

Towong Shire Council

Road Management Plan

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1 INTRODUCTION

1.1 PURPOSE OF THE PLAN

Towong Shire Council has developed this Road Management Plan in accordance with Part 4, Division 5 of the Road Management Act 2004.

The Road Management Plan identifies the roads for which Council is responsible and documents the management system in place to ensure that the road assets continue to be effectively maintained to provide a safe road network for the community.

1.1.1 Force Majeure

While Council will make every endeavour to meet all aspects of its Road Management Plan in the event of natural disasters and other events including, but not limited to, fires, floods, droughts and the like, together with human factors, such as lack of Council staff or suitably qualified Contractors, Council reserves the right, pursuant to Section 83 of the Victorian Wrongs Act 1958, to suspend compliance with its Road Management Plan.

In this event, where the Chief Executive (CE) of Council considers that the limited financial resources of Council and its other conflicting priorities means that some aspects of the Road Management Plan cannot be met, the CE will write to Council's officer in charge of its Road Management Plan and inform the officer that some, or all, of the timeframes and response times are to be suspended.

Once the events beyond the control of Council have abated, or if the events have partly abated, Council's CE will write to Council's officer in charge of its Road Management Plan and inform the officer of which parts of Council's Plan are to be reactivated and when.

1.2 KEY STAKEHOLDERS

Stakeholders with an interest in this Road Management Plan include:

- **Road users** : require a safe and efficient transport network
- **VicRoads**: the Coordinating Road Authority for freeways and arterial roads within the Shire
- **Towong Shire Council**: the Coordinating Road Authority for municipal roads within the shire, Council is also the Responsible Road Authority for sections of arterial road not used for through traffic
- **Adjoining Municipalities**: the Coordinating Road Authorities or Responsible Authorities for municipal or non-through traffic areas of arterial roads where they cross Local Government boundaries within the state of Victoria
- **Other Road Authorities**: Department of Environment and Primary Industry, Parks Victoria (Goulburn-Murray Water has not been declared under legislation to be a road authority)
- **Utilities**: service authorities which have assets for the provision of water, sewerage, gas, electricity, telephone, telecommunication or other like services located on roads
- **Emergency Service Agencies** (Police, Fire, Ambulance, SES)
- **State and Federal Governments**: provision of funding

1.3 PURPOSE OF THE ROAD MANAGEMENT ACT 2004

The purpose of the Road Management Act is to reform the law relating to road management within Victoria.

It sets out the rights and responsibilities of road users and the responsibilities of Road Authorities for the management of roads.

1.3.1 Road Authority Responsibilities

The Act includes provisions for:

- the making of road management plans as part of the management system to be implemented by a road authority
- the keeping of a register of public roads in respect of which the road authority is the coordinating road authority
- the construction, inspection, maintenance and repair of public roads
- issues relating to civil liability arising out of road management

1.3.2 Duty of Road Users

Road users have a duty in respect of the use of a public highway.

The Road Management Act, Section 106, refers to the obligations of road users as set out in Section 17A(1) of the Road Safety Act as follows:

- 1) *A person who drives a motor vehicle on a public highway must drive in a safe manner having regard to all relevant factors including (without limiting the generality) the-*
 - a) *Physical characteristics of the road,*
 - b) *Prevailing weather conditions,*
 - c) *Level of visibility,*
 - d) *Condition of the motor vehicle,*
 - e) *Prevailing traffic conditions,*
 - f) *Relevant road laws and advisory signs,*
 - g) *Physical and mental condition of the driver.*

1.4 RELATIONSHIP TO CORPORATE PLAN

The Council Plan 2013-2017 defines Asset Management as one of its Key Result Areas with the strategic goal "to maintain and improve the Shire's infrastructure to meet agreed levels of service."

