AUSTRALIAN CAPITAL TERRITORY

SUBMISSION TO THE COMMONWEALTH GRANTS COMMISSION'S COMMISSION POSITION PAPER 2008/25: *Roads*

January 2009

Introduction

The 2010 Review has been run as an iterative process between the Commonwealth Grants Commission (the Commission) and the States and Territories (the States) over the course of the past four years. As part of this process the ACT has provided a number of submissions in response to the Staff and Commission Discussion Papers, incorporating subsequent multilateral and bilateral discussions with Commission staff and other States. These submissions outlined the ACT's position as to the validity of the conceptual case behind a number of assessments and the proposed assessment methodologies.

It is noted that in some instances the position adopted by the Commissioners, as detailed in the latest Commission Position Papers, is at odds to those of the ACT. In the interests of brevity the ACT has not sought to reiterate the entirety of its previously stated position unless new data or new thinking has been applied. In this light, a lack of objection does not imply support where such support has not been previously stated.

Sealed/Unsealed Road Weights

The proposal to differentially weight unsealed and sealed rural roads is supported.

Given the use of the mapped rural road network provides States with a 'policy neutral' rural road length, conceptual difficulties arise in applying observed unsealed rural road proportions.

The Australian Roads Research Board (AARB) data (as outlined in the Commission Position Paper) found that roads tend to be sealed for safety reasons once traffic volumes rise above a minimum level. It follows that those States with large rural road networks in remote SARIA regions would be expected to have, on average, a lower level of traffic volume on these arterial roads (outside major network corridors) and thus are likely to have a greater proportion of unsealed roads. Data shown in tables below shows that although rural roads represent 83% of the entire road network, they only carry 21.6% of the total VKT.

A potential policy neutral method would be to use the proportion of distance of mapped roads in SARIA regions classified remote or very remote to determine the differential needs of the States.

Road Use Factor

The ACT supports the proposal to base the road use factor on traffic volume and heavy vehicle use, however, the Survey of Motor Vehicle Usage (SMVU) data are not fully fit-for-purpose and the method requires two adjustments to resolve conceptual inaccuracies in the data:

- one in regard to the need to adjust road use to capture the additional costs of highly trafficked roads; and
- the other to adjust for the fact that the SMVU data include VKT on local roads, which leads to the GST pool being equalised for relative local road use which is outside the Commission's Terms of Reference.

Additional costs of highly trafficked roads

The Commission has stated that the traffic volume disability will *'recognise the effect on road maintenance expenses of the use of roads by all vehicles and the higher traffic management costs when more vehicles use roads.'*

The ACT notes that SMVU VKT measure reflects the volume of each State's traffic relative to the national average. However, it does not recognise the differing costs of road maintenance within urban areas driven by different traffic levels.

As a broad indicator of road use, the SMVU data are not fully fit-for-purpose given it does not break down usage between rural and urban areas. This causes an overestimation of the impact of road use in jurisdictions with relatively large rural road networks. A State with a large rural road network will have a lower level of road use per kilometre of road than a condensed urban jurisdiction.

However, the road use factor, as it is currently formulated, assumes that all States have equidistant road lengths and thus that all States have the same proportion of roads that are heavily trafficked (eg. a count of 40,000 AADT [1] and above). Under the proposed disability a marginal VKT on a heavily trafficked urban road is given the same weight as a marginal VKT on a rarely trafficked rural road. This does not reflect reality and overstates the impact of road use in jurisdictions with large rural networks.

For example, assume two States with equal populations (State A and State B) have the same level of *road use* as measured by the proposed VKT and ESA measures (say 10,000 VKT each,) but different levels of arterial road length (State A has 500km while State B has 5,000km). Under the proposed road use assessment, both States will be assessed as having the same level of road use and thus an equal road use cost disability. However, even though the disabilities are equal, the roads in State A have ten times more traffic volume than State B and would require greater levels of safety expenditure, rehabilitation and routine maintenance per kilometre of road.

Putting aside travel interstate effects, the use of urban and rural roads can be ascertained from the ABS' SMVU data. As shown in the following table, 78.4% of VKT occurs in urban areas and just 21.6% in rural areas.

Total kilometres travelled, State/territory of registration, by type of vehicle, by area of operation

State	Capital city	Other urban areas	Other areas
NSW	35,581	11,778	12,506
Vic	36,900	8,326	9,804
Qld	17,379	16,336	10,195
WA	16,161	2,435	5,551
SA	9,233	0	4,282
Tas	2,031	1,526	1,256
ACT	2,569	0	0
NT	873	0	764
Aust	**120,727**	**40,400**	**44,358**
Proportion	**58.8%**	**19.7%**	**21.6%**

Australian Bureau of Statistics, Survey of Motor Vehicle Use: Data Cubes, Australia, 12 months ended October 2007, Table 3. Released at 11:30 am (Canberra time) Mon 15 Sep 2008.

The significance of the urban travel indicates that there is a need for the Commission to adjust for this if equalisation is to be achieved.

[1] Average Annual Daily Traffic (AADT).

