

Conversation Starter CS22-02: 2021-22 Review of the Road Preservation Model (RPM) – Opportunities for improvement

THIS PAPER CANVASES IDEAS TO IMPROVE THE COMMISSION'S RPM FOLLOWING CONSIDERATION OF THE FEEDBACK COUNCILS PROVIDED IN THE 2021 RPM SURVEY. THE COMMISSION SEEKS FEEDBACK ON THESE IDEAS FROM COUNCIL ROAD ENGINEERS, ASSET MANAGERS, ETC VIA A SERIES OF VIRTUAL WORKSHOPS IN FEBRUARY 2022.

The State Grants Commission (the Commission) uses the Road Preservation Model (RPM) to determine how to allocate the Local Government Financial Assistance Identified Local Road (Road Grant) Funding that the Australian Government provides Tasmania each year.

The Australian Government provides all states with this type of funding and each state's local government grants commission is required to determine the distribution of these funds based on the following principle:

“as far as practicable, based on the relative need of each local governing body for road expenditure to preserve its road assets. In assessing road needs,

relevant considerations include length, type and usage of roads in each local governing area”.

In 2021-22, every Tasmanian council will receive a share of the \$43.3 million in Road Grant Funding received and allocated based on the RPM outcomes.

What's this paper about?

The Commission has issued this paper to start the conversation between councils and the Commission on the direction and type of improvements that could be made to the Commission's RPM.

The conversation will be conducted via virtual workshops with council engineers, asset management staff etc during February 2022.

The Commission will then consider the feedback councils provide at the workshop

discussions and prepare a more detailed Discussion Paper (planned to be issued in April-May 2022) on the specific improvements, data and reporting changes, timeframes and any transitional arrangements from its current RPM processes to the new processes that the Commission is considering introducing.

Councils will have the opportunity to comment on the proposals in the Discussion Paper before the Commission makes its decisions on the specific nature and form of these improvements to its RPM, the timeline for changes and any transitional arrangements that may also be required.

The Commission thanks councils for their extremely high level of engagement in its recent RPM Survey and encourages every council to be involved and provide input into these formative discussions on how the Commission could improve its RPM.

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What's happened to date?

A review of approaches used in other jurisdictions

The Commission has reviewed the methodologies used by other local government grants commissions to determine the distribution of their respective pools of funding.

The Commission has determined that its fundamental approach of an asset preservation model based on standard road profiles and standard costs continues to be robust but also recognises that there are opportunities for improvements on how it implements this model.

The 2021 RPM Survey

The Commission conducted an online survey of Tasmanian councils in October-November 2021 to gather information on matters such as:

- Seeking comments on the road categories the Commission uses in its RPM;
- Seeking comments on the standard road profiles the Commission uses in its RPM;
- Seeking comments on the bridge and culvert specifications the Commission uses in its RPM; and
- Which road hierarchy or classification system each council uses in its own road asset management system.

The Commission received responses from 26 of Tasmania's 29 councils, which is an excellent 90 per cent response rate.

Sharing the 2021 RPM Survey Results

As a result of some councils asking if the 2021 RPM Survey responses could be shared, 90 per cent of councils completing the survey have since given express consent to the Commission sharing their survey responses with all councils. The raw survey responses file is attached. Any council that had not yet provided express consent to sharing their survey responses prior to the issue of the attachment, have been de-identified in the file.

Where are we now?

The Commission has evaluated the 2021 RPM Survey results for common themes and issues, made a fundamental principles decision regarding the approach for assessing asset preservation needs, and identified some areas and opportunities for modifying and refining the Commission's RPM and assessment of this need.

The Commission has discussed with officers from LGAT and IPWEA the survey results and ideas for potential improvements to the RPM methodology.

The following section provides more detail on the fundamental principles decisions the

Commission has made, and canvases ideas and questions on which the Commission seeks councils' views regarding possible refinements to its RPM.

Other than the basic approach to assessing asset preservation need, the Commission is open minded regarding how its assessment occurs and when it may be implemented.