The asset management strategy includes:

- Implementing actions identified in the Asset Management Strategy
- Maintaining and implementing Asset Management Plans for each class of asset
- Conducting condition assessments for each class of assets every 3 years
- Periodically reviewing levels of service by community consultation to ensure sustainability
- Preparing Financial Plans to fund identified renewal targets

A copy of the Council Plan is available for inspection at the Council Offices.

1.4.1 Asset Management Policy

Council has an Asset Management Policy which was adopted in October, 2003 and most recently reviewed in May, 2013.

The policy states how Council will fulfil its stewardship obligations for the management of assets by:

- Developing an asset management strategy;
- Utilising community consultation to establish service levels;
- Developing and reviewing asset management plans;
- Implementing a capital evaluation process, based on life cycle costing, for all renewal proposals and all new development projects.

A copy of the Policy is available for inspection at the Council Offices.

1.4.2 Roads Asset Management Plan

Council has developed an Asset Management Plan for the Road Network, including roads, bridges and footpaths.

This plan will set the renewal targets for road assets based on condition assessments to be conducted every three years.

The Moloney Asset Management System is being utilised by Council to predict the future funding required for the renewal and replacement of road infrastructure, as well as the projected annual maintenance demand.

If renewal targets cannot be fully funded, maintenance costs will increase, or service levels will need to be reduced to meet the available budget.

1.4.3 Financial Plan

The financial plan will develop a long term strategy for funding of the renewal targets, taking account of the projected maintenance costs and available funding.

Council has a 5 year capital works program which is reviewed annually having regard to the priority of projects and available funding.

2 ASSET DESCRIPTION

2.1 ROAD REGISTER

Council is the coordinating road authority for municipal roads.

The Register of Roads for which Council is responsible is appended as **Schedule 1**.

The roads on the register are those determined by Council to be **reasonably required for general public use**.

2.1.1 Road Hierarchy

The hierarchy of roads established under the Road Management Act refers to State Roads, for which VicRoads is the coordinating road authority, and municipal roads, for which Council is the coordinating road authority.

Municipal Roads have been classified as **link, collector** or **access** roads in accordance with their function.

The following key principles have been adopted in developing the road hierarchy classification system:

- a) The classifications are functionally based. The function of the road determines its place in the hierarchy rather than traffic volumes or the current standard of construction.
- b) The classifications are generally consistent with the Austroads National Functional Road Classification system.
- c) Only those roads which are determined by Council as being "reasonably required for general public use" will be maintained by Council and included in the Register of Roads.
- d) Other roads, which may be available for public access but are not formed, or not constructed to an acceptable standard, will not be included in the register. Roads which are unused will remain the responsibility of DSE.

2.1.2 State roads

State Roads comprise freeways and arterial roads for which VicRoads is the coordinating road authority as well as non-arterial state roads for which the relevant responsible road authority is the coordinating road authority..

State Arterial Roads within Towong Shire are as follows:

- Murray Valley Highway
- Omeo Highway
- Cudgewa Valley Rd
- Lockharts Gap Road
- Murray River Road
- Granya Road
- Dartmouth Road
- Shelley Road
- Benambra-Corryong Rd (Sth from Dunstans Log Rd)

2.1.3 Municipal roads

These are local roads which include all other urban and rural roads for which Towong Shire Council is the coordinating road authority, and are classified as shown in **Table 1.1** below:

ROAD CLASSIFICATION	FUNCTIONAL DEFINITION.	GENERAL ROAD DESCRIPTION AND PERFORMANCE REQUIREMENTS.
	Links and distributes traffic from local areas to the wider arterial road network. <ul style="list-style-type: none"> • Links significant towns, locations 	<ul style="list-style-type: none"> • All weather road, predominantly sealed, 2-lane roads. • Good quality surface, maintained to a high standard.

