

Roads Assessment Review

Discussion Paper – DP11-01

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BACKGROUND

The State Grants Commission is an independent statutory body responsible for recommending the distribution of Australian Government Financial Assistance Grants (FAGs) to Tasmanian local government authorities. In 2010-11, Tasmanian councils were entitled to a total FAG entitlement of \$66.0 million. The State FAG entitlement is distributed to councils in two pools, a base grant and a road grant. The larger component is the road grant amounting to \$33.5 million in 2010-11.

The Commission continually monitors council practices to ensure that its methods for distributing both the base and road grants are contemporary and equitable across councils. In this context, the Commission periodically undertakes comprehensive reviews of its models. For this triennial review period the Commission has opted to review its roads assessment methodology for the distribution of the road grant. As can be seen from Table 1 below, any method changes identified as part of this review will not be incorporated into the assessment until the determination of the 2012-13 distribution.

Table 1: Overview of Triennial Review Period

Distribution	Action
2009-10	Method Changes + Data Updates
2010-11	Data Updates
2011-12	Data Updates
2012-13	Method Changes + Data Updates

The purpose of this paper is to detail the roads assessment methodology as it currently stands and outline issues that have been considered as part of this review. The paper will detail the recommendations from the Roads Review Panel (see p11), and the Commission's present intentions for reforming elements of the assessment.

OVERVIEW OF CURRENT METHOD

The current road assessment method remains largely unchanged since it was introduced in 2006-07. The present approach was introduced after a wide ranging review and consultation with councils. It was phased-in over a period of three years and was fully phased-in for the 2008-09 distribution. The only significant change since its introduction was a revision in the proportion of funding distributed based on the separate road and bridge assessments.

This section of the paper will give a brief overview of the current distribution methodology as background to the suggested changes identified during the current review cycle.

Roads/Bridge Split

The estimated road grant from the Australian Government for 2010-11 is approximately \$33.5 million. The Commission's first step is to split the total amount into two pools, which are distributed as follows:

- 95 % Road Preservation Component** – based on the relative road expenditure needs of each council as determined using the Roads Preservation Model (RPM).
- 5 % Bridge Expenditure Component** – based on relative bridge deck areas, including all concrete and wooden bridges, and culverts over 3m total span.

The proportions were changed from 90/10 to 95/5 in favour of the roads assessment for the 2009-10 distribution, having regard to comprehensive road and bridge expenditure data collected from councils. This data indicated that, at a state level, councils were spending a greater proportion of the total recurrent infrastructure spend on their road networks in preference to bridge and culvert infrastructure.

Road Preservation Component

The Roads Preservation Model (RPM) assesses the total asset preservation requirement for each council based on four road types:

- urban sealed;
- urban unsealed;
- rural sealed; and
- rural unsealed roads.

Councils report roads lengths on an annual basis through the annual consolidated data collection administered through the Local Government Division of the Department of Premier and Cabinet.

The RPM applies average performance standards and specific costs in relation to maintenance, rehabilitation and reconstruction for all four road types. The RPM also accounts for cost differentials between each council road network through the application of cost adjustors and allowances. Ultimately, a theoretical cost is calculated for each council to preserve its road network.

The table below details the performance standards and costs of maintenance currently used with the RPM. A summary of the work activity involving for maintenance, rehabilitation and reconstruction of each road type can be found in Appendix 2. The data contained in Table 2 below was updated for the 2009-10 distribution.

Table 2: Roads Preservation Model: Performance Standards and Specific Costs

		Estimated Life (yrs)	Performance Standard (1)	Cost per Km (\$ (2))
URBAN SEALED				
Maintenance	Thin asphalt overlay	22	0.0455	126 630
	Reseals	17	0.0588	49 421
	Other maintenance	15	0.0667	3 720
Rehabilitation		45	0.0222	522 827
Reconstruction		80	0.0125	696 754
RURAL SEALED				
Maintenance	Reseals	18	0.0556	35 172
	Other maintenance	15	0.0667	2 373
Rehabilitation		50	0.0200	125 658
Reconstruction		75	0.0133	288 136
URBAN UNSEALED				
Maintenance	Regrading	1	1.0000	893
	Resheeting	9	0.1111	22 061
	Other maintenance	1	1.0000	1 186
RURAL UNSEALED				
Maintenance	Regrading	1	1.0000	893
	Resheeting	8	0.1250	22 061
	Other maintenance	1	1.0000	1 186

Note: Rehabilitation and reconstruction tasks do not apply to unsealed roads.

(1) Updated for the 2009-10 distribution following consultation with councils and the IPWEA.

(2) Updated for the 2009-10 distribution following consultation with councils and a report provided by Jeff Roorda & Associates.

Allowance and Cost Adjustors

In reality, councils face various cost pressures that give rise to cost differentials between councils. To account for these differences within the assessment, the Commission includes an allowance and cost adjustors for urbanisation, rainfall, terrain, traffic and remoteness. The adjustors are applied to the maintenance, rehabilitation and reconstruction of council road networks in order to calculate the theoretical total cost to council for the preservation of road assets.

The Commission spent considerable time reviewing the RPM cost adjustors prior to the introduction of the road assessment changes in 2006-07. On this basis, the cost adjustors have not been included within the Terms of Reference (see p10) for this review. A short summary of each cost adjustor is provided for information.

It should be noted that the Urbanisation Allowance was included within the Terms of Reference as its application within the assessment may have been impacted by the possible disaggregation of the urban sealed road type (see p13).

Urbanisation Allowance

This measure seeks to recognise the additional expenditure incurred by council when undertaking road works in heavily urbanised environments. Urban environments are characterised by commercial activity and high traffic volumes. This allowance augments the length of central business district (CBD) urban sealed roads to account for previously identified evidence that CBD road works cost councils three times more than standard urban sealed roads. Although most councils would experience this to some extent, the Commission recognises one distinct CBD for six councils, and the road lengths recognised are detailed below.