Next Steps:

The Commission has issued this Conversation Starter to prepare councils for a dialogue with the Commission on the direction and type of improvements that the survey responses indicate could be made to the RPM.

Conversation Starter flyers are not intended to be detailed papers. Council submissions on Conversation Starter issues can take any form councils wish – written and/or verbal views expressed at a series of online workshops that are being organised for late February 2022.

If you are not able to participate in the online workshops, written submissions can also be submitted to SGCC@treasury.tas.gov.au and be received by Monday 28 February 2022. Where possible, documentary evidence in support of the points being made in a submission would be appreciated.

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Background

The Australian Government provides all states with Identified Local Government Roads funding as part of its Financial Assistance Grant payments programs to local government in every state and territory of Australia. In Tasmania the State Grants Commission (the Commission) refers to these funds as the Local Government Financial Assistance Road Grant funding (road grant funding).

Each state's local government grants commission is required to determine the distribution of the road grant funding based on the following National Principle:

“as far as practicable, based on the relative need of each local governing body for road expenditure to preserve its road assets. In assessing road needs, relevant considerations include length, type and usage of roads in each local governing area”.

The Commission uses the Road Preservation Model (RPM) to determine how it should allocate the road grant funding that the Australian Government provides Tasmania each year.

The Commission is currently undertaking a comprehensive review of all aspects of its RPM.

How much Financial Assistance road grant funding does the Commission allocate based on the RPM?

The amount of Financial Assistance road grant funding changes each year because the funding pool is indexed by the Australian Government. The funding is split among Tasmanian councils based on asset preservation needs of road network assets (roads, bridges and major culverts) reported by councils each year. The 2021-22 road grant funding, and how the funding was split by road network assets reported by councils in the 2019-20 Consolidated Data Collection (CDC) Return is detailed below:

Road Grant Funding by road network asset type - 2021-22		
	\$	%
Road lengths (kms)	41 113 221	95.00
Bridge deck area (m ²)	1 939 726	4.48
Major Culvert deck area (m ²)	224 916	0.52
Total Road Grant Funding - 2021-22	43 277 863	100.00

What do other States do?

The Commission has undertaken a review of the methodologies used by other jurisdictions' local government grants commission to distribute their respective road grant funds.

While each jurisdiction uses its own judgement on how to interpret the National Principle of asset preservation need, and each uses its own methodology which it has developed over time as appropriate to their respective circumstances, the Commission found the

approaches to vary considerably. One jurisdiction splits the road grant funding pool into two pools based on a pre-agreed percentage and allocates one pool based on share of total road length and allocates the other pool based on share of population. Another jurisdiction uses a fixed percentage to divide its funding into two pools, with one pool to be allocated among those councils within certain city areas and the other pool to be allocated among all other councils. Each funding pool is then split further based on fixed percentages, with one pool allocated based on share of road length and the other allocated based on share of population. At the other end of the spectrum are comprehensive asset preservation cost models which include different road categories and components depending on whether the road is in a built up area or outside a built up area, road lengths and lane-kilometre lengths, actual and minimum road standards, cost regions, equivalent Average Annual traffic factors on certain roads and recognition of widened sections on highways and main roads through country cities and towns. Most jurisdictions reference a broad road classification system and lifecycle costing process, although the frequency of cost updates do differ.

Decisions made to date on the new methodology:

Having considered the approaches used by other jurisdictions' local government grants commission, the Commission has determined that its current practice of using an Asset Preservation Road Costing model based on standard road profiles,

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annualised whole of life costs with the inclusion of cost adjusters to recognise the relative advantages or disadvantages that each council faces in preserving their respective road network, is robust and continues to be an appropriate manner for assessing each council's asset preservation needs in the first instance.

Specifically, the Commission intends to continue to assess each council's relative need for road grant funding using a combination of:

- a functional road hierarchy category system;
- a standard profile for each road category;
- an assessment of lifecycle activities involved in the management of each road category and their respective life expectancy and frequency;
- the costing of the respective activities; and
- a system of cost adjusters and, if deemed necessary, allowances, to recognise the relative advantages or disadvantages that each council faces in preserving their respective road network assets.

