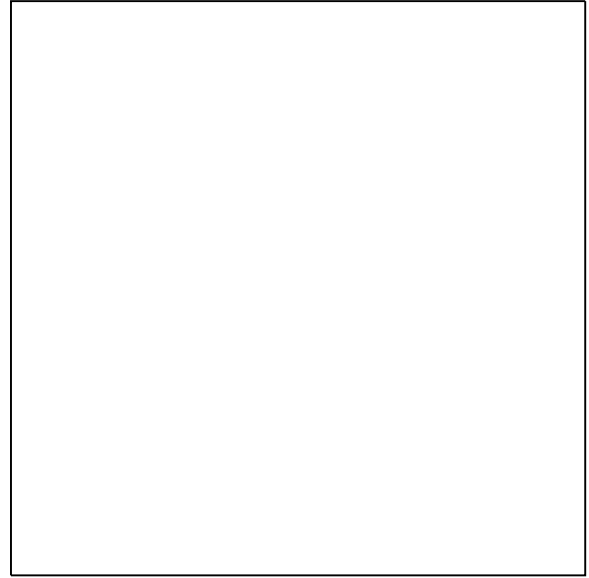


**Department of
Treasury**



Our File No: 05/7235

Mr Alan Morris
Chairman
Commonwealth Grants Commission
Cypress Court
5 Torrens Street
CANBERRA ACT 2612

Dear Mr Morris

REVIEW OF STATE ARTERIAL ROADS DATA

Thank you for your letter of 5 June 2006 seeking the ACT's views on work undertaken by the Commission aimed at obtaining comparable and consistent State arterial roads data.

I would like to thank the Commission for the work undertaken to date on this difficult matter. As you would be aware, the ACT has been concerned with the quality and comparability of roads data given the ambiguity that exists in how States compile, classify and measure this data.

The Commission's conclusion that some roads data are unsatisfactory given that it *'creates an opportunity for changes in State policy to impact directly on the GST distribution'* is supported and comes as no surprise. It reinforces the view by some States and the Australian Bureau of Statistics (ABS) that there is *'the potential for bias arising because of various interpretations of roads classifications and the lack of a standard road classification'*. Data may be further biased through State / Local roads alliances which result in the State funding of local roads or vice versa.

This is an important finding for the ACT given that as the State with the smallest road network, it is particularly susceptible to the policies of those States with large road networks that have the capacity to influence grant shares.

While the work proposed to address data problems is welcomed, it should not be up to the Commission to develop a national data collection framework. Notwithstanding the efforts of Commission staff, progressing this work is not supported as it will not necessarily address the

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outstanding interpretational, quality and comparability issues and the potential for ‘double dipping’. In effect, the work ‘bolts-onto’ the National Association of Australian State Road Authorities (NAASRA) guidelines, and as such has drawbacks as underlying deficiencies with the NAASRA system are not sufficiently addressed. Additionally, decisions made by the Commission in the Staff Discussion Paper do not appear to be based on technical analysis supported by road policy analysts.

Other drawbacks, such as the additional costs imposed on both the States and the Commission, and the 2010 Review Terms of Reference (ToR) requirement for simplification, which may lead to this data not being used in just a few years’ time, reinforce this view. The ACT is also concerned that there will be no ownership by States of the Commission’s newly designed data framework, and as such, there is little incentive for States to provide accurate data, particularly if it differs from the way in which States classify and fund their road networks.

The alternative approach that would see the Commission removing road length from the assessment and replacing it with a more policy-neutral indicator has some attraction, albeit, transitory in nature. By implication, road use would also need to be removed because its derivation depends upon road length. Such an approach is consistent with the 2010 Review ToR requirement to address assessments that are unreliable due to unsatisfactory data or methods.

How this might be developed further would require investigation. As a starting point, suggested alternative policy-neutral measure/s that could be developed by the Commission and the Working Party are provided at **Attachment A**.

Should this work result in acceptable alternative datasets not being identified, the ACT as a minimum, would request that the Commission discount (by say 50%) the road length and use factors consistent with the 2010 Review assessment guidelines in the context of the 2007 Update and all future Updates pending the development of a final framework for adoption as part of the 2010 Review. This latter approach would at least partially offset the effects of policy influences on the roads assessment.