Burnie	4.74km	Clarence	1.75km	Devonport	5.53km
Hobart	9.35km	Glenorchy	5.04km	Launceston	7.95km

Rainfall Cost Adjustor

This adjustor provides a measure of the relative cost advantage or disadvantage associated with the amount of rainfall on council road networks. The cost adjustors are based on Geographic Information System (GIS) data provided by the Department of Primary Industries, Parks, Water and the Environment (DPIPWE).

Depending on the amount of rainfall, the assessment applies the cost factors noted in Table 3 below. Roads subject to more than 1000 mm receive a +5 per cent increase as high rainfall is seen as a disadvantage when working on either sealed or unsealed roads. Roads receiving between 600-1000 mm are neither advantaged nor disadvantaged. Sealed roads subject to less than 600 mm receive a -5 per cent decrease to reflect an advantage, while low rainfall on unsealed roads is regarded as a disadvantage and a +5 per cent increase is applied due to the requirement for dust management when grading.

Table 3: Cost Factors for Calculation of Rainfall Cost Adjustors

Rainfall Bands	Sealed roads	Unsealed roads
Less than 600 mm	0.95	1.05
600-1000 mm	1.00	1.00
Greater than 1000 mm	1.05	1.05

Updated for the 2006-07 distribution following consultation with IPWEA and councils.

Terrain Cost Adjustor

This adjustor provides a measure of the cost advantage or disadvantage associated with the terrain characteristics on which council road networks are built. The cost adjustors are based on Geographic Information System (GIS) data provided by DPIPWE.

The steepness of the terrain on which a road is constructed can cause inherent advantages or disadvantages depending on road type. The cost factors reflect disadvantage for all roads constructed on steep terrain, flat rural sealed roads and all flat unsealed roads. Disadvantages of flat terrain relate primarily to drainage, while there are many issues with steep terrain including drainage scouring and shoulder instability.

Table 4: Cost Factors for Calculation of Terrain Cost Adjustors

Terrain bands	Urban sealed roads	Rural sealed roads	Unsealed roads (urban and rural)
Less than 0.5 degrees	1.00	1.10	1.10
0.5 –9.0 degrees	1.00	1.00	1.00
Greater than 9.0 degrees	1.10	1.10	1.15

Updated for the 2006-07 distribution following consultation with IPWEA and councils.

Traffic Cost Adjustor

This adjustor provides a measure of the relative advantage or disadvantage associated with volumes of heavy vehicle traffic on council road networks. The cost adjustors are derived from data produced by the freight demander survey undertaken by the Department of Infrastructure, Energy and Resources (DIER). The survey gathers origin, destination and tonnage data for the largest freight demanders in Tasmania.

The survey allows the calculation of tonne-kilometres for each council by road type, which is the product of the tonnage carried over each road type and the distance over which it is carried. Relative positions are determined for each council based on the tonne-kilometres per kilometre of each road type. The distribution of the Traffic Cost Adjustor is controlled by the application of limits based closely on those determined by the Australian Road Research Board in 1989.

Table 5 below, shows the Traffic cost adjustor limits. The council that has the greatest number of tonne-kilometres per kilometre travelling on a particular road type is awarded the upper limit or maximum cost adjustment for that road type. Similarly, the council with the least tonne-kilometres per kilometre is given the minimum cost adjustment. All other council results are spread between the limits depending on their relative position between the maximum and minimum results.

Table 5: Traffic Cost Adjustor Limits

	Urban sealed	Rural sealed	Urban unsealed	Rural unsealed
Upper limit (maximum cost adjustment)	1.11	1.25	1.16	1.25
Lower limit (minimum cost adjustment)	0.93	0.96	0.91	0.91

The current data applied within this cost adjustor was gathered in 2005-06. However, the Commission has received updated survey data collected in 2008-09. There are some significant movements between surveys, but this new data may be incorporated for the 2011-12 distribution. The Commission will consult separately on this issue in *DP11-02 Tasmanian Freight Survey* to be circulated in conjunction with this paper.

Remoteness Cost Adjustor

This provides a measure of the advantage or disadvantage associated with distance from suppliers of road-making materials as cartage costs are a significant component of all road works. The cost adjustors are based on distances from the centre of each council road network to their respective regional centre

where major suppliers are located. Additional adjustments are made to this data to account for the cost of transportation to King Island and Flinders Councils.

To control the spread of the calculated cost adjustors, the results are re-ranged to ensure a maximum of 20 per cent and a minimum 0 per cent cost adjustment in relation to remoteness. Table 6 below lists the central point in each councils road network as used by the Commission, and the distances from that point to its nearest regional centre.

Table 6: Distance Measurements for the Remoteness Cost Adjustor

Council	Central Point	Regional Centre	Distance (km)
Break O'Day	St Helens	Launceston	163
Brighton	Bridgewater	Hobart	22
Burnie	Burnie	Burnie	0
Central Coast	Ulverstone	Devonport	22
Central Highlands	Hamilton	Hobart	73
Circular Head	Smithton	Burnie	85
Clarence	Rosny Park	Hobart	8
Derwent Valley	New Norfolk	Hobart	38
Devonport	Devonport	Devonport	0
Dorset	Branxholm *	Launceston	85
Flinders #	Whitemark	Launceston	271
George Town	George Town	Launceston	51
Glamorgan Spring Bay	Swansea *	Hobart	137
Glenorchy	Glenorchy	Hobart	12
Hobart	Hobart	Hobart	0
Huon Valley	Geeveston *	Hobart	60
Kentish	Sheffield	Devonport	29
King Island #	Currie	Burnie	333
Kingborough	Margate *	Hobart	20
Latrobe	Latrobe	Devonport	10
Launceston	Launceston	Launceston	0
Meander Valley	Deloraine *	Launceston	50
Northern Midlands	Epping Forest *	Launceston	55
Sorell	Dodges Ferry *	Hobart	39
Southern Midlands	Oatlands	Hobart	85
Tasman	Nubeena	Hobart	100
Waratah Wynyard	Wynyard	Burnie	19
West Coast	Zeehan	Burnie	139
West Tamar	Exeter *	Launceston	23

Note: locations marked * are different from the administrative centres used for dispersion measurement in the Equalisation Model. These locations have been selected where the administrative centres are not close to the geographic centres of councils' road networks. The councils marked # (Flinders and King Island) include an additional 50 per cent weighting of the non-road component of the measured distance.