Notwithstanding this decision, the Commission also recognises that there are opportunities for improvements on how it implements such a model.

This paper seeks to garner council feedback on ideas for improvements to its model.

What other decisions has the Commission made?

The 2021 RPM Survey responses included concerns relating to the high cost of concrete roads.

The Commission has considered this matter, and while noting the concerns raised, determined that due to the relatively small number of such roads as a proportion of the total road network, it would not provide any specific recognition or provision for concrete road lengths in its new RPM assessment process.

What is the Commission seeking now?

The 2021 RPM Survey indicated some concerns with the three road category system used by the Commission's RPM, primarily in the more urban areas. The survey also indicated there are some issues regarding the criteria and definition of bridges and major culverts used by the Commission.

The 2021 RPM Survey also indicated a very high adoption rate of the Local Government Road Hierarchy (LGRH) in council asset management systems across the State, which was much higher than the Commission expected.

The Commission is seeking council views on the following ideas to address concerns or take advantage of opportunities for improvements that the 2021 RPM Survey results present. These include the workability, availability of data, advantages and challenges with implementing the following points. The Commission is also interested

in what resources (existing information and/or funds) may be required to assist to support any potential change in road categories that may occur.

Other than the retention of an asset preservation model standard road approach and its decision regarding concrete roads, the Commission has an open mind on the nature of the changes it could make to its RPM.

Road Issues and opportunities for improvement:

The Commission's RPM currently uses three road categories: urban sealed, rural sealed and unsealed. The 2021 RPM Survey indicated a significant portion (>76%) of those councils that responded already use the Tasmanian Local Government Road Hierarchy (LGRH) or are planning to move to it soon. The LGRH provides for 12 road categories across the two road types of urban and rural as per Tables 1 and 2.

The "unformed urban road" and "unformed rural road" categories in the LGRH, by definition, are not maintained by councils. As the Commission's assessment of road preservation need is based on roads maintained by councils, subsequent references in this paper to the LGRH categories is a reference to the 10 maintained road categories and excludes the two unmaintained road categories.

Table 3 indicates the broad alignment of the Commission's road categories to the LGRH categories. Table 4 reflects the LGRH guidance on when a road is to be classed as urban, rural or unsealed. Every

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council will have a mix of urban, rural and unsealed roads, regardless of whether the council itself is classed as urban or rural.

1. What are your views on the Commission adopting the LGRH¹ in the future as its road classification system for its RPM rather than its current three categories, namely Urban Sealed, Rural Sealed and Unsealed?
2. What are your views on whether the Commission should split some of its current road categories into additional categories, rather than adopting the LGRH categories? For example, does the Commission's current urban sealed roads category need to be split into arterial/collector roads and urban sealed roads; or the unsealed road category split into two categories, being urban unsealed roads and rural unsealed roads etc?
3. If the Commission decides to move from its three road categories approach to the LGRH categories, do you think the Commission should transition to the LGRH categories over a number of years e.g. 2-3 years?

For example, in the next CDC data collection process, those councils that currently use the LGRH, start reporting road

lengths based on the LGRH categories;

As an interim process and so there is some consistency over the transition period, some road categories e.g. link, local access and minor access roads could be combined into one category of urban sealed roads (e.g. a "residential type/local access" category of roads) and arterial and collector type roads are differentiated as "other", with appropriate standardised costings developed for each.

For those councils that do not use the LGRH, the Commission could assess "urban sealed" roads as "residential type/local access" roads until these councils can report road lengths on the LGRH category basis.

4. If the Commission decides to move from its three road categories approach to the LGRH categories with a transition phase, which LGRH road categories do you think are best combined as interim categories?
5. Over the longer term, does the Commission need to reflect all the LGRH categories in the RPM or should it simplify the RPM categories by combining some of the LGRH categories? If yes, which categories could be combined long term?
6. If your council is not currently using the LGRH categories, and the Commission decides to use the LGRH categories in its RPM, do you need assistance, and if so what form of assistance would

best assist you, to transition to reporting against the LGRH categories?