In the context of the 2010 Review, should the Commission decide that road length and use are the measures to be used to assess States’ relative road maintenance costs, the ACT would support the Commission’s work being used to assist with a complete review of the NAASRA road classification system which has not been updated for over 35 years.

In this context, we reiterate our view that concerns with State and local data will continue to exist until the existing NAASRA classification system is overhauled, consistent with the NAASRA review committee finding that:

“...the aim of developing a classification system that was truly comparable over time, and presumably among States, would not be achieved without a review of the NAASRA definitions. In particular, it said that the definitions would need to be more specific and should include guidelines to assist in their interpretation.”¹

Any review should entail a more rigorously defined NAASRA road classification system with more specific NAASRA definitions, coupled with guidelines to assist in their interpretation, as recommended by the NAASRA review committee.

We agree that an independent body should conduct such an examination, and suggest that an organisation such as ARRB Group Ltd has the expertise and capability to do this. It could work

¹ Commonwealth Grants Commission, *Roads Data Project – Agenda and Briefing Material for the Meeting of 29 August 2005*, Attachment 2.

in conjunction with Austroads which has the membership to deliver the data and information required.² The work could also be undertaken for local roads.

Indeed, the ACT is on the record calling on the Commission in the context of the current review into local roads funding to reference the following:

“The ACT supports the tabling of a report that recommends further developmental work on common road and maintenance classifications; improving road data such as length and use; and road expenditure data with a view to progressing a more sophisticated model in the future. The report is an opportunity for the Commission to recommend, in the strongest terms, that governments should address this data problem. The lack of a clearly defined and accepted road classification system, supported by a financial management framework has to date, and will continue to hamper sound policy decision--making”.

The contact officer for this matter is Mr Andrew Philip, Manager, Commonwealth-State Finances, telephone (02) 6207 0018.

Yours sincerely

Paul Grimes
Under Treasurer
July 2006

² NAASRA was replaced by Austroads and is comprised of the eight State roads authorities, Australian Local Government Association, the Australian Department of Transport and Regional Services, and Transit New Zealand.

SUGGESTED ROAD POLICY-NEUTRAL INDICATORS

Introduction

Consistent with the Commission's finding that data on road length and road use are policy influenced and unsatisfactory, the ACT considers that independent data should be used to measure road length and use factors.

In the main, ABS data is suggested as it represents an independent, robust and reliable source of data vouched for by the Australian Government statistical expert body.

Suggestions of policy-neutral measures are provided in the following paragraphs. Derived factors could also be based on an amalgam of a number of these indicators. These could also be used as the basis of determining broad indicators for the 2010 Review aggregation exercise.

A number of the following suggestions align fairly well with the current factors assessed for States for road length and road use.

Road use

The ACT notes that road use as a measure of road maintenance disabilities as reported by State road authorities is policy influenced as the use calculation relies on road length:

$$\text{Annual Vehicle Kilometres Travelled} = \text{average annual daily traffic} * \text{road length}.$$

A policy neutral indicator is thus required. Alternatively, vehicle use data provided by an independent body might be acceptable.

1. ABS number of vehicles registered

Use ABS number of vehicles registered data for rigid trucks, articulated trucks and buses (which recognises that these heavy vehicles cause the most damage to the road surface, consistent with the Commission's current roads assessment).

The heavy vehicles registered measure represents a reasonable proxy for the amount of travel undertaken in a State by heavy vehicles. A State with a relatively higher number of heavy vehicle registrations could be expected to have a relatively higher amount of heavy vehicle travel.

It should be noted that a majority of the heavy vehicle traffic in the ACT comprises NSW registered vehicles. The ACT, unlike other jurisdictions, does not have any other significant transport modes such as rail and lacks an industrial base, thus relying on a majority of its goods being transported in by predominantly interstate registered heavy vehicles. In addition, registrations do not take into consideration the Defence Force and Commonwealth Government vehicles fleet that are used within the ACT and registered elsewhere.

The Commission may therefore decide to adjust the ACT's heavy vehicle registrations upwards by 12%³ to reflect the high use of the ACT local road network by NSW residents, given that internal cross-border effects that were captured in the road use measure are not reflected in the registrations.

³ The 2001 Census of Population and Housing shows that of the 164,027 persons employed in the ACT 19,671 (12%) commute to Canberra each day.