Bridge Expenditure Component

Of the total road grant pool, 5 per cent is distributed to councils according to shares of total bridge deck area (BDA). A council's BDA is calculated by summing the areas of all eligible bridges and culverts. Appendix 2 contains illustrations showing the calculation of bridge deck area for eligible bridges and culverts.

Eligible Bridges

An eligible bridge is a structure that spans a waterway, chasm, road, railway line or some other obstacle such that it provides for the passage of vehicles, pedestrians or stock, as part of the council local road network. The deck is suspended between abutments and a bridge can be single or multi-spanned.

A bridge is eligible to be included within the BDA calculation as long as it is 3 metres or greater in length. The BDA for an eligible bridge is calculated by multiplying the bridge's length by its width. There is no maximum length or width restriction for bridges.

Eligible Culverts

A culvert is eligible to be included as part of the BDA calculation, as long as it has 3 metres or more of a horizontal-opening facing the water, which the Commission calls the **maximum clear waterway**. For culverts, the BDA is calculated by the maximum clear waterway multiplied by the length of culvert section.

The Commission takes into account only the first 6 metres of the culvert length irrespective of the overall length of the culvert section. This is because 6 metres is considered adequate to account for the width of a normal two-lane road under which the culvert may be placed.

ROADS ASSESSMENT REVIEW

Terms of Reference

- 1 The State Grants Commission is undertaking a review of the Roads Preservation Model (RPM) used to determine the distribution of the Australian Government road grants to local government. This review will seek to address components of the RPM before their introduction at the end of the Triennial Review Period in 2012-13.
- 2 The Commission will form a Review Panel consisting of a representative cross-section of local government engineers and the Secretary of the State Grants Commission.
- 3 As a first stage, the Review Panel will examine the Road Type Classifications used in the Roads Preservation Model (RPM).
- 4 To address the issue in paragraph 3 the Review Panel should consider and provide recommendations to the Commission on:
 - a) the possible aggregation/disaggregation of road type classifications to appropriately account for the varying road types managed by councils; and
 - b) explore the possible simplification of road type definitions to improve the robustness and accuracy of reported road lengths by councils.
- 5 In conjunction with paragraph 4(a) the Review Panel should consider the impact of the Urbanisation Allowance applied within the RPM. The Urbanisation Allowance recognises the cost differential between construction and maintenance of roads within highly urbanised environments (i.e. CBD roads) and other road types. In light of this review of road classifications, the Review Panel should include recommendations to the Commission in relation to the retention, or otherwise, of the current Urbanisation Allowance within the RPM.
- 6 The Review Panel should provide a report of its recommendations by Friday 25 June 2010.
- 7 The Commission will provide further information regarding issues to be addressed during this review process, if and as necessary.

Many aspects of the roads assessment methodology are necessarily informed by expert engineering knowledge. To ensure the independence of the Commission and to provide expertise in the review process, the above Terms of Reference provided for the establishment of a Road Review Panel.

Road Review Panel

The Commission selected four councils, representing urban, rural and regional perspectives, capable of providing an experienced engineer to contribute to the review process. This list of four councils received support from the Tasmanian Branch of the Institute of Public Works Engineering Australia (IPWEA), and the councils were approached to provide their support to the process. All four councils confirmed their willingness to assist the Commission with this review process, and the Road Review Panel (Review Panel) was therefore created with the following membership:

Mr Lindsay Bogg	Kingborough Council
Mr Bevin Eberhardt	Central Coast Council
Mr Harry Galea	Launceston City Council
Mr Leyon Parker	Hobart City Council

The Secretary, Mr Rod Malcomson, represented the Commission and also provided administrative support to the Review Panel.

The Commission drafted Terms of Reference to set the scope of the review, which in turn would assist the Review Panel to target its attentions on areas of specific concern to the Commission. The Review Panel considered the issues in the Terms of Reference and subsequently provided a list of recommendations.

This section summarises the background to the issues under consideration, provides a recommendation from the Review Panel on each issue, and provides the Commission's preliminary response to each recommendation.

1. Unsealed Road Aggregation

The Commission has been aware that there are very few differences between the life expectancies and the costs of maintenance for urban and rural unsealed roads. The update of data prior to the 2009-10 distribution brought urban and rural unsealed roads more closely into alignment with each other, providing a compelling case for a simplification of the assessment. The opportunity exists to aggregate unsealed roads into a single road type.

Review Panel Assessment

The Review Panel noted that the costs of maintenance and life expectancies were largely identical for urban and rural unsealed road types, apart from the life expectancy of resheeting where urban unsealed is 9 years, and rural unsealed is 8 years. (See Table 2, p5)

Also according to data as at 1 July 2008, at a state level there were 191 km of urban unsealed roads and 6 934 km of rural unsealed roads. The relatively short length of urban unsealed roads and the minimal differences between the essential elements of the assessment, prompted the Review Panel to agree with the Commission's suggestion and recommend the aggregation of unsealed roads.

Due to the relative lengths of urban and rural unsealed roads, the Review Panel considered that urban unsealed lengths should be absorbed into the rural unsealed assessment. This would mean all unsealed roads would be assessed as having a life expectancy of 8 years for resheeting. This direction of aggregation would thus cause the least disruption to grant outcomes.

The Review Panel also recognised that aggregating unsealed roads had implications for the calculation of cost adjustors. The Review Panel considered the recalculation of cost adjustor values should reflect the same direction of aggregation, on the basis it would result in the least disruption to grant outcomes.

Recommendation 1

The Review Panel recommends that urban and rural unsealed roads be aggregated into a single road type, and the aggregation should extend to the data used to inform the cost adjustors applied to all unsealed roads.