Urbanisation Allowance for roads

The Commission's Urbanisation Allowance currently recognises a factor of 3 x road length for those sections of Central Business District roads in city councils that qualify as eligible for this allowance.

The Commission's review of other jurisdictions methodologies found another jurisdiction recognises number of lanes times a standard lane width to calculate the square metre dimensions of its urban roads.

7. What are your views on the Commission assessing urban collector and urban arterial roads based on lane kilometre lengths (a standard lane width (e.g. 3.5ms) x number of lanes) for roads in built up areas rather than the current Urbanisation Allowance? Would data be available and how material is this road length measure?
8. If the Commission were to move its RPM to being based on the LGRH categories, is the Urbanisation Allowance still required? If yes, what times factor should the Urbanisation Allowance apply?

Industrial Roads

The LGRH does not have a category for Industrial roads in industrial precincts. The Commission understands most councils will have some industrial precincts. These roads would feature roads with

¹ Where Traffic count data is based on typical average usage for a road of that general design rather than periodic physical traffic counting exercises.

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greater pavement strength, greater pavement width, turning circles, driveway crossings etc to cope with a high concentration of heavy freight loads in a location.

9. What road length falls within your council's "industrial" precinct? How does your council currently classify and report these "industrial precinct" road lengths? Which of the current LGRH category would apply to these roads?

Bridges & Major Culverts: Issues and opportunities for improvement:

The 2021 RPM Survey results indicated there are some concerns regarding the Commission's parameters for defining and classifying bridges and major culverts compared to industry norms.

The Commission's current definitions and criteria for eligibility of bridges and major culverts for inclusion in the assessment of asset preservation need is detailed in section 3.2 of the: [State Grants Commission Financial Assistance Grant Distribution Methodology](#).

IPWEA has advised the Commission that its definitions for Bridges and Major Culverts were updated in the Tasmanian Local Government CDC return for the financial year ending 30 June 2020 to align the definition with most other State and Territory jurisdictions (mainly road authorities) determinations.

The IPWEA definition of Bridges and Major Culverts include structures that:

- span a waterway cross-sectional area in excess of three (3) square metres; and/or
- exceeds 1.8 metres in height, width or diameter; and
- are located on a declared road or public road reserve.

For example: culverts with a pipe $\geq 1950\text{Ø}^2$ OR multiple smaller pipes/culverts with a combined cross-sectional area greater than three (3) square metres qualify as major culverts.

IPWEA advised that this definition also accounts for flood ways, causeways and similar assets, and structures below these thresholds are typically expensed and/or included in another asset category such as stormwater, ancillary, etc.

IPWEA has advised it adopted this definition so that it captures assets of this size or greater that are large enough to walk through/under (therefore providing ease of inspection) and which would result in significant expenditure for councils (comparatively to the smaller structures) should they fail or require replacement.

The Commission currently has separate definitions for bridges and major culverts and requires:

- bridges to be a minimum length of 3 metres but with no minimum width requirement; and

- major culverts must have a minimum horizontal clear opening facing a waterway of 3 metres or more, with the culvert length capped at 6 metres.

The assets are also required to be associated with the road network.

Depending on how an asset is classified or reported, the deck area calculation can be quite different and change the asset preservation need calculation for bridges and culverts due to the differences in criteria.

10. Given the materiality of funding allocated based on bridges and major culverts, does the Commission need to review its bridge and major culvert definitions?

11. Should the Commission adopt the IPWEA definition of "bridge and major culverts"?

12. Are there better profiles and definitions that the Commission could consider?

Classification of Councils: Urban versus Rural

The Australian Government uses a National classification system, referred to as the Australian Local Government Classification (ALGC) for comparing councils based on certain attributes. The methodology for classifying councils, and each Tasmanian council's classification based on 30 June 2020 population, is provided in Table 5.

