

WESTERN AUSTRALIA'S SUBMISSION
TO THE
REVIEW OF THE INTER-STATE DISTRIBUTION OF
LOCAL ROAD GRANTS

PREPARED BY

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EXECUTIVE SUMMARY

The key points of Western Australia's submission to the Review of the Inter-State Distribution of Local Roads Grants follow.

- Western Australia considers that the Commission should apply a uniform interpretation of local roads across all States, rather than attempting to base its recommendations on the actual allocation of responsibilities in each State.
- Ideally, the Commission would use the same road classification system for both the State arterial roads assessment (applied to the inter-State distribution of the GST) and local government roads assessments, and there would be no 'double-counting' of roads between the assessments.
- The inventory of existing roads and bridges that satisfies the chosen definition of a local road should be used as the basis of the assessments without adjustment.
- Western Australia would prefer that the average standard approach be used for assessing local government road needs (consistent with the assessment of State roads).
- The funding requirements of local governments in each State should be assessed at the State level rather than being built up by summing the needs of each local governing body in a State.
- Compared to the State arterial road assessment, a lower weighting should be given to road use (and a correspondingly higher weighting for road length) for the local government road assessment on the basis of lower road use intensity and inadequate road use data.
- Recognition should be given to the additional maintenance costs of heavily trafficked gravel roads and single lane sealed rural roads.
- Western Australia considers that the Commission's physical environment factor for State arterial roads does not adequately recognise the high costs of road maintenance in the northern areas of Western Australia, due to the destructive effects of oxidisation and the wet season.

- The Commission should assess the additional costs of providing roads in remote areas by weighting road lengths in these regions.
- A salinity factor of seven would be appropriate for local roads in Western Australia.
- Access roads and other internal roads for Indigenous communities should be included in the local government roads assessment. This should include the unfunded roads (not included in the Austroads statistics) as the only reason specific local governments have not accepted responsibility for maintaining these roads is because they do not receive sufficient funding.
- Western Australia considers that three to five yearly data updates would be appropriate. A five-yearly update of data could potentially coincide with a five-yearly review of the methods for distributing local government road grants among the States.

ROAD FUNDING RESPONSIBILITIES

The Commission has noted that there are differences across States in the allocation of responsibilities between State and local governments for local roads and has questioned how it should deal with differences between the States. That is, whether the Commission should base its recommendations on the actual allocation of responsibilities in each State or whether it should seek to apply a uniform interpretation of the local roads function across all States.

Western Australia agrees with the Commission's view that in order to maintain effort neutrality:

- a uniform interpretation of local roads should be applied across all States; and
- there should be no 'double-counting' of roads between the State arterial and local government road assessments.

In its State road assessment, the Commission assumes that States are responsible for arterial roads and the balance of roads (other than national highways) are the responsibility of local governments. Western Australia supports the same boundary being applied in the local government roads assessment (although noting that States do not determine arterial roads consistently).

The Commission has sought State views on how local government roads should be defined (e.g. PSMA or NAASRA or other). The Commission should ideally use consistent road classification systems for both the State and local road assessments (i.e. since the Commission uses the NAASRA classification for defining arterial roads it should also use NAASRA to define local government roads).

This would help to:

- keep the workload for State road departments to a minimum by not requiring them to maintain information on an additional road classification system; and
- ensure the definition of local government roads is complementary to the definition of State government arterial roads (i.e. no double counting or under counting).

The Commission has questioned whether the inventory of local roads should be adjusted to reflect effort neutrality considerations. Western Australia agrees with the Commission's view that the inventory of existing roads and bridges that satisfies the chosen definition of a local road should be used as the basis of the assessments without adjustment.

MODELS FOR ASSESSING RELATIVE NEEDS

The Commission has put forward three alternative approaches for determining appropriate inter-State funding shares for local government road grants, these being: the average standard approach; the asset preservation model; and the notional service provision model.

Western Australia has a strong preference for the average standard approach.