Commission Response

The Commission supports recommendation 1 and would expect to aggregate unsealed roads into a single road category for the 2012-13 assessment. As suggested by the Review Panel the aggregation must also extend to the aggregation of data used to inform the cost adjustors applied to unsealed roads.

2. Disaggregation of Urban Sealed

The Commission requested the Panel to explore whether the urban sealed road category should be disaggregated to better capture and assess urban road networks.

The Commission is aware that there are many different standards or types of urban sealed roads across the state. For example, the current standardised road profile of an urban sealed road has a driving surface width of 8.4 metres (see Appendix 1, p23). However, most urban sealed roads across the State are either much wider, in the case of connector roads and some main streets, or narrower in the case of many residential areas. The current profile used by the Commission is taken as the width of an 'average' council urban sealed road.

The Commission was interested to seek advice from the Review Panel as to whether the urban sealed road category could be disaggregated to create additional road categories to better reflect the mix of roads for which councils are responsible.

Review Panel Assessment

The Review Panel considered this issue and discussed at length the various standards to which roads are constructed and maintained within the state. However, the Review Panel agreed that the disaggregation of urban sealed roads would not be straightforward. The most significant difficulty would be creating definitions for new urban sealed road types that could be applied across all councils.

During the discussions, the Review Panel considered a change in the assessment measure from road length to an area measurement. It was thought that assessing roads using area would immediately acknowledge the differing width of local roads across the state. However, this option was considered overly complex, as councils would need to hold reliable, consistent data on every local road, and in order to be useful to the Commission the data would have to exclude median strips and parking areas which would need to be ignored within the Commission's calculations. The Review Panel considered that few, if any, councils would hold such data, and as a result it was resolved that road length be retained as the primary reporting and assessment measure.

The Review Panel concluded that the complexities created in disaggregating urban sealed roads would outweigh any benefits that might accrue due to a more comprehensive assessment. Consequently, the Review Panel recommended that the current urban sealed road category be retained.

Recommendation 2

The Review Panel recommends that the urban sealed road type not be disaggregated and that road length be retained as the primary assessment measure within the Roads Preservation Model.

Commission Response

The Commission supports recommendation 2 and expects that its 2012-13 assessment will be based on three road types: urban sealed, rural sealed and unsealed roads. The Commission also expects that the reporting and assessment of local roads will continue to be based on road length.

3. Road Profiles

The Commission requested that the Review Panel provide advice as to whether the current road profiles used as the basis for the road grant assessments still reflect contemporary average engineering standards across the State. The road profiles for each road type are the dimensions against which local government roads are assessed within the Commission's calculations.

The Commission included this issue within the review given the possibility of the disaggregation of the urban sealed road type, and that any additional road type categories would require a profile to be agreed by all councils. The current road profiles for each road type and maintenance method can be found in Appendix 1, p23.

Review Panel Assessment

The Review Panel considered the road profiles in conjunction with its analysis of the disaggregation of the urban sealed road type. The discussions resulted in a recommendation to update the profiles directly with councils through a comprehensive consultation process to ensure that the profiles accurately reflect contemporary average engineering standards for each road type across the State.

Subsequent discussions by the Review Panel, in relation to data collection, prompted the Review Panel to change its recommendation to the Commission. The Review Panel subsequently decided that seeking average road dimensions and construction standards from all councils would be overly complex, and had doubts that collecting data in this manner would result in a more successful outcome.

The Review Panel resolved that the current road profiles are still broadly appropriate as contemporary average cross-sections of Tasmanian local road types, and recommended that they be retained as the basis for the Commission's assessments.

Recommendation 3 (Amended)

The Review Panel recommends that the current standard road profiles for each road type broadly reflect contemporary average engineering standards across the State.

Commission Response

The Commission accepts recommendation 3 and expects to continue to use the current profiles unless a significant issue is identified during the consultation process to cause the Commission to reconsider their use.

4. Definition Simplification

The Terms of Reference require the Review Panel to consider whether there are opportunities to simplify road type definitions, in light of the possible aggregation and/or disaggregation of road types, to help improve the robustness and accuracy of road length reporting by councils. The current definitions are set out in Table 7 below.

Table 7: Roads Preservation Model, Road Type Definitions

Sealed	A road with a running surface of concrete or bitumen in any form (eg flush seal or asphalt).
Unsealed	Any other road, usually with a running surface of gravel, but may include roads on natural surface, whether formed or cleared only (provided always that these latter roads are maintained by Council).
Urban	A road or street, usually but not necessarily within town boundaries, that has predominant frontage development either business or residential, often with kerb and guttering and/or footpath. <small>[Note: All streets/roads within town boundaries are not necessarily urban; frontage development is the controlling factor.]</small>
Rural	Any road without predominant frontage development, either within or outside town boundaries.

Review Panel Assessment

Having regard to its previous recommendations, the Review Panel saw no need to change the definitions to allow the aggregation of unsealed roads, or the disaggregation of urban sealed roads. However, the Review Panel considered that the term 'frontal development', which is used to differentiate between urban and rural roads, is tenuous and not prescriptive enough to be consistently applied across all councils.

The Tasmanian Planning Commission has been working with councils to create standardised planning zones that will be consistent across all Tasmanian planning schemes. The Review Panel considered it possible that the differentiation between urban and rural roads could be determined by the council planning zone adjacent to the road. For example, all road lengths with an adjacent residential zoning should be included as an urban sealed road.

Recommendation 4

The Review Panel recommends that the current road definitions remain in place. However, as soon as standardised planning zones have been implemented by the Tasmanian Planning Commission and councils, the State Grants Commission should seek to base definitions of urban and rural roads governed by the adjacent council planning zones.

Commission Response

The Commission accepts recommendation 4 as a reasonable alternative to the current definitions of urban and rural. However, it is the Commission's understanding that not all council planning schemes have been converted to the new standardised zonings. As a result, this issue will be revisited in the future once it is confirmed that all councils have updated their planning schemes.