13. Do you think the Commission should use the ALGC in any way in its RPM assessment process?

² Ø Denotes diameter

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Table 1: Tasmanian Local Government Road Hierarchy - Urban Roads

Classification	1. Arterial	2. Collector	3. Link	4. Local access	5. Minor access	6. Unformed
Functional Criteria						
Function/ predominant purpose	Provide the principal links between urban centres, or between urban centres and rural regions.	Connect arterial roads to local areas and supplement arterial roads in providing for traffic movements between urban areas, or in some cases rural population centres.	Provide a link between the arterial or collector roads and local access roads.	Provide access to residential properties and in some cases commercial properties, at a local level.	Provide access to residential properties and irregular access to community facilities such as parks and reserves.	Roads not maintained by the council or non-constructed/maintained road reserves or roads that have a very low level of service.
Connectivity description	High connectivity - connecting precincts, localities, suburbs, and rural population centres.	High connectivity – supplements arterial roads in connecting suburbs, business districts and localised facilities.	Medium connectivity – connects traffic at a neighbourhood level with collector and arterial roads.	Low – connects individual properties within a neighbourhood to link roads.	Low – provides access to properties.	Future roads or roads that have a very low level of service.
Guidance Metrics						
Average Annual Daily Traffic (AADT)	>10 000 vehicles per day (vpd)	3 000 - 10 000 vpd	1 000 - 3 000 vpd	50 - 1 000 vpd	<50 vpd	N/A
Heavy vehicles permitted	Yes - thoroughfare	Yes - thoroughfare	Yes - some through traffic	No thoroughfare, local access only	No thoroughfare, local access only	N/A
Average Annual Daily Truck Traffic or Equivalent Heavy Vehicles (AADTT / EHV)	>1 000 AADTT or >10% EHV	250 - 1 000 AADTT or >10% EHV	<250 AADTT or >10% EHV	N/A	N/A	N/A
Public transport route	Yes	Yes	Yes	No	No	N/A
Carriageway form	2 or 4 lanes	2 lanes	2 lanes	1 or 2 lanes	Typically 1 lane	N/A
Running surface	Sealed	Sealed	Sealed	Sealed/unsealed	Sealed/unsealed	Unformed

Table 2: Tasmanian Local Government Road Hierarchy - Rural Roads

Classification	Arterial	Collector	Link	Local access	Minor access	Unformed
Functional Criteria						
Function/ predominant purpose	Provide the principal links between rural population centres and regions.	Connect arterial roads to local areas and supplement arterial roads in providing for traffic movements between rural population centres.	Provide a link between the arterial or collector roads and local access roads.	Provide access to residential properties and in some cases commercial properties, at a local level.	Provide secondary access to residential properties and irregular access to community facilities such as parks and reserves.	Roads not maintained by the council or non-constructed/maintained road reserves or roads that have a very low level of service.
Connectivity description	High connectivity - connecting rural population centres.	High connectivity – supplements arterial roads in connecting towns, rural centres and localised facilities.	Medium connectivity – connects traffic at a neighbourhood level with collector and arterial roads.	Low – connects individual properties within a neighbourhood to link roads.	Low – provides access to properties.	Future roads or roads that have a very low level of service.
Guidance Metrics						
Average Annual Daily Traffic (AADT)	>2000 vehicles per day (vpd)	300 - 2000 vpd	100 - 300 vpd	30 - 100 vpd	<30 vpd	N/A
Heavy vehicles permitted	Yes - thoroughfare	Yes - thoroughfare	Yes - some through traffic	No thoroughfare, local access only	No thoroughfare, local access only	N/A
Average Annual Daily Truck Traffic or Equivalent Heavy Vehicles (AADTT / EHV)	>300 AADTT or >20% EHV	60 - 300 AADTT or >10% EHV	<60 AADTT or >10% EHV	N/A	N/A	N/A
Public transport route	Yes	Yes	Yes	No	No	N/A
Carriageway form	2 or 4 lanes	2 lanes	2 lanes	1 or 2 lanes	Typically 1 lane	N/A
Running surface	Sealed	Sealed	Sealed/unsealed	Sealed/unsealed	Sealed/unsealed	Unformed

