

AUSTROADS GUIDE TO ASSET MANAGEMENT

General

Austrroads has released the *Guide to Asset Management* and all road agencies across Australasia have agreed to adopt the Austrroads guides to provide a level of consistency and harmonisation across all jurisdictions. This agreement means that the new Austrroads guides and the Australian Standards, which are referenced in them, will become the primary technical references for use within the Authority.

This supplement is issued to clarify, add to, or modify the Austrroads *Guide to Asset Management*.

The RTA NSW accepts the principles in the Austrroads *Guide to Asset Management* with variations documented in this supplement under the following categories:

- **RTA Enhanced Practice:** RTA practices which enhance the Austrroads Guides.
- **RTA Complementary Material:** RTA asset management reference material that complements the Austrroads Guides. These documents include RTA Manuals, Technical Directions and/or other reference material and are to be read in conjunction with the Austrroads Guides.
- **RTA Departures:** RTA asset management practices that depart from the Austrroads Guides.

Document Information

Title:	RTA Supplement for Austroads Guide to Asset Management
Branch / Section / Unit:	Infrastructure Asset Management Branch
Author:	Liam Terris
Contributors:	
Approver:	John Statton
Audience:	RTA only
Date of Effect:	2 May 2011
Next Review Date:	2 May 2012
Document Number:	RTA/Pub.11.166
Keywords:	Asset Management, Program Development, Pavement Performance, Bridge Performance, Road Related Asset Performance

Document History

Version	Date	Reason for Amendment	Page No.	Editor
1	2.05.11	First issue		L Terris

For enquiries and further issues to be added to this supplement email [Austroads Supplements](#)

PART 1 – INTRODUCTION TO ASSET MANAGEMENT

Reference Section	RTA Enhanced Practice, Complementary Material, or Departures	Date
General	There are no RTA Enhanced Practices, RTA Complementary Materials or RTA Departures for this part of the Austroads Guide to Asset Management.	

PART 2 – COMMUNITY AND STAKEHOLDER REQUIREMENTS

Reference Section	RTA Enhanced Practice, Complementary Material, or Departures	Date
General	There are no RTA Enhanced Practices, RTA Complementary Materials or RTA Departures for this part of the Austroads Guide to Asset Management.	

PART 3 – ASSET STRATEGIES

Reference Section	RTA Enhanced Practice, Complementary Material, or Departures	Date
General	There are no RTA Enhanced Practices, RTA Complementary Materials or RTA Departures for this part of the Austroads Guide to Asset Management.	

PART 4 – PROGRAM DEVELOPMENT AND IMPLEMENTATION

Reference Section	RTA Enhanced Practice, Complementary Material, or Departures	Date
3.2.1	RTA complementary material for maintenance intervention criteria: <ul style="list-style-type: none"> • <i>RTA Specifications: Maintenance intervention and investigatory levels</i> 	

PART 5 – PAVEMENT PERFORMANCE

Reference Section	RTA Enhanced Practice, Complementary Material, or Departures	Date
<p>Part 5</p> <p>5.3</p>	<p>Pavement performance</p> <p>RTA complementary material for developing the pavement works program include:</p> <ul style="list-style-type: none"> • <i>Asset Management Circular: Work Selection Criteria</i> • <i>IAM Policy Statement: Developing the Forward Program</i> 	
<p>Part 5A</p> <p>General</p>	<p>Inventory</p> <p>The Road Asset Management System (RAMS) is the information system for managing the state road linear network and storing Administrative, Condition, Pavement and Surface inventory related to the network. Access to the RAMS production system is restricted to corporate and regional licensed users who have accountability for creating and maintaining network and inventory data. Other staff with a need to access and use road network and inventory data can get "read-only" access via a number of other systems such as ArcGIS, RAMS Reports through the Oracle Security Management System (OSMS) and Oracle Discoverer.</p> <p>RTA complementary material:</p> <ul style="list-style-type: none"> • <i>RTA's Road Asset Management System reference documents and procedures</i> 	
<p>Part 5B</p> <p>2.2</p> <p>2.4</p> <p>Commentary F</p>	<p>Roughness</p> <p>Austroads recommends in Table 2.1 a frequency of roughness surveys of <i>1 to 2 years for heavily trafficked arterial road</i> and a frequency of <i>2 to 3 years for arterial roads with average deterioration</i>.</p> <p>RTA practice is to survey the entire State Road network annually.</p> <p>Austroads states <i>roughness should be recorded for each 100 m segment as Lane roughness, IRI (or more precisely, Lane) (m/km), to not more than two decimal places</i>.</p> <p>RTA practice is to record both IRIqc and NAASRA roughness meter counts.</p> <p><i>Austroads has endorsed the International Roughness Index (IRI) as the reporting unit for road roughness in Australasia. After a considerable transition period, continuing use of the traditional reporting unit (NAASRA roughness meter counts, or NRM) is no longer considered appropriate and all roughness results should now be reported exclusively in terms of IRI.</i></p> <p>RTA practice is to use IRIqc on a non-exclusive basis for several years until the NSW State Plan commitment to improve the smoothness of State Roads to an agreed level, as measured in NRM, expires in 2016.</p>	