5. Urbanisation Allowance

The Urbanisation Allowance was included in the Terms of Reference, due to the possible disaggregation of urban sealed roads. The Commission wished to provide the Review Panel the latitude to recommend whether the allowance should be retained but dependent on the outcome of other discussions.

Review Panel Assessment

The Review Panel considered the urbanisation allowance methodology and acknowledged the need for an allowance due to the additional cost of maintaining CBD roads due to increased traffic and service pit management, in light of its view that the urban sealed road type should remain unchanged.

Furthermore, the Panel noted that the allowance is applied to only six councils and that the kilometres included within the calculation are not significant. The Panel resolved that the urbanisation allowance is an appropriate measure to capture the additional cost of maintaining CBD road lengths.

Recommendation 5

The Review Panel recommends that the current Urbanisation Allowance be retained, as it necessarily captures the additional cost of CBD roads compared to standard urban sealed roads.

Commission Response

The Commission accepts recommendation 5 in light of its views on preceding recommendations regarding no further disaggregation of the urban sealed road category.

6. Bridges Assessment

Currently 5 per cent of the road grant is distributed based on council shares of the total state bridge deck area (BDA). Several councils over recent years have voiced concern that, due to the high number of bridges within their municipal boundaries, the proportional cost of bridges compared to roads was considerably more than 5 per cent of their total recurrent infrastructure spend.

It has also been noted by the Commission that the current bridge assessment based on BDA does not take into account the cost of maintenance or reconstruction of bridges, whereas the current roads assessment, within the RPM, does. This disparity between the assessment of roads and bridges prompted the Commission to ask the Review Panel to consider whether it was possible to better align the bridge and road assessments.

Review Panel Assessment

The Review Panel considers it possible to calculate a life cycle cost for bridges in a similar manner to that which is currently calculated for roads. To help facilitate this the Review Panel has suggested that the Commission should continue to collect BDA data each year and that the Commission should apply average maintenance and reconstruction costs per square metre to the areas reported by councils. The Review Panel has suggested that reconstruction costs per square metre could be obtained from AusSpan Pty Ltd, which provides bridge management services to the majority of Tasmanian councils, and that data pertaining to maintenance per square metre be obtained directly from councils prior to the introduction of any method changes.

Recommendation 6

The Review Panel recommends the calculation of an adjusted cost of maintenance and renewal for bridges as a reasonable alternative to the current share of bridge deck area assessment. A life cycle cost would bring the bridges assessment more into line with the assessment of roads.

Commission Response

The Commission accepts recommendation 6, and expects to include this new approach to bridge assessment for the 2012-13 distribution.

The Commission currently anticipates that this bridge assessment will be included with the roads assessment within a revised asset preservation model. This would enable the Commission to calculate a total cost of maintenance and reconstruction across both roads and bridges. This would provide the opportunity to calculate shares of the road grant on a single amount and remove the need for the 95/5 split in the road grant. That is to say, 100 per cent of road grant funds could be distributed based on shares of the total cost of maintenance.

The Commission expects to circulate relevant data requests in late 2011, to allow time to incorporate them into a revised assessment model prior to the determination of the 2012-13 distribution.

7. Updating of Data

The Roads Preservation Model calculates the theoretical annual cost of maintaining each council's local road network using a combination of average life expectancies, average costs of maintenance and cost adjusters reflecting the cost differentials between councils. The datasets that inform these essential elements of the assessment change over time due to inflationary pressures in the case of the costs of maintenance, and, more recently, advances in local government asset management practices that have given councils greatly increased information regarding the life expectancies of local government roads.

Review Panel Assessment

The Review Panel understands the Commission's need to use contemporary data such that any movements between councils can be reflected in the Commission assessments. To underline the importance of up-to-date data the Review Panel made this issue a separate recommendation.

The Review Panel noted that over the coming months the Local Government Association of Tasmania (LGAT) will be conducting a project to increase standards of asset management and financial planning across the local government sector. The Review Panel considers that the updating of appropriate data would be best completed in late 2011 as councils would have the benefit of having completed the project, and data should therefore be more consistent across the state.

Recommendation 7

The Review Panel recommends that all appropriate life expectancies and costs of maintenance be updated prior to the implementation of any changes in methodology to the roads assessment model.

Commission Response

The Commission accepts this recommendation. The Commission expects to circulate data requests regarding life expectancies to councils, and seek to engage the services of an independent consultant to provide the costs of maintenance in late 2011, after the completion of the LGAT project into asset management and financial planning. The collection of data in late 2011 will also allow time for the incorporation of updated data into the revised methodology prior to the determination of the 2012-13 distribution.

The Commission also expects to obtain updated GIS data to inform the Climate and Terrain Cost Adjusters, and also consult with the six councils that currently receive the Urbanisation Allowance to confirm the road lengths included within the assessment.

8. Life Cycle Calculations

This issue was not contained within the Terms of Reference, or subsequently raised by the Commission. The Review Panel noted the application of the RPM formulas during its examination of the bridges assessment. The Review Panel considered this issue sufficiently important to be addressed as part of this review process.

Review Panel Assessment

During the Review Panel deliberations on the life cycle cost of bridges for the recommended revised bridges assessment, it was observed that the formulas used within the roads assessment were not reflecting actual council maintenance practices.

This is best illustrated by using an example. Urban sealed roads currently have a maximum life expectancy of 80 years, at which time a reconstruction would be undertaken. The Review Panel noted that, using current life expectancies, urban sealed roads would expect to be rehabilitated only once over its 80 year lifetime, with the rehabilitation having a life expectancy of 45 years. The formulas within the RPM have been applying rehabilitation to urban sealed roads 1.78 times during the life of the road. This does not correspond with actual council practice, where a significant rehabilitation of an urban sealed road would be applied only once (1.00) during its expected life.