Link Road	<p>and industries;</p> <ul style="list-style-type: none"> • High percentage of through traffic; • Includes access to abutting properties; and • Caters generally for higher traffic volumes, heavy vehicles and traffic speeds. 	<ul style="list-style-type: none"> • Roads of high local priority. • Direct property access generally permitted. • Delineation provided by guideposts and often centreline marking on sealed roads. • Typical design speed 60 – 100km/hr depending on terrain.
Collector Road	<p>Collects traffic and provides a feeder service to Link Roads.</p> <ul style="list-style-type: none"> • Provides property access in both urban and rural areas; • Provides access to minor locations and industries; • Moderate percentage of through traffic; and • Caters for moderate traffic volumes and speeds. 	<ul style="list-style-type: none"> • All weather 2-lane road, usually formed and gravelled or single lane sealed road with gravel shoulders in rural areas, and sealed 2-lane road in urban areas. • Medium quality road surface, maintained to a good standard. • Direct property access permitted. • Delineation generally provided by guideposts. • Typical design speed 50 – 80km/hr depending on terrain.
Access Road	<p>Provides predominantly for direct access to properties and industries.</p> <ul style="list-style-type: none"> • Caters for low traffic volumes and generally for low traffic speeds; and • Low percentage of through traffic. 	<ul style="list-style-type: none"> • All weather road where required for house access, catering for 2-way traffic, usually formed and gravelled in rural areas, and may be sealed or unsealed or varying width in urban areas. • Low quality road surface, maintained to moderate standard. • Delineation generally provided by guideposts. • Typical design speed 40 – 70km/hr depending on terrain.
Limited Access Road	<p>Provides for access to rural properties or out-paddocks where no dwelling exists.</p> <ul style="list-style-type: none"> • May provide access to forest areas or stream frontages for management or tourism use. 	<ul style="list-style-type: none"> • Dry-Weather ONLY road where access is not always available. • Not gravelled and may not be formed. • Not maintained except for occasional grading. • Reactive inspections only

Table 1.1 Municipal Road Hierarchy

2.1.4 Fire Access Tracks

Some roads not listed on the Register may be identified as fire access tracks where they provide access to Parks, State Forest, stream frontage or private land beyond the end of the maintained road network. These roads, although not maintained by Council, may be graded occasionally to provide access for fire tankers. This work may be funded by contribution from CFA, DSE, Parks Victoria or any other body.

2.1.5 Other Roads

Some roads within Towong Shire are the responsibility of other road authorities as follows:

Department of Environment and Primary Industries

- Trappers Gap Rd
- Firebrace Rd (from Granya Rd)
- forest access roads

Parks Victoria:

- Firebrace- Mt Lawson Rd
- Cudgewa Bluff Rd (thru National Park) (maintained by Council by agreement)
- Plateau Rd (culvert at Georges Creek Rd by Council)
- Cottontree Reserve access (culvert at Webbs Ln by Council)
- park access roads

The following roads are the responsibility of Goulburn-Murray Water although they are not declared by legislation to be a road authority:

- Lakeside Drive, Tallangatta
- foreshore access roads, Tallangatta
- Horsfall (Six Mile Creek) Rd (from bridge at 0.925 Km)

2.1.5.1 Off-road footpaths and cycle paths

Section 40 of the Road Management Act 2004 provides that a Road Authority has a statutory duty to inspect, maintain and repair public roads including a pathway. A pathway is defined in Section 3 of the Act to include a footpath, bicycle path or other area constructed or developed by a responsible road authority for use by members of the public other than with a motor vehicle and as such may include pathways not located within road reserves.

To address this issue and comply with Section 40 of the Act Council will undertake to inspect, maintain and repair off-road pathways for which it is responsible which at this time is limited to the cycle path in Tallangatta adjacent to the high water mark of Lake Hume. Reference to this asset is made in Councils Register of Public Roads.

2.2 ASSET REGISTERS

2.2.1 Municipal Roads

Council, as coordinating road authority for municipal roads, is responsible for the assets on those roads, including bridges, footpaths and kerb & channel.