An advantage of the average standard approach over the other two approaches is that it is the approach the Commission uses at the State level. While there are likely to be some differences in road cost disabilities between the State and local government level, it is expected that there would be more synergies than not. Therefore, it would seem sensible to use the Commission's assessment of State road needs as a basis for developing the local road assessment.

The asset preservation model and the average standard approach are similar as both assume, as a starting point, that the existing road network reflects standard policy. However, Western Australia considers that the average standard approach is preferable to the asset preservation model because of its relative simplicity.

In this regard, the average standard approach assumes that the average level of expenditure per capita is approximately representative of the actual amount local governments need to spend per capita (assuming an average level of disabilities). In contrast, the asset preservation model requires 'judgements about the tasks to be performed, their desirable frequency and the standards to which they should be performed'. Substantial effort and data would be needed to support these judgements, in addition to the judgements that would be needed to assess disabilities between States.

The notional service provision approach is quite different from the other two approaches in that it acknowledges that the existing road network may be policy influenced and tries to estimate each State's road network if standard policy was applied.

Western Australia considers that the notional service approach would require more fine-tuning before it could be used as the basis for determining the inter-State distribution of local government road grants.

- The splits between urban, rural and remote area categories would need greater refinement. In its assessment of horizontal fiscal equalisation at the State level, the Commission uses the State Accessibility/Remoteness Index of Australia, which has five categories. Despite the refinements to this Index, it continues to be contentious.
- Furthermore, there may be justifiable variations in road length even within a particular area category. For example, there are differences in the population density of urban areas between States. A more densely populated urban area will need less roads per capita than a less densely populated urban area. In this example, applying the same regional weighting per capita across all urban areas would disadvantage States with less dense urban areas.

LEVEL AT WHICH ASSESSMENTS SHOULD BE DONE

The Commission has questioned whether it should derive the funding requirements of local governments in each State by:

- building them up as the sum of the needs of each local governing body in the State; or
- making broader assessments at the whole of State level.

Western Australia supports the Commission's view that assessments should be derived at a State rather than local level on the basis that:

- assessing individual local governments would be data and resource intensive and would duplicate the work of local government grant commissions;
- assessing needs at the State level is consistent with the fact that the grants are initially distributed to the States.

FACTORS AFFECTING LOCAL ROAD EXPENDITURE

Road Length and Use

For the State arterial roads assessment, the Commission applies a cost weighting of 60% to road length and 40% to road use.

The road use component reflects the fact that the frequency and extent of road maintenance is affected by heavy vehicle road use. The Commission considered that the impact of light vehicles on road wear is negligible.

Western Australia considers that a lower weighting should be given to road use (and a correspondingly higher weighting for road length) for the local government roads assessment.

Using million vehicle kilometres travelled (MVKT) per road kilometre data from RoadFacts 2005 as a measure of traffic intensity on different road types shows that, on a national basis, arterial roads have a traffic intensity of 1 MVKT/road kilometre, whereas local roads have a traffic intensity of 0.07 MVKT/road kilometre. This demonstrates that the intensity of traffic on local roads is insignificant compared to arterial roads.

Furthermore, it would be difficult to assess road use reliably as there is no nationally consistent data on local government road use. It is unlikely that any data actually available on road use could be reliably broken down by vehicle class.

Austrroads publishes urban and rural local travel data (i.e. MVKT) for each State and the Northern Territory. For Western Australia, this data was obtained by apportioning the total MVKT for 2002 (as reported in the ABS Survey of Motor Vehicle Use) against the RoadFacts road-type categories on the basis of 1980s road counts. This data is out of date and could not be split (with any credibility) into vehicle classes. In addition, it is unlikely that 'arterial' and 'local' roads would be determined consistently among the States.

Main Roads is not currently in a position to provide a comprehensive State-wide total for local road use that is based upon recently collected road use data. Main Roads has annual average daily traffic data collected at a few specific locations.

The Western Australian Local Government Grants Commission's (WALGGC) Asset Preservation Model uses this sample traffic data (classified into all 12 vehicle types) to provide standard State-wide traffic profiles for each road type (e.g. sealed rural roads, residential streets and local distributor roads).