The NTC report details that: *"a greater level of effort [i.e. expenditure] is needed for roads with higher volumes of traffic."* [2] This aligns with data from the AARB detailing the cost of pavement preservation relative to traffic volumes. As shown in the below table, there is a positive relationship between road preservation costs and level of AADT.

AUSTRALIAN ROAD RESEARCH BOARD ANALYSIS OF VICTORIAN ROAD PRESERVATION COSTS

Road Type	Road Preservation Costs ($/km)	Weight (Rural natural surface as base)
Rural		
Rural Roads: natural surface	$300	1
Rural Sealed Roads: AADT <100	$2,000	6.7
Rural Sealed Roads: AADT 100-500	$4,000	13.3
Rural Sealed Roads: AADT 500-1000	$4,900	16.3
Rural Sealed Roads: AADT >1000	$5,400	18.0
Urban		
Urban Sealed Roads: AADT<500	$2,700	9.0
Urban Sealed Roads: AADT 500-1000	$4,000	13.3
Urban Sealed Roads: AADT 1000-5000	$5,500	18.3
Urban Sealed Roads: AADT >5000	$9,000	30.0

Source: Review of Asset Preservation Costs: ARRB for the Victoria Grants Commission, April 2003, page 11.

In the 2004 Review the Commission recognised the impact that high traffic volumes have on the costs of road maintenance and applied the urbanisation disability based on the proportion of a State's road network with AADT above 40,000. The ACT proposes that a similar disability be applied to the Traffic volume factor and the Heavy Vehicle use factor to reflect additional costs incurred by those States with above average usage of their road network due to factors outside their control.

The NTC technical report does not attempt to capture the cost impact of road use on rural road networks relative to urban road networks, or roads of differing traffic volumes, as its objective is to measure the impact of differential vehicle types on the aggregate Australian road network, not the differential State expenditure disabilities owing to the use of State based road networks.

The NTC does recognise the differential impact of road use in one case where it undertakes an Adjustment for Road Train Travel on Unsealed Roads. [3] The adjustment recognises and seeks to correct the assumption in their model that assumes all roads deteriorate at the same rate and that the contribution to this wear can be measured by ESA.

As such, whilst the aggregated measures serve the NTC's purpose for determining the road pricing for heavy vehicles, the road use component fails to adequately capture the impact of

[2] NTC Third Heavy Vehicle Road Pricing Determination: Technical Report, Page 34.
[3] NTC Third Heavy Vehicle Road Pricing Determination: Technical Report, Section 6.7, Page 56.

jurisdictions with heavily traffic roads, due primarily to data limitations in the SMVU data set. If traffic volume, as measured by VKT and ESA, can be disaggregated into urban and rural components and appropriately weighted, then a reliable assessment can be undertaken. However, as the data are not available in the necessary form, the ACT proposes that an additional disability be included to assess the additional costs faced by those States with relatively high traffic volumes.

SMVU data and local road use

The road use disabilities premised on SMVU data require adjusting for the fact that the SMVU data include VKT on local roads, which leads to the GST pool being equalised for relative local road use. As the equalisation of local government funding is outside the Commission's Terms of Reference, this needs to be addressed.

Similar to the issue above concerning the additional costs of highly trafficked roads, the limitations in the SMVU data, which do not detail road use expenses by local rural and urban areas, creates bias in the assessment towards those jurisdictions with large rural local road networks. This is due to the dispersion of road use across differing sized local road networks. As can be seen in the following table, 86.5% of local road length occurs in rural areas.

States with relatively large rural local road networks, such as Qld, WA, SA, Tasmania and the NT, will have overstated traffic volume and heavy vehicle use factors as the data are biased towards picking up traffic on rural local roads. The ACT has just 1.18 lane-kms of local road per 100 persons (the lowest of any State) compared to the NT with 14.02 lane-kms per 100 persons (the highest State).

LOCAL ROAD LENGTH OF THE STATES, 2003

	NSW Lane-kms	Vic Lane-kms	Qld Lane-kms	WA Lane-kms	SA Lane-kms	Tas Lane-kms	ACT Lane-kms	NT Lane-kms	Aust Lane-kms
Rural local roads	248294	218800	246030	226002	154213	36938	50	27800	1158127
Length per 100 persons	3.70	4.43	6.40	11.50	10.08	7.69	0.02	13.98	5.80
Urban local roads	42314	42600	49278	23074	14482	5455	3755	98	181056
Length per 100 persons	0.63	0.86	1.28	1.17	0.95	1.14	1.16	0.05	0.91
Total Local	290608	261400	295308	249076	168695	42393	3805	27898	1339183
Length per 100 persons	**4.34**	**5.29**	**7.68**	**12.68**	**11.03**	**8.83**	**1.18**	**14.02**	**6.70**
Factor	**0.64700**	**0.78984**	**1.14587**	**1.89199**	**1.64556**	**1.31748**	**0.17551**	**2.09288**	**1.00000**
Pop 2003-04	6702703	4938730	3845815	1964535	1529801	480174	323527	198919	19984204

Source: AARB Road Facts 2005.