Factors based on Heavy Vehicles Registered

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Rigid Trucks	108186	88206	75297	46045	25548	9431	2337	3654	358704
Articulated trucks	15425	20207	14059	7990	6093	1486	248	689	66197
Buses	19022	13007	13510	7593	3650	1752	828	2366	61728
Total	142633	121420	102866	61628	35291	12669	3413	6709	486629
Total per capita	21134.1	24309.3	26202.1	30900.3	22956.7	26182.4	10516.3	33366.2	24077.6
<i>Indicative Factor</i>	<i>0.87775</i>	<i>1.00962</i>	<i>1.08823</i>	<i>1.28336</i>	<i>0.95344</i>	<i>1.08741</i>	<i>0.43676</i>	<i>1.38577</i>	<i>1.00000</i>

Source: Table 4, Motor Vehicle Use, Survey of Motor Vehicle Use, 9208.0, 31 October 2004, page 12.

2. ABS total kilometres travelled

Use ABS total kilometres travelled data for rigid trucks, articulated trucks and buses (which recognises that these heavy vehicles cause the most damage to the road surface, consistent with the Commission's current roads assessment).

The data could be discounted to offset the impact of travel on national highways and for cross-border related activity (kilometres attributable to State heavy vehicles registered in a State that travel interstate). Interstate activity is relatively small with the ABS indicating that for heavy vehicles total kilometres travelled interstate was just 14.7% of kilometres travelled intrastate.⁴

Factors based on Heavy Vehicle Kilometres Travelled

	NSW million	Vic million	Qld million	WA million	SA million	Tas million	ACT million	NT million	Aust million
Rigid Trucks	2517	1749	1801	826	446	177	64	59	7639
Articulated trucks	1379	1772	1435	617	584	142	27	58	6014
Buses	603	343	511	231	133	42	32	73	1968
Total	4499	3864	3747	1674	1163	361	123	190	15621
Total per capita	666.6	773.6	954.4	839.3	756.5	746.1	379.0	944.9	772.9
<i>Indicative Factor</i>	<i>0.86249</i>	<i>1.00091</i>	<i>1.23487</i>	<i>1.08596</i>	<i>0.97881</i>	<i>0.96527</i>	<i>0.49035</i>	<i>1.22258</i>	<i>1.00000</i>
<i>Discounted factor 50%</i>	<i>0.93124</i>	<i>1.00046</i>	<i>1.11744</i>	<i>1.04298</i>	<i>0.98941</i>	<i>0.98264</i>	<i>0.74517</i>	<i>1.11129</i>	

Source: Table 10, Business Kilometres, Survey of Motor Vehicle Use, 9208.0, 31 October 2004, page 18.

3. Auslink approach - total vehicle distance travelled and total heavy vehicle distance travelled

As part of determining each State's share of the AUSLINK maintenance funding, DOTARS uses a formula that in part comprises total vehicle distance travelled and total heavy vehicle distance travelled. This could be used as the basis of determining a road use factor.

⁴ Derived by dividing total interstate kilometres travelled (1,997 million) by intrastate kilometres travelled (13,622 million), Table 6, Area of Operation, Type of vehicle, ABS, Survey of Motor Vehicle Use, 9208.0, 31 October 2004, page 14.

Factors based on Heavy Vehicle Distance Travelled - Business Kilometres

	NSW million	Vic million	Qld million	WA million	SA million	Tas million	ACT million	NT million	Aust million
Heavy vehicles only	4499	3864	3747	1674	1163	361	123	190	15621
All vehicles	22071	16655	15033	7223	5099	1686	680	667	69114
Total	26570	20519	18780	8897	6262	2047	803	857	84735
Total per capita	3936.9	4108.1	4783.6	4461.0	4073.4	4230.4	2474.2	4262.2	4192.6
<i>Indicative Factor</i>	0.93902	0.97985	1.14099	1.06402	0.97158	1.00903	0.59015	1.01660	1.00000
<i>Discounted 50%</i>	0.96951	0.98993	1.07049	1.03201	0.98579	1.00452	0.79507	1.00830	

Source: Table 10, Business Kilometres, Survey of Motor Vehicle Use, 9208.0, 31 October 2004, page 18.

Road length

1. Policy neutral derived road length.

As stated by the Commission, policy impacts of the States are being captured in the road length data. One way around this is to use the Australian average lane-km per capita and apply this to each State's population (component A) and the Australian average road length per '000 sq km (component B) and apply this to each State's area.