Because of the low road use intensity on local government roads and inadequate road use data, it could be argued that road use should be not be used as a factor in the determination of the local road funding distribution. However, if the Commission does take road use into account, Western Australia considers that the Commission should specifically recognise the additional costs of maintaining gravel roads with high traffic levels (as discussed below).

Allowance for Gravel Roads Carrying more than 75 EQAADT

The cost of maintaining gravel roads becomes excessive when the Equivalent Annual Average Daily Traffic (EQAADT) exceeds 75 (see definition of EQAADT in Attachment 1). Rural councils recognise that gravel roads carrying high traffic volumes should be sealed and each year carry out some sealing. But their progress is limited by lack of funds.

The WALGGC has recognised this problem by providing an allowance for heavy traffic on gravel roads where councils can substantiate their claims by providing classified traffic counts. These counts provide numbers of vehicles in each of 12 vehicle classes. A weighting is applied to each vehicle class in calculating the allowances.

Allowances are currently made for 1,388 km of gravel roads, though the real length affected by heavy traffic would be considerably higher if councils developed comprehensive traffic counting programs. The traffic volumes on these roads range between an EQAADT of 75 and more than 400.

In 2005, the additional assessed needs for these gravel roads were \$4.4 million.

Single Lane Rural Roads

Western Australia's sealed single lane rural roads are carrying significantly higher traffic volumes than when they were built in the 1960s and 1970s. In lane kilometre terms, these roads are more costly to maintain than two lane roads because:

- wear at the shoulders resulting from passing vehicles forms a drop at the edge of the bitumen, which becomes a serious safety hazard. If the shoulders are not repaired, the edges of the bitumen keep fretting, exacerbating the safety problem. The edges of the seal have to be repaired regularly, and periodically new gravel has to be brought in to raise the shoulder to its original level. This is expensive because spreading the new material over the narrow width of the shoulder is a slow operation; and
- unlike two lane roads, these roads have two shoulders per lane to maintain rather than one.

The WALGGC recognises that needs for maintaining single lane roads are \$800 per lane kilometre per year greater than two lane roads. There are 5,470 lane kilometres of single lane roads, so the additional needs are \$4.4 million a year or 1.2% of total expenditure on local government roads.

The WALGGC's asset preservation model recognises the additional costs faced by all sealed single lane roads. Western Australia recommends that the Commission likewise take this cost into account by recognising additional costs for all single lane rural roads in all States.

Physical Environment

Western Australia considers that the road maintenance cost map used for assessing the physical environment factor for State arterial roads does not adequately take into account cost disabilities faced in the northern regions of Western Australia. These include the need to more regularly reseal roads in the northern areas of Western Australia because of oxidisation, and rebuilding roads that are damaged during the wet season.

If the Commission intends to use the road maintenance cost map for the local government road assessment, then some adjustments should be made to reflect these costs.

Resealing roads in the tropics

The WALGGC accepts that roads require more frequent resealing in the tropics because the bitumen deteriorates more rapidly. It uses the following required reseal cycles to maintain functionality in three regions of Western Australia compared with the remainder of the State.

TABLE 1

	Lane Length (km)	Reseal Cycle (years)
Kimberley	846	10
Pilbara	1,200	10
Gascoyne	670	12
Remainder of State	-	15

The additional resealing rates suggest that a 50% cost weight is needed for roads in the Kimberley and Pilbara region and a 25% cost weight for roads in the Gascoyne for oxidisation effects alone. In comparison, the map used by the Commission in the State assessment only provides a weighting of 50% for small areas of the Kimberley and Pilbara and between 0% and 30% for the rest of the State.

The additional annual needs for resealing the roads in the tropical regions of Western Australia are \$1.7 million more than if the roads were in the southern parts of Western Australia. This accounts for approximately 0.5% of total expenditure on local government roads in Western Australia.