This variance between the application of maintenance methods within the RPM and actual council practice has occurred over most of the maintenance methods included within the RPM. Essentially this means the RPM has been calculating the costs of over-maintaining local roads. The additional costs calculated by the RPM primarily impact urban and rural sealed roads, due to rehabilitation and resealing maintenance.

Recommendation 8

The Review Panel recommends that the Commission consider reviewing the mathematical construction of its Roads Preservation Model to ensure it better reflects actual council engineering practices.

Commission Response

The Commission accepts this recommendation. In order to bring the application of the assessment more in line with actual council practice, the Commission will require data from councils. The data required will be sought in conjunction with road life expectancy data in late 2011. The Commission will be seeking information regarding when maintenance activities are usually applied, and how often they are applied between reconstructions. Information from individual councils will be used to create a picture of 'average' council practice.

9. Asset Management Systems

This issue was not contained within the Terms of Reference, or subsequently raised by the Commission. The Review Panel considered this issue sufficiently important to recommend that it be addressed as part of this review process.

Review Panel Assessment

During the deliberations, it was noted that there have been significant improvements in local government asset management practices, and this is reflected in the amount of data that is being collected and held by councils in relation to their infrastructure construction and renewal programs.

The Review Panel considered that councils hold a wealth of information regarding their road and bridge assets and the Commission should aim, as far as possible, to access this information to inform any proposed changes to the roads assessment methodology.

To assist the Commission to collect data from councils as efficiently as possible, the Review Panel kindly offered to provide advice regarding the design of any data collection tool to be forwarded to councils.

Recommendation 9

The Review Panel recommends that the Commission seek access to and utilise asset management data held by councils to better inform this current review of its roads assessment methodology.

Commission Response

The Commission accepts this recommendation, and will seek information directly from councils, where appropriate, to help inform the assessment model. The Commission acknowledges and expects to take up the Review Panel offer of assistance to design an appropriate data collection tool when required.

SUBMISSIONS AND TIMEFRAMES

The Commission would like to thank the Review Panel members and their respective councils for their assistance and support with the Review process so far.

The Commission invites comments and input from councils on the issues raised within this discussion paper. However, council input need not be confined to the issues identified within this paper. Councils should feel free to provide comments on other pertinent issues regarding the Commission assessment methodologies.

Submissions should be forwarded to the Commission Secretary, Mr Rod Malcomson as follows:

- By post: Secretary
State Grants Commission
GPO Box 147
HOBART TAS 7001
- By email: rodney.malcomson@treasury.tas.gov.au

Further details regarding the annual assessments can be found in the 2010-11 Annual Report that is available on the Commission website. Go to the Department of Treasury and Finance webpage (www.treasury.tas.gov.au) and click the Commission 'Quick Link', then follow the link to publications.

Submissions close on Friday 25 February 2011.

Any queries regarding the review should be directed to the Secretary on 6233 8988.

2011 Hearings and Visits

The Commission will provide councils with the opportunity to discuss the review and any other concerns during the 2011 Hearings and Visits program that will begin in March 2011.

APPENDICES

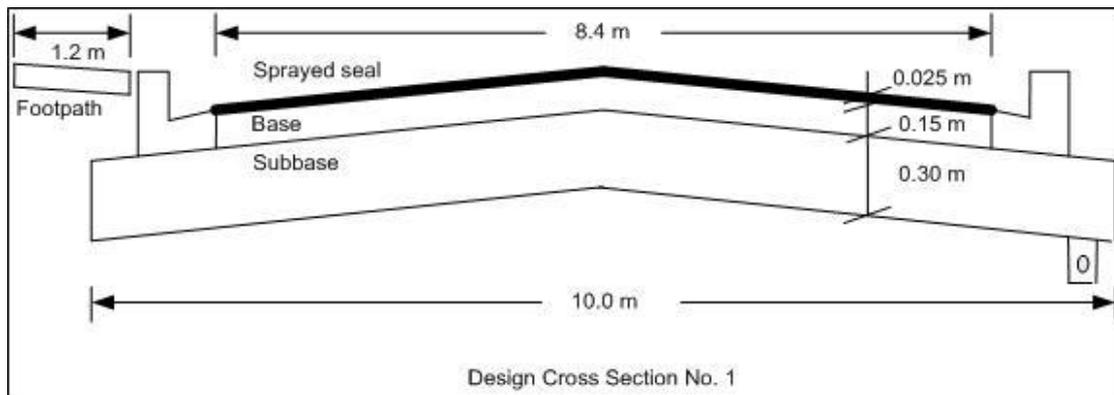
APPENDIX 1

Standardised Road Profiles¹

URBAN SEALED

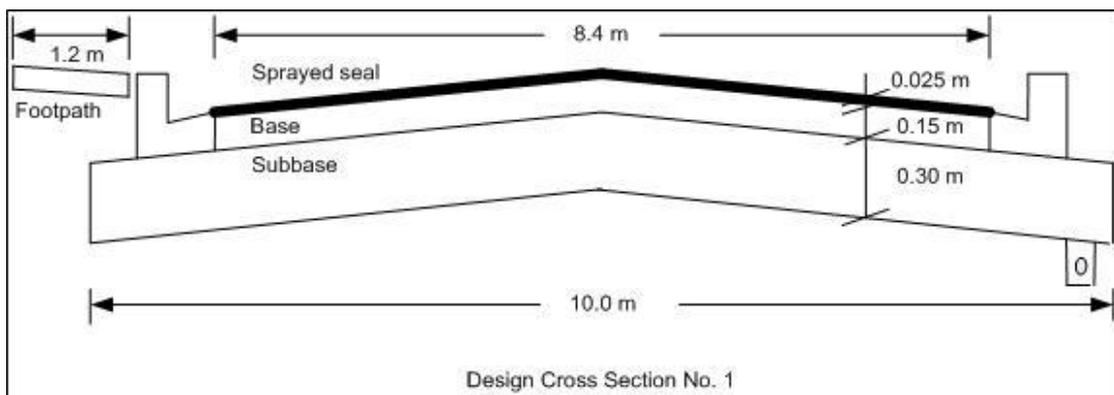
Reconstruction

Removal and replacement of sealed sub-base and base pavement, sealed surfacing, kerb and channel, footpath (1 side) including excavating and laying 100mm subsurface drain.