The following table shows that States' local road VKT are very different, and that therefore, the proposed traffic volume and heavy vehicle use factors will be influenced by this.

MILLION VEHICLE KILOMETRES TRAVEVLLED, BY STATE, 2003

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
SMVU VKT (arterial plus local)	64384	53142	44373	22607	15377	5042	2780	1699	209405
less local VKT	13473	15210	6600	5179	3372	1950	n/a	189	45973
Local VKT proportion	20.9%	28.6%	14.9%	22.9%	21.9%	38.7%	-	11.1%	22.0%

Source: Road Facts 2005 pg 41 and Table 6 CGC PP

In discussions with Commission staff, it is understood that the proposed traffic volume and heavy vehicle factors have been adjusted to take into account the influence of VKT on local roads by adjusting them for the Australian average proportion of VKT. However, this does nothing to address the issue of local road VKT and equalisation of local roads funding as it does not recognise the different proportions of local road VKT that exists between the States.

The ACT proposes that the traffic volume and heavy vehicle factors be discounted by 20% to adjust for the local roads influence. This would be a conservative approach as actual State local road VKT data are not being used to adjust individual States' factors, but rather are used to discount the factors.

This approach overcomes any difficulties with data reliability as individual State data are not being used to adjust individual factors, similar to the approach adopted by the Commission in a host of categories whereby Australian average use rates are used to overcome State data use rate issues.

It is also a conservative approach given that, if the ACT's data were included, it would increase the proportion of VKT travelled on local roads above 22%. The ACT is advocating only a 20% discount.

The ACT requests that the local roads VKT issue is addressed by discounting the proposed traffic volume and heavy vehicle factors by 20%. Alternatively, the Commission may be able to come up with a different approach that addresses this matter, as the current approach (using the Australian average proportion of VKT travelled on local roads) does not address concerns with equalisation being applied to local roads funding.

Combining Disabilities

The use of the NTC cost allocation method is supported. Notwithstanding this, two areas of concern exist in terms of how the NTC report has been translated into the assessment weightings.

C Bridges Expenses & F2 Bridges Improvements

The ACT proposes that, given the Commission's decision not to assess bridge expenses C (Bridge Maintenance/Rehab) and F2 (Bridge Improvements) should be assessed Equal Per Capita (EPC) by allocating them to the *Other Services* proportion within the roads assessment.

The Commission detailed that it did not intend to separately assess expenses, and therefore disabilities related to bridges and tunnels due to data reliability or comparability issues. This ruling is accepted (although not supported).

However, the effect of applying the weightings for C (Bridge Maintenance/Rehab) and F2 (Bridges Improvements) is that the heavy vehicle and length disabilities will receive a greater

weighting in the assessment than they should. This outcome is contrary to the Commission's intent, and comments in paragraph 104 that bridges expenses / disabilities will not be assessed - in fact they will be assessed in an unreliable way via the allocation of bridges expenses to the road use and road length disability factors.

The allocation of C and F2 expenses to the heavy vehicle and length proportions implies that those States with more heavy vehicles and/or greater road lengths have a greater proportion of bridges and tunnels, an assumption that is both unproven and does not accord with the Commissioners' decision not to assess bridge disabilities. Indeed, the 2004 Review deck area and other bridges data indicates that some States with relatively less heavy vehicles and/or smaller road lengths have a greater proportion of bridges.

The ACT position is that road length/use is not correlated with States' differential bridges maintenance expenses. Consistent with the assessment guidelines, reliable data demonstrating this relationship is required if the expenses are to be allocated in the way proposed.

If the Commission's ruling to not assess bridges/tunnels is to be implemented, then the C and F2 expenses should be allocated to the EPC category (*Other Services*) within the roads assessment so that the expenses do not increase the component weights of length and use.

G1 Corporate Services

The relationship between corporate head office services and the size of road length is unclear, and given this, G1 (Corporate Services) should be allocated to the EPC proportion *Other Services* within the roads assessment.

The NTC report allocates all corporate services expenses to the non-attributable expenses category, which is defined as meaning that the expenses are not related to the use of the road. For road maintenance expenses the Commission interprets this as meaning that non-attributable expenses should be allocated to road length, as it is known that these expenses are undertaken onsite and thus are applied to the road network itself. However, the relationship between corporate services expenses and road length is not clear as they are costs relating to the management of the entire road network, not specifically to only road use or only road length disabilities.

Corporate services typically manage the contractual relationships between road maintenance companies or in-house road maintenance divisions. Conceptually, much of these expenses are unrelated to the size of the network and are largely fixed costs.

Further work needs to be undertaken to determine whether these costs are higher for those States with above average road length disabilities, use disabilities, or fixed costs, and how therefore, the cost might be appropriately allocated across the disabilities. The ACT thinks that this will be difficult to achieve, and as such, the G1 (Corporate Services) expenses should be allocated to the EPC proportion (*Other Services*) unless a conceptual case and data substantiates an alternative treatment, consistent with the assessment guidelines.