It is therefore recommended that the Commission recognise additional costs for roads above 27 degrees latitude.

Wet (monsoon) season

During the northern wet season (mid November to mid March), crossings over rivers and creeks on most rural roads are washed away and low lying sections are damaged by vehicles trying to pass through.

The process of reopening the roads involves a maintenance team working its way along every road. The roads are graded, crossings over rivers and creeks restored and weak sections gravelled.

On the basis of data from the Western Australian Local Government Association *Road Assets and Expenditure Reports*, it is estimated that local governments in the north have to spend an additional \$3.6 million per annum to open up roads after each wet season (see Table 2). This accounts for approximately 1% of total expenditure on local government roads in Western Australia. The WALGGC's Asset Preservation Model recognises these additional costs.

TABLE 2

	Length of Unsealed Roads (km)	Additional Cost (\$)	Total Cost of Maintaining Unsealed Roads (\$)	Cost Weighting
Kimberley	4,212	1,718,000	3,057,000	56%
Pilbara	5,909	1,550,000	3,953,000	39%
Gascoyne	3,976	358,000	2,452,000	15%
Total	14,097	3,626,000	9,462,000	38%

The additional costs for reforming unsealed roads after the wet season imply cost weights of up to 56% for the Kimberley region.

Additional Costs of Providing Roads in Remote Areas

Shires in the northern and north eastern part of Western Australia are very large and many roads service populations that are long distances from council headquarters. As a consequence, these local governments face high costs in establishing road gangs at work sites and transporting the necessary equipment to the site.

For example, Kiwirrkurra is over 1,000 kilometres from the Shire of East Pilbara's works depot at Marble Bar. It would take more than a week for a grader to get to Kiwirrkurra from Marble Bar. Up to half of the project cost can be taken up in establishing the road gang at a work site.

While Kiwirrkurra is an extreme case, the costs of moving a road gang and establishing a camp in the north eastern and northern parts of the State are much greater than in southern areas. In the southern areas establishing a road gang accounts for about 3 to 5% of project costs, while in the northern areas it would be between 10 and 25%.

The following table shows the additional costs arising from establishing road gangs in remote areas in dollar and percentage terms.

TABLE 3

Region	Road Length (km)	Establishment Cost (\$)	Establishment Costs (% of Project Costs)
Kimberley	4,610	1,200,000	20
Pilbara	6,476	1,590,000	25
Goldfields	16,489	1,850,000	15
Gascoyne	4,311	340,000	10
Total	31,886	4,980,000	-

Western Australia considers that these costs are not recognised in assessing road length alone, which only recognises the need to provide extra road kilometres at an average standard cost. To recognise costs in remote areas, the Commission would need to apply appropriate cost rates to road lengths in these regions.

The CGC's existing dispersion indexes (applied to the inter-State distribution of the GST) do not capture these costs as:

- they take no account of wages paid during travel time (with the exception of the repairs and maintenance index); and
- the CGC's freight index was based on the cost of sending a 50kg parcel to different locations. These costs are not as distance dependent as the cost of moving earth-moving and road-laying machinery.

Salinity

Western Australia considers that the differential road maintenance costs attributable to salinity should be recognised in the assessment of local government road needs, as they are in the State roads assessment.

It is well recognised that the presence of salinity increases the cost of road maintenance and decreases road life. However, there is uncertainty about how much salinity increases per kilometre per annum road maintenance costs.

Estimates of Damage Cost Functions published in Austroads' *Salinity and Rising Water Tables – Risks for Road Assets* publication indicate that additional costs due to salinity are thought to vary between \$0 to \$800 for unsealed or gravel roads and up to \$7,600 per kilometre per annum for sealed roads at 'high' risk.

The WALGGC model assumes that salinity reduces road life by a third for both sealed and unsealed roads. This means that each kilometre of salt affected road costs an additional 50% more to maintain than a comparable road that is not salt affected.