Maintenance

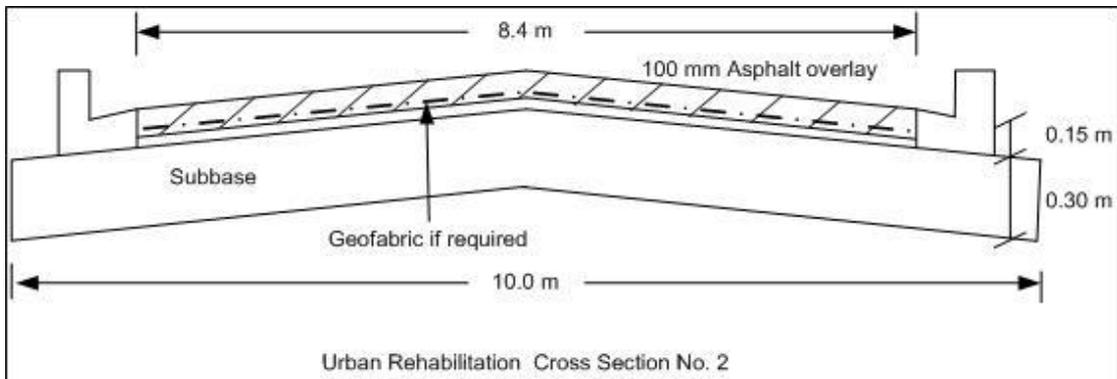
- Resurfacing of asphalt sealed surface with thin (25mm) asphalt surfacing.
- Resurfacing of sprayed seal surface with sprayed seal (1 coat with 10mm aggregate).
- Other routine maintenance e.g. pothole patching, guardrail and sign maintenance etc



¹ These Standardised Road Profile diagrams were provided by Mr John Howard of Jeff Roorda & Associates in his report entitled 'Updating of Contract Unit Rates for Roads Preservation Model' in December 2008.

Rehabilitation

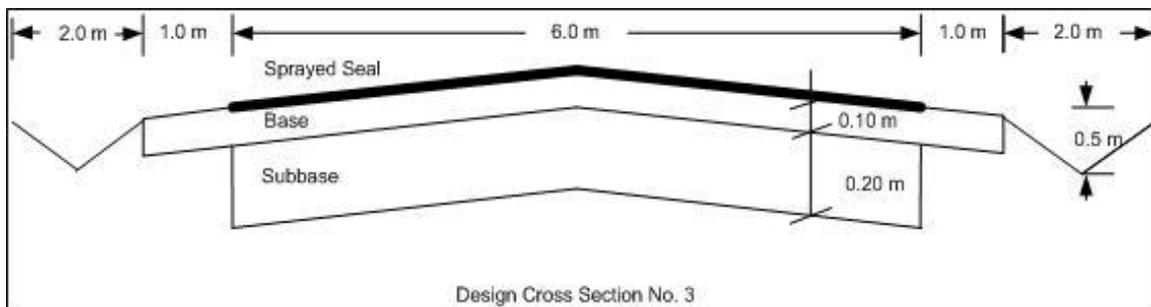
Boxing out 100mm depth of base course pavement layer, placement of geofabric and laying of 100mm of asphalt pavement/surfacing.



RURAL SEALED

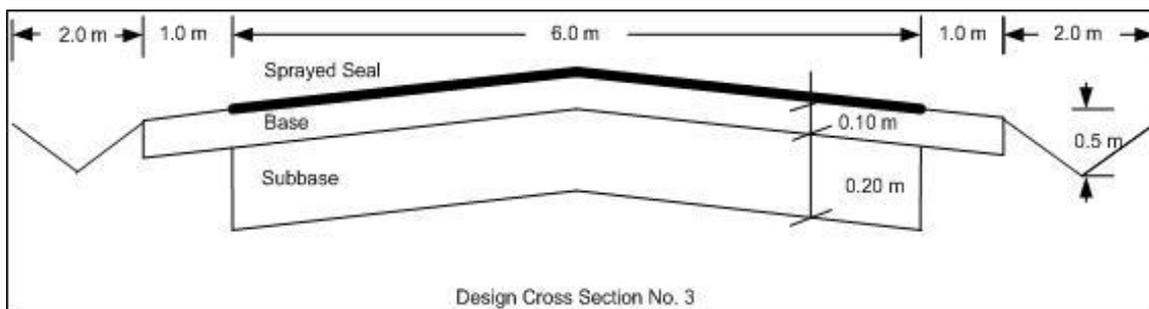
Reconstruction

Removal and replacement of sub-base and base, trimming, compaction and sealing with sprayed seal (1 coat with 10mm aggregate).

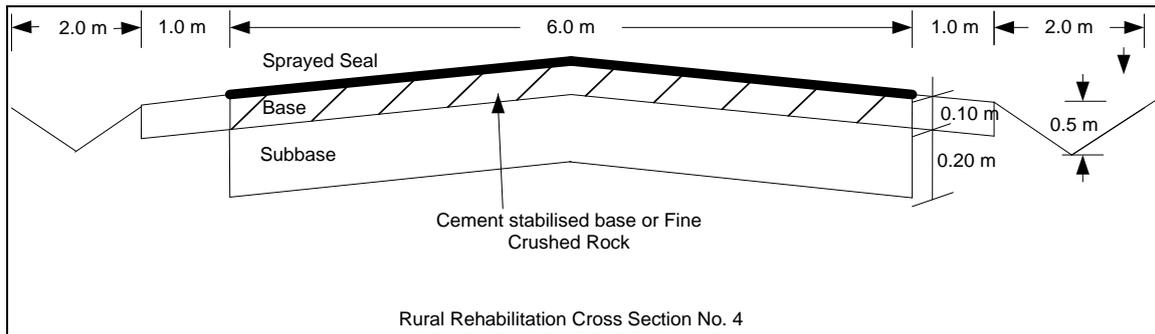


Maintenance

- Resurfacing or sprayed seal surface with sprayed seal (1 coat with 10mm aggregate)
- Other routine maintenance e.g. pothole patching, shoulder maintenance, guardrail and sign maintenance etc..