Reference Section	RTA Enhanced Practice, Complementary Material, or Departures	Date																																																											
Part 5C	Rutting																																																												
2.3	<p>Austroads recommends in Table 2.1 a frequency of rutting surveys of <i>1 to 2 years for heavily trafficked arterial road</i>.</p> <p>RTA practice is to survey the entire State Road network annually.</p>																																																												
2.5.2	<p>Austroads states <i>rutting should be reported in terms of severity and extent for the left wheel path (and for the lane where available) for each reporting interval, as:</i></p> <ul style="list-style-type: none"> • <i>Severity:</i> - mean rut depth (mm), to the nearest whole number - standard deviation of rut depths (mm), to one decimal point • <i>Extent:</i> - the percentage of the length with maximum rut depths in 'bins' as follows: rut ≤ 5 mm; 5 mm < rut ≤ 10 mm; 10 mm < rut ≤ 15 mm; 15 mm < rut ≤ 20 mm; 20 mm < rut ≤ 25 mm; 25 mm < rut ≤ 30 mm; 30 mm < rut ≤ 35 mm; 35 mm < rut ≤ 40 mm; rut > 40 mm. <p>RTA practice is not to report the mean rut depth and standard deviation of ruts depths but to report only the proportion of rutting within four progressive bands as defined in the RTA's pavement management system.</p>																																																												
Part 5D	Strength																																																												
2.5.5	<p>Austroads suggests in Table 2.1 <i>indicative threshold surface performance indicators to initiate targeted discrete network level surveying:</i></p> <table border="1"> <thead> <tr> <th rowspan="3">Road type</th> <th colspan="2" rowspan="2">Typical operating conditions</th> <th colspan="6">Performance indicators</th> </tr> <tr> <th colspan="2">Roughness</th> <th colspan="2">Rutting (1.2 m straight edge)</th> <th colspan="2">Cracking</th> </tr> <tr> <th>Speed (km/h)</th> <th>AADT (v/day)</th> <th>Limit (IRI (mm/km))</th> <th>Rate (IRI/yr)</th> <th>Limit (mm)</th> <th>Rate (mm/yr)</th> <th>Limit (% area)</th> <th>Rate (% area/yr)</th> </tr> </thead> <tbody> <tr> <td>Freeway</td> <td>≥ 100</td> <td>> 30,000</td> <td>3.5</td> <td>0.05</td> <td>10</td> <td>0.3</td> <td>1</td> <td>0.1</td> </tr> <tr> <td>Highly trafficked arterial road</td> <td>100</td> <td>> 10,000</td> <td>4.2</td> <td>0.08</td> <td>10</td> <td>0.5</td> <td>2</td> <td>0.1</td> </tr> <tr> <td>Medium trafficked arterial</td> <td>80 - 100</td> <td>2,000 – 10,000</td> <td>4.2</td> <td>0.2</td> <td>15</td> <td>0.6</td> <td>5</td> <td>0.5</td> </tr> <tr> <td>Low trafficked arterial or main road</td> <td>Various</td> <td>< 2,000</td> <td>5.4</td> <td>0.3</td> <td>20</td> <td>0.8</td> <td>10</td> <td>1</td> </tr> </tbody> </table> <p>Note: Deflection survey to occur when either or any of the above performance indicator limits and/or rates is exceeded.</p> <p>RTA practice is to determine locations for targeted strength testing based on a risk assessment, strategic importance of the road, extent and severity of pavement distress, project planning requirements and research needs (e.g. to assess loss of strength following inundation of pavements).</p>	Road type	Typical operating conditions		Performance indicators						Roughness		Rutting (1.2 m straight edge)		Cracking		Speed (km/h)	AADT (v/day)	Limit (IRI (mm/km))	Rate (IRI/yr)	Limit (mm)	Rate (mm/yr)	Limit (% area)	Rate (% area/yr)	Freeway	≥ 100	> 30,000	3.5	0.05	10	0.3	1	0.1	Highly trafficked arterial road	100	> 10,000	4.2	0.08	10	0.5	2	0.1	Medium trafficked arterial	80 - 100	2,000 – 10,000	4.2	0.2	15	0.6	5	0.5	Low trafficked arterial or main road	Various	< 2,000	5.4	0.3	20	0.8	10	1	
Road type	Typical operating conditions				Performance indicators																																																								
			Roughness		Rutting (1.2 m straight edge)		Cracking																																																						
	Speed (km/h)	AADT (v/day)	Limit (IRI (mm/km))	Rate (IRI/yr)	Limit (mm)	Rate (mm/yr)	Limit (% area)	Rate (% area/yr)																																																					
Freeway	≥ 100	> 30,000	3.5	0.05	10	0.3	1	0.1																																																					
Highly trafficked arterial road	100	> 10,000	4.2	0.08	10	0.5	2	0.1																																																					
Medium trafficked arterial	80 - 100	2,000 – 10,000	4.2	0.2	15	0.6	5	0.5																																																					
Low trafficked arterial or main road	Various	< 2,000	5.4	0.3	20	0.8	10	1																																																					