Salinity is most prevalent in Western Australia. According to data from the 2000 National Land and Water Resources Audit, published in Austroads (2004):

- around 70% of the total length of Australian roads potentially affected by dry-land salinity and rising water tables were in Western Australia (this is seven times Western Australia's population share); and

- Western Australia had 11,550 kilometres of local government roads affected by salinity.

ROADS SERVING REMOTE ABORIGINAL COMMUNITIES

Roads serving remote Aboriginal communities are assessed along with all other local government roads in Western Australia's Asset Preservation Model for distributing Commonwealth untied local road grants. In addition to the funds that these roads attract from this distribution, under WALGGC principles, 2.3% of the untied road grants are also allocated as Special Project grants to roads serving remote Aboriginal communities. The State Government, via Main Roads, contributes a further \$1 for each \$2 of the Commonwealth Special Project grants.

Under Western Australia's Asset Preservation Model, access and internal community roads for Aboriginal communities are included in the statistics used in assessing needs, provided that local governments accept responsibility for them.

The last survey of Aboriginal roads, carried out in 1994, found that there were 7,886 kilometres of access roads serving remote Aboriginal communities, and perhaps about 100 kilometres of internal community roads that serve a similar function to town streets. (Reliable length statistics are not available for the internal roads.)

Local governments have accepted responsibility for maintaining 6,070 kilometres of access roads and these are included in the road statistics used in distributing road funds. The remaining 1,816 kilometres of access roads and 100 kilometres of internal roads are not used in assessing needs because local governments have not accepted responsibility for them. However, Western Australia considers that these roads should also be included in the local road assessment on the basis that the only reason specific local governments have not accepted responsibility for maintaining these roads is that they do not have sufficient funding.

UPDATING THE INTER-STATE DISTRIBUTION IN FUTURE YEARS

There are two main aspects of updating the inter-State distribution of local government road grants in future years – data updates and method reviews. Both of these aspects are addressed below.

Western Australia considers that the following issues need to be taken into account in deciding the frequency for updating the data used to determine the inter-State distribution of local government road funding:

- how frequently local government road data is currently updated in each State and the costs associated with updating local road data more regularly than currently occurs; and
- the benefits of regular data updates (e.g. ensuring States with rapidly growing local road networks are not disadvantaged by less regular updates).

In Western Australia, Main Roads maintains the database of the State's local government road inventory. The database is updated annually using data provided by local governments. Local governments with high road length growth rates are requested to submit their updates annually, while those with static or low growth rates submit their updates on a three-year cycle (i.e. so that around a third of low growth local governments would update their data each year).

Requesting all local governments to update their data annually would increase the costs and workload on local government. Main Roads already has difficulty obtaining data from some local governments as frequently as it is requested. In any case, if the data of councils with static or low growth rates were a year or two out of date, it would make very little difference to the inter-State distribution because the road inventories of these councils rarely change significantly.

Given that the pool of grants is relatively small, the costs of an annual update may not be warranted. Western Australia considers that three to five yearly data updates would strike an appropriate balance.

A five-yearly update of data could potentially coincide with a five-yearly review of the methods for distributing local government road grants among the States.

ATTACHMENT 1

Equivalent average annual daily traffic (EQAADT) is the sum of the number of vehicles in each class multiplied by the equivalence factor for that class.

Equivalence Factors for Trucks on Gravel Roads		
Vehicle	Number of axles	Equivalence Factor
Classes 1 and 2		1
Class 3 truck	2	4
Class 4 truck	3	6
Class 5 truck	4	8
Class 6	3	6
Class 7	4	8
Class 8	5	10
Class 9 semi trailer	6	12
Class 10 B double	8	16
Class 11	8	16
Class 12 Triple road train	6-19	26

$$\text{EQAADT} = V1*1+V2*1+V3*4+V4*6+\dots+V11*16+V12*26$$

Where:

V1 = number of class 1 vehicles,

V2 = number of class 2 vehicles,

V3 = number of class 3 vehicles,

V4 = number of class 4 vehicles,

etc.

The equivalence factors were derived from a study by Main Roads Western Australia on unsealed roads.