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Table 3: Indicative Alignment of Road Hierarchy Systems

Local Government Road Hierarchy	State Grants Commission Hierarchy
Urban Roads	
Arterial	Urban Sealed
Collector	Urban Sealed
Link	Urban Sealed
Local Access	Urban Sealed
Minor Access	Urban Sealed
Rural Roads	
Arterial	Rural Sealed
Collector	Rural Sealed
Link	Rural Sealed/Unsealed
Local Access	Rural Sealed/Unsealed
Minor Access	Rural Sealed/Unsealed

Table 4: Definition of urban and rural roads used by the State Grants Commission. (LGRH - June 2015)

Road classification	Description
Urban sealed road	A road usually but not necessarily within town boundaries, that has predominant frontage development of either business or residential, often with kerb and guttering and/or footpath that has a running surface of bitumen in any form (e.g. flush seal or asphalt) or concrete. Note: All streets/roads within town boundaries are not necessarily urban; frontage development is the controlling factor.
Rural sealed roads	A road that has a running surface of bitumen in any form (e.g. flush seal or asphalt) or concrete without predominant frontage development either within or outside town boundaries.
Unsealed road (urban and rural)	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 the council).

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Table 5 - Australian Local Government Classification (ALGC) System - Assessment criteria and Tasmanian council classifications based on 30 June 2020 population

Step 1	Step 2	Step 3	Identifiers	Category	Tasmanian Councils 2021-22 Recommendations
URBAN (U)					
Population more than 20 000; OR if population less than 20 000; EITHER Population density more than 30 persons per square kilometre OR 90 per cent or more of the local governing body population is urban.	CAPITAL CITY (CC)			UCC	Hobart.
	METROPOLITAN DEVELOPED (D) Part of an urban centre of more than 1 000 000 or population density more than 600 per square kilometre	SMALL (S)	up to 30 000	UDS	
		MEDIUM (M)	30 001–70 000	UDM	
		LARGE (L)	70 001–120 000	UDL	
VERY LARGE (V)		more than 120 000	UDV		
REGIONAL TOWNS/CITY (R) Part of an urban centre with population less than 1 000 000 and predominantly urban in nature	SMALL (S)	up to 30 000	URS	Bumie, Central Coast, Devonport. Launceston	
	MEDIUM (M)	30 001–70 000	URM		
	LARGE (L)	70 001–120 000	URL		
	VERY LARGE (V)	more than 120 000	URV		
FRINGE (F) A developing LGA on the margin of a developed or regional urban centre	SMALL (S)	up to 30 000	UFS	Brighton, West Tamar. Clarence, Glenorchy, Kingborough.	
	MEDIUM (M)	30 001–70 000	UFM		
	LARGE (L)	70 001–120 000	UFL		
	VERY LARGE (V)	more than 120 000	UFV		
RURAL (R)					
A local governing body with population less than 20 000 AND population density less than 30 persons per square kilometre AND less than 90 per cent of local governing body is urban.	SIGNIFICANT GROWTH (SG) Average annual population growth more than three per cent, population more than 5000 and not remote			RSG	
	AGRICULTURAL (A)	SMALL (S)	up to 2 000	RAS	Flinders, King Island. Central Highlands, Glamorgan Spring Bay, Tasman, West Coast.
		MEDIUM (M)	2 001–5 000	RAM	
		LARGE (L)	5 001–10 000	RAL	
REMOTE (T)	VERY LARGE (V)	10 001–20 000	RAV	Break O'Day, Circular Head, Dorset, George Town, Kentish, Southern Midlands. Derwent Valley, Huon Valley, Latrobe, Meander Valley, Northern Midlands, Sorell, Waratah-Wynyard.	
	EXTRA SMALL (X)	up to 400	RTX		
	SMALL (S)	401–1 000	RTS		
	MEDIUM (M)	1 001–3 000	RTM		
	LARGE (L)	3 001–20 000	RTL		