	0.9239
VIC	0.8338	1.0049	1.0417	0.9952	0.8685	0.9211
QLD	1.0632	0.9938	1.0000	0.9952	1.0515	1.0309
WA	1.7859	1.0008	0.9375	0.9952	1.6676	1.4006
SA	1.0955	0.9974	0.9792	0.9952	1.0647	1.0388
TAS	0.9999	1.0024	1.0000	0.9952	0.9975	0.9985
NT	2.7756	0.9884	0.8333	1.4928	3.4130	2.4478
ACT	0.1590	1.1134	1.1875	0.9952	0.2092	0.5255
AUST	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

(a) Compounding the previous four columns. (b) Combined factor weighted by 60 per cent

Measurement of the road usage factor was somewhat more straightforward. Data on average vehicle kilometres of travel (AVKT) in ARRB (1992) were used as the basis of the road usage factors. Arterial AVKT data were identified and separated from combined national highway-arterial data. A weight of 10 was applied to heavy vehicle AVKT data and a weight of 1 to other vehicle AVKT data to allow for the greater damage caused to roads by heavy vehicles, based on information supplied by the Northern Territory. The road usage factor calculation is provided as Table 8 and shows that New South Wales, Victoria and Western Australia were at a disadvantage of about 5 per cent on this account.

Table 8 Calculation of Road Usage Factor

State	Average vehicle kilometres travelled		Weighted AVKI mill veh kms	Weighted AVKI per capita	Road usage factor(a)
	Heavy vehicles mill veh kms	Other vehicles mill veh kms			
NSW	4 555	30 556	76 109	12.81	1.0513
VIC	3 005	27 109	57 154	12.87	1.0535
QLD	1 105	10 674	21 724	7.24	0.8549
WA	916	12 005	21 162	12.82	1.0516
SA	881	6 189	15 002	10.32	0.9634
TAS	219	1 763	3 953	8.43	0.8969
NT	36	366	726	4.32	0.7522
ACT	57	1 370	1 941	6.64	0.8338
AUST	10 774	90 031	197 770	11.35	1.0000

(a) Factor weighted by 40 per cent.

Source: Australian Road Research Board (1992).

The States suggested a variety of other disabilities for inclusion in the assessment. While there was general support for a physical environment factor, the Commission was unable to find a reliable non-policy measure which would account for all the interstate differences suggested. It also thought that environmental disabilities are more likely to lead to cost differences in the construction of roads rather than their maintenance.

To illustrate how all the factors are drawn together in the final road maintenance assessment, we will take the example of Western Australia. It was assessed as having to spend \$1.57 per capita for every dollar spent in Australia on average. This comes about because of Western Australia's relatively high length of arterial roads, its above average

road usage and its disadvantages on the cost side in administrative scale and dispersion. Offsetting this to some extent is the State's relatively low wage structure. These factors interact, with the net result being the assessment of a 57 per cent disadvantage.

More details of this and other assessments are available in the working papers produced as part of the 1993 Review. They can be obtained from the Commission upon request.

5. SOURCES OF DATA

In both the assessments discussed in detail in this paper, the Commission found that either there was a lack of published source material, or the existing data were out of date. This was especially apparent in the Urban Transit comparison, where studies on the factors affecting demand for public transport were not easy to find, either by parties making submissions or through the Commission's own efforts. It seems that there is a need for some up-to-date Australian studies of these factors, particularly the effect of urban size and form and of the social dysfunction which is a byproduct of large urban areas.

Similarly, any light which can be thrown on factors affecting the cost of provision of transport or road maintenance services would be welcome. The assistance of those involved in transport as researchers or providers is sought.

6. CONCLUSION

In its 1993 Report, the Grants Commission assessed disability factors for the first time for both Urban Transit and Road Maintenance. The resulting assessments of such complex areas of service provision are bound to have shortcomings and each has been nominated by the Commission as a priority for further research. The importance of the assessments for State providers is evident, and a call is made to them and to other transport researchers for assistance in this task.

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