The Moloney Asset Management System holds registers of these assets. Summary extracts from the asset registers are provided as follows:

- **Schedule 2:** Bridges
- **Schedule 3:** Footpath, Kerb & Channel

2.2.2 State Roads

VicRoads is the coordinating road authority for state freeways and arterial roads. Council, however, is the responsible road authority for various assets on the state roads. Summary extracts from the asset registers are provided as follows:

- **Schedule 4:** Service Roads, Parking Lanes, Footpath, Kerb & Channel

2.3 DEMARCATION

The Road Register (Schedule 1) also refers to agreements with other road authorities where the road management responsibilities are transferred by agreement to the road authority which is maintaining the road.

The agreements specify the maintenance targets, inspection and recording procedures to be achieved by the responsible road authority.

Roads subject to such agreements are highlighted in Schedule 1.

3 INSPECTION TARGETS

Inspections of the road assets are conducted on the following basis:

3.1 CONDITION INSPECTION

Condition assessments are carried out on **all** road assets **every three years** and updated in the Moloney Asset Management System to track the degradation rate of the assets and to facilitate renewal projections. These condition assessments also provide an indication of the likely ongoing maintenance requirements.

3.2 DEFECT INSPECTION

Defect inspection frequencies have been determined following community consultation and having regard to potential hazard, the road classification and available resources.

The purpose of defect inspections is to ensure that the road assets do not deteriorate beyond the tolerable defect level.

The target inspection frequencies are shown in **Table 3.2** as follows:

Road Classification	Road Defect Inspection	Road Night Inspection	Bridge Inspection	Commercial Area Footpath Inspection	Residential Area Footpath Inspection
Link	3 monthly	12 monthly	12 monthly & after flooding	6 monthly	12 monthly

Collector	6 monthly	12 monthly	12 monthly & after flooding	6 monthly	12 monthly
Access	12 monthly	12 monthly	12 monthly & after flooding	6 monthly	12 monthly
Limited Access	N/A	N/A	N/A	N/A	N/A

Table 3.2 Inspection Frequencies**3.3 HAZARD INSPECTION**

Hazard or safety inspections will be conducted in response to a perceived hazard or potential risk reported through Council's Customer Action Request System or by officer or maintenance report. An inspection will be carried out within 4 hours of receipt of the report and action taken to make safe, or provide appropriate warning, and to program the works in accordance with the assessed risk and the maintenance targets.

4 ASSET STANDARDS**4.1 DESIGN TARGETS**

The minimum geometric design targets for roads and bridges for the different road classifications are set out in **Table 4.1** below.

The design targets represent the minimum standards to be met when reconstruction or replacement of the asset is undertaken.

The existing assets are generally of a lower standard, and this standard will be maintained until any upgrade works are programmed.

Road Classification	Traffic Volume (vpd)	Seal Width (m)	Pavement Width (m)	Pavement Depth (mm)	Formation Width (m)	Bridge Width (m)	Bridge Design Loading
Link	>1000	6.6	7.0	250	9.2	7.4	SM1600
	500-1000	6.6	7.0	250	8.8	7.4	SM1600
	<500	6.2	6.6	250	8.6	7.4	SM1600
Collector	>150	6.0	6.4	200	7.8	6.6	SM1600
	50-150		6.0	200	7.8	6.2	SM1600
	<50		4.0	150	6.0	4.5	SM1600
Access	>50		4.0	150	6.0	4.5	SM1600
	<50		4.0	150	6.0	4.5	SM1600

Table 4.1 Road Design Targets**4.2 MAINTENANCE TARGETS**

The current maintenance targets have been established in accordance with the recommendations of a Best Value Review for roads which was carried out by a facilitated community consultation process during December 2003.

The established targets represent a refinement of the previous maintenance standards balanced against the available road maintenance funding.

Council will review the maintenance targets annually in response to community acceptance of the tolerable defect limits and annual funding limitations.

The maintenance targets and response times for the various road maintenance activities and road classifications are described fully in the **Schedule of Maintenance Targets** contained in the **Road Maintenance Agreement**.