This approach would capture the main drivers of road length, that is, population/density (urban effect) and the geographic size/dispersion (rural effect) of a State.

This approach is policy neutral and is similar to other approaches adopted by the Commission that are premised on inherent State characteristics. For example, Australian average utilisation rates are applied to population groups for the impatient assessment.

Average utilisation rates are used as it represents a policy neutral measure. Similarly, in the following approach, average road lengths are used to overcome State policy effects.

Factors based on policy neutral derived road length

	NSW lane-km	Vic lane-km	Qld lane-km	WA lane-km	SA lane-km	Tas lane-km	ACT lane-km	NT lane-km	Aust lane-km
Urban Road Length Measure									
2004 Review arterial rd length	72045	47280	41018	43587	20149	5503	1969	7213	238764
2004-05 population	6748966	4994789	3925873	1994414	1537285	483875	324545	201072	20210819
Aust avg. rd length per capita									0.012
Policy neutral rd length (A) (i)	79730.1	59006.8	46379.0	23561.4	18161.0	5716.3	3834.1	2375.4	238764.0
Rural Road Length Measure									
2004 Review arterial rd length	72045	47280	41018	43587	20149	5503	1969	7213	238764
Area ('000 sq km)	800.7	227.8	1730.3	2527.5	984.1	68	2.4	1348	7688.8
Rd length per '000 sq km									31.1
Policy neutral Rd length (B) (ii)	24864.5	7074.0	53731.8	78487.7	30559.7	2111.6	74.5	41860.1	238764.0
Policy neutral Rd length (A+B)	104595	66081	100111	102049	48721	7828	3909	44235	477528
Policy neutral Rd length pc	0.01550	0.01323	0.02550	0.05117	0.03169	0.01618	0.01204	0.22000	0.02363
<i>Indicative Factor</i>	0.65593	0.55994	1.07927	2.16560	1.34136	0.68470	0.50972	9.31117	1.00000
<i>Discounted by 50%</i>	0.89678	0.86798	1.02378	1.34968	1.10241	0.90541	0.85292	3.49335	1.00000

(i) Calculated as Australian average road length per capita multiplied by the relevant State population.

(ii) Calculated as Australian average road length per '000 sq km multiplied by the relevant State area.

Road use and road length

1. Petroleum use data

Fuel consumption for on-road use encapsulates both the average distance travelled and the average traffic volume. Data could be collected for all vehicles, or for heavy vehicles only, to capture both road use and road length effects.

The following figure and table highlight the fuel consumption data used by the Commission in the 2004 Review⁵ for the Subsidies - Petroleum Products assessment.

Figure 1 FUEL CONSUMPTION BY STATE – LITRES PER CAPITA, OCTOBER 2000 TO OCTOBER 2001

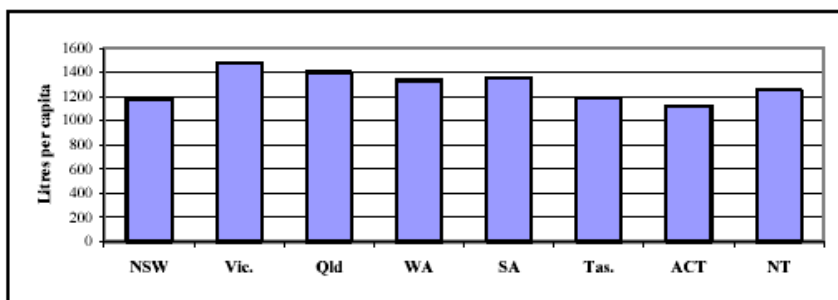


Table 3 TOTAL FUEL CONSUMPTION, BY TYPE OF FUEL, 12 MONTHS ENDED 31 OCTOBER 2001

State/Territory of Registration	Leaded Petrol (millions of litres)	Unleaded Petrol (millions of litres)	Total Petrol (millions of litres)	Diesel (millions of litres)	LPG/CNG/dual fuel (millions of litres)	Total fuel types (millions of litres)	Litres per capita
New South Wales	565	4 942	5 506	1 918	409	7 833	1 179.5
Victoria	549	4 110	4 659	1 653	870	7 182	1 479.3
Queensland	573	2 781	3 354	1 661	126	5 141	1 400.6
Western Australia	299	1 335	1 635	868	56	2 559	1 334.1
South Australia	245	1 039	1 284	518	256	2 058	1 355.2
Tasmania	102	296	398	159	7	565	1 194.1
ACT	30	260	290	45	26	361	1 118.8
Northern Territory	10	105	114	129	7	250	1 250.4
Australia	2 373	14 867	17 240	6 951	1 757	25 948	1 323.9

Source: ABS 9210.055.001 Survey of Motor Vehicle Use Australia – Data Cube – 2001.