Reference Section	RTA Enhanced Practice, Complementary Material, or Departures	Date
2.6.1	<p>Austroads suggests the following <i>starting point for determining frequency of deflection testing</i>:</p> <ul style="list-style-type: none"> • <i>motorways and heavily-trafficked arterial roads (with no distress):</i> 3 – 5 years • <i>motorways and heavily-trafficked arterial roads (with noticeable distress):</i> 1 – 3 years • <i>other roads with no distress:</i> 5 – 15 years • <i>other roads with noticeable distress:</i> 2 – years <p>RTA practice is to determine the frequency of network level strength monitoring on the basis of the roads importance not on the presence or otherwise of pavement distress.</p>	
<p>Part 5E</p> <p>2.3</p> <p>2.4.2</p>	<p>Cracking</p> <p>Austroads recommends in Table 2.1 a frequency of cracking surveys of <i>1 year for heavily trafficked arterial road and roads with high rates of deterioration and a frequency of 2 to 3 years for arterial roads with average deterioration</i>.</p> <p>RTA practice is to survey the entire State Road network annually.</p> <p>In Table 2.2 Austroads defines <i>cracking parameters for summary reporting</i> and indicates extent categories as < 1%, 1% - 5%, 5% – 10%, 10% – 25% and > 25%. Table 2.2 also includes the <i>predominant crack type</i> and the <i>severity of cracking</i> in terms of width of crack.</p> <p>RTA practice is not to report predominant crack type and the severity of cracking but to report only the extent of cracking as the proportion of the road network within four progressive bands as defined in the RTA’s pavement management system.</p>	
<p>Part 5F</p> <p>General</p>	<p>Skid resistance</p> <p>RTA complementary material:</p> <ul style="list-style-type: none"> • <i>Asset Management Circular: Network skid monitoring using SCRIM</i> • <i>Technical Direction: Management of skid resistance data using SCRIM</i> 	
<p>Part 5G</p> <p>2.2</p>	<p>Texture</p> <p>Austroads recommends that <i>where road authorities adopt network-level testing, the extent and frequency of the regime is largely dependent on the performance, function, use and baseline condition of the roads being considered</i>.</p> <p>RTA practice is to survey the entire State Road network annually.</p>	
<p>Part 5H</p> <p>General</p>	<p>Performance modelling</p> <p>The RTA has chosen the dTIMS software from Deighton Associates (Canada) as its decision support tool. It has a built-in life cycle costing structure and optimisation capabilities that will be tailored to RTA requirements.</p>	

PART 6 – BRIDGE PERFORMANCE

Reference Section	RTA Enhanced Practice, Complementary Material, or Departures	Date
General	There are no RTA Enhanced Practices, RTA Complementary Materials or RTA Departures for this part of the Austroads Guide to Asset Management.	

PART 7 – ROAD RELATED ASSETS PERFORMANCE

Reference Section	RTA Enhanced Practice, Complementary Material, or Departures	Date
General	There are no RTA Enhanced Practices, RTA Complementary Materials or RTA Departures for this part of the Austroads Guide to Asset Management.	

PART 8 – ASSET VALUATION AND AUDIT

Reference Section	RTA Enhanced Practice, Complementary Material, or Departures	Date
General	There are no RTA Enhanced Practices or RTA Complementary Materials for this part of the Austroads Guide to Asset Management.	
	There are two RTA departures:	
S.1.3	Austroads suggests that Asset Management Plans should cover a 20 year planning period. The RTA's Strategic Asset Maintenance Plan (SAMP) is a 10 year plan	
S.3.10	<p>Austroads suggests that agencies assess at each reporting date whether there is any indication of impairment.</p> <p>As per the NSW Treasury Financial Reporting Code, the RTA (as a not-for-profit entity with no cash generating units) is effectively exempted from AASB 136 Impairment of Assets and impairment testing. This is because AASB 136 modifies the recoverable amount test to the higher of fair value less costs to sell and depreciated replacement cost. This means that, for an asset already measured at fair value, impairment can only arise if selling costs are material. Selling costs are regarded as immaterial.</p>	