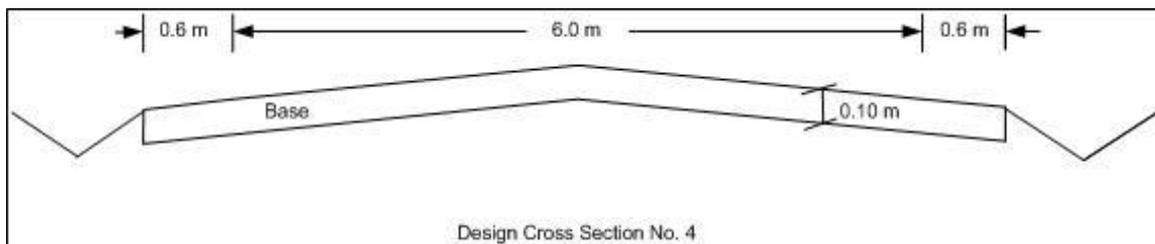
Rehabilitation



UNSEALED

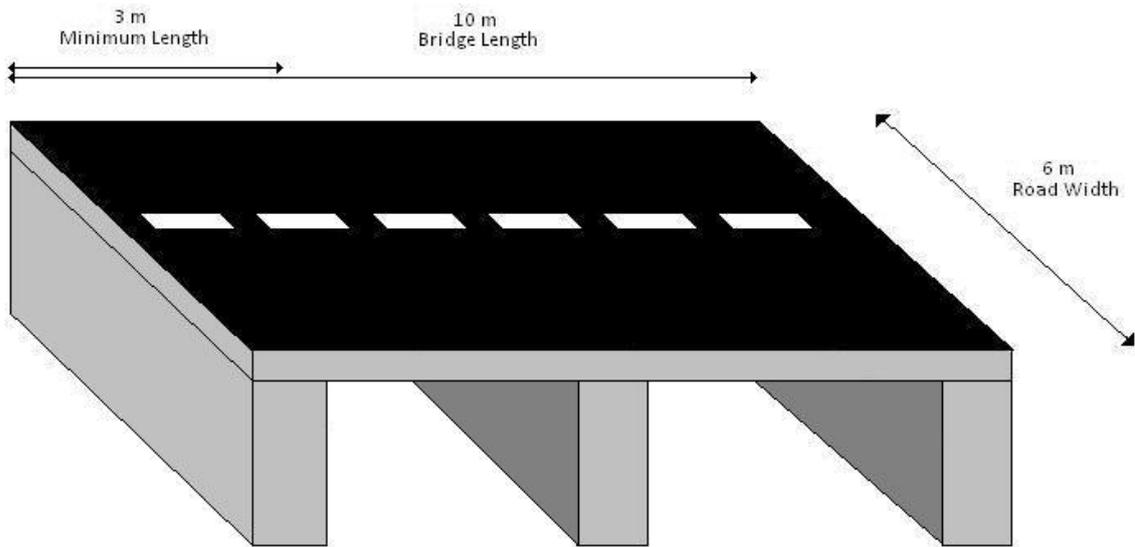
Maintenance

- Routine grading.
- Resheeting of surface.
- Other routine maintenance e.g. table drains, shoulder, guidepost and sign maintenance

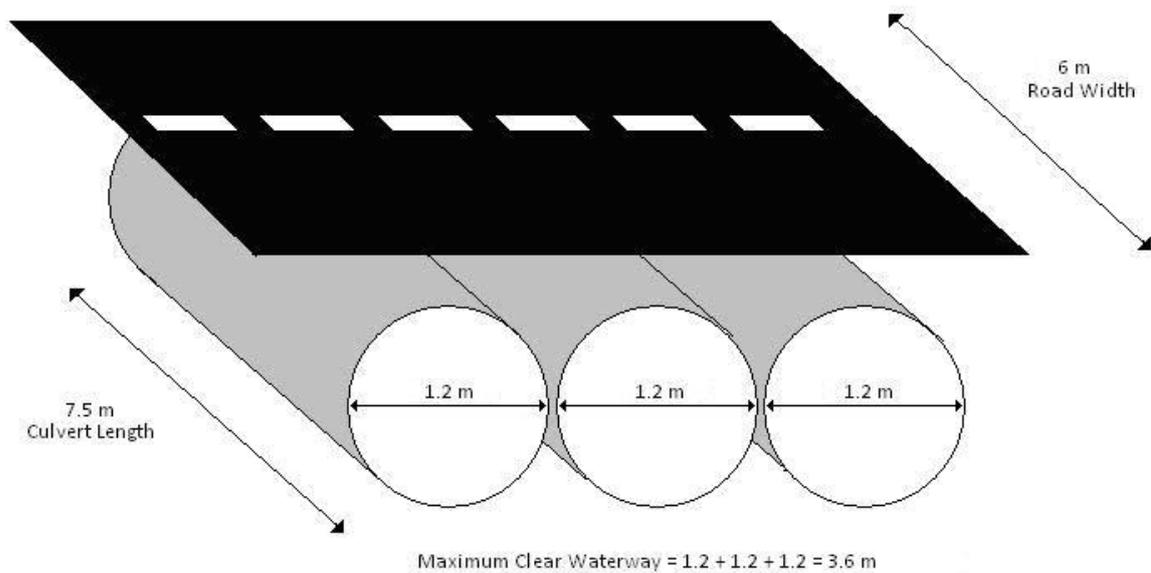


APPENDIX 2

Dimensions of an Eligible Bridge



Dimensions of an Eligible Culvert





Tasmania
Explore the possibilities