The following factors derived from this data could be used as the basis of determining road length and road use, or combined with other pertinent measures.

Factors based on fuel consumed – all vehicles

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Millions of litres of fuel used per capita	1179.5	1479.3	1400.6	1334.1	1335.2	1194.1	1118.8	1250.4	1323.9
<i>Indicative Factor</i>	0.89093	1.11738	1.05793	1.00770	1.00854	0.90196	0.84508	0.94448	1.00000
<i>Discounted factor 50%</i>	0.94546	1.05869	1.02897	1.00385	1.00427	0.95098	0.92254	0.97224	1.00000

(i) Fuel consumed calculated derived using ABS Survey of Motor Vehicle Use data as outlined by the Commonwealth Grants Commission in its 2004 Review Working Papers.

⁵ Commonwealth Grants Commission, *Report on State Revenue Sharing Relativities*, Working Papers Volume 5, 2004 Review, Page 398.

Alternatively, a factor based on diesel fuel and LPG/CNG/dual fuel (the main fuels used by heavy vehicles) might be used as this would proxy heavy vehicle average distance travelled and the average traffic volume (which recognises that heavy vehicles cause the most damage to the road surface, consistent with the Commission's current roads assessment).

Factors based on fuel consumed for heavy vehicles only

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Diesel	1918	1653	1661	868	518	159	45	129	6951
LPG/CNG/dual fuel	409	870	126	56	256	7	26	7	1757
Total	2327	2523	1787	924	774	166	71	136	8708
Millions of litres used per capita	350.4	519.7	486.8	481.7	502.2	350.8	220.0	680.2	444.3
<i>Indicative Factor</i>	<i>0.78867</i>	<i>1.16966</i>	<i>1.09577</i>	<i>1.08423</i>	<i>1.13024</i>	<i>0.78964</i>	<i>0.49526</i>	<i>1.53101</i>	<i>1.00000</i>
<i>Discounted factor 50%</i>	<i>0.89434</i>	<i>1.08483</i>	<i>1.04789</i>	<i>1.04211</i>	<i>1.06512</i>	<i>0.89482</i>	<i>0.74763</i>	<i>1.26551</i>	<i>1.00000</i>

(i) Fuel consumed calculated derived using ABS Survey of Motor Vehicle Use data as outlined by the Commonwealth Grants Commission in its 2004 Review Working Papers.

Alternatively, a factor based on the GST legislation [*A New Tax System (Commonwealth-State Financial Arrangements) Act 1999*] which includes State petroleum revenue replacement payment shares used to determine each State's share of the petroleum revenue replacements payments pool might be used as the basis of determining a road length / use factor. The shares reflect revenue forgone based on petroleum consumption.

Factors based on State petroleum revenue replacement payment shares

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
RRP - petroleum share (i)	0.30039	0.20153	0.19593	0.17118	0.07549	0.02453	0.01291	0.01804	1.00000
1999-00 population share	0.33870	0.24760	0.18550	0.09780	0.07890	0.02480	0.01650	0.01020	1.00000
<i>Indicative Factor</i>	<i>0.88689</i>	<i>0.81393</i>	<i>1.05623</i>	<i>1.75031</i>	<i>0.95678</i>	<i>0.98911</i>	<i>0.78242</i>	<i>1.76863</i>	<i>1.00000</i>
<i>Discounted factor 50%</i>	<i>0.94345</i>	<i>0.90697</i>	<i>1.02811</i>	<i>1.37515</i>	<i>0.97839</i>	<i>0.99456</i>	<i>0.89121</i>	<i>1.38431</i>	<i>1.00000</i>

(i) RRP – petroleum share as outlined in *A New Tax System (Commonwealth-State Financial Arrangements) Act 1999* No. 110, 1999, Part 4 Grants to the States, Division 2 Other Grants, Section 16, page 18.