An **example** of these maintenance targets is shown in **Table 4.2** below:

ACTIVITY	DESCRIPTION	INTERVENTION TARGET	RESPONSE TARGET
SEALED PAVEMENT			
POTHOLE PATCHING	Surfacing patching of potholes less than 0.25 sq m in travelled way using bituminous and other appropriate materials to restore the riding surface to a smooth condition	Repair when pothole exceeds 50 mm in depth or 350 mm in diameter, or is likely to deteriorate rapidly.	Inspect and make safe within 48 hours. Repair within: Link 1 week Collector 2 weeks Access 1 month
REGULATION OF WHEEL RUTS AND DEPRESSIONS	Application of a levelling course of bituminous materials to depressed or rutted areas of pavement	Regulate if rutting depression holds water or exceeds 25 mm in depth under a 1.2 m straight edge transverse, or under a 3 m straight edge longitudinal.	Inspect and make safe within 48 hours. Risk Assessment = High Repair within 1 month Otherwise refer to program
CRACK SEALING	The routing, cleaning and filling of cracks and joints using liquid bituminous sealants	Seal cracks > 3mm	Refer to annual program for repair
MINOR SURFACE TREATMENT	Application of bituminous materials and cover aggregate to areas of pavement with surface defects.	Treat when stripping (50% loss of aggregate), bleeding or crazing exceeds 5 sq m and the surface has not failed to the extent that it requires replacing.	Inspect and make safe within 48 hours. Refer to annual program for repair.
PAVEMENT CLEANING	Cleaning of roadway including intersections and kerb & channel to remove debris	Clean pavement (including kerb and channel) and intersections when the accumulation of aggregate, dirt and debris becomes a danger to traffic or pedestrians, or prevents the free drainage of the pavement	Inspect and make safe within 48 hours Risk Assessment = High Rectify within 1 month
EDGE REPAIR	Repair of broken edges of seal, to line and level, to maintain nominal overall seal width	Repair when edge break exceeds 75 mm laterally over 1 m length	Inspect and make safe within 48 hours Refer to program for repair

ACTIVITY	DESCRIPTION	INTERVENTION TARGET	RESPONSE TARGET
DIGOUTS	Treatment of isolated failed pavement areas by replacement with new approved material, or by improvement of existing material, including reinstatement of road surface.	Repair when failed area is greater than 0.25 sq m and other treatments have failed to solve the problem or other treatments are inappropriate	Inspect and make safe within 48 hours. Risk Assessment = High Rectify within 1 month Otherwise refer to program
SHOULDER SEALED SHOULDER REPAIR	As for sealed pavement maintenance	As for sealed pavement maintenance	As for sealed pavement maintenance
UNSEALED SHOULDER	Spot gravelling, grading and reshaping of unsealed shoulders to correct pavement drop off, rutting and build up of shoulder material	Grade shoulders when the drop from edge of seal to shoulder exceeds 75 mm over 20 m length or shoulder becomes rough or scoured or there is holding of water.	Inspect and make safe within 48 hours Risk Assessment = High Repair within 2 months Otherwise refer to program
UNSEALED ROAD UNSEALED ROAD GRADING	Spot gravelling, pothole repair, Grading or reshaping.	Grade unsealed roads when rutting, potholing and corrugations exceed 50 mm over 30% of the road. Repair when pothole exceeds 75mm in depth or 450mm in diameter. Spot gravel to maintain two-wheel drive access	Inspect and make safe within 48 Hours Risk Assessment = High Repair within 1 month Otherwise refer to program Note: These repair targets will not apply to unfenced roads or to sections of road used for regular stock movements.

ACTIVITY	DESCRIPTION	INTERVENTION TARGET	RESPONSE TARGET
DRAINAGE			
SURFACE DRAINS	Cleaning and minor reshaping To maintain flow of water and protect road and roadside from scour.	Reshape when there is ponding in drains or the drain is not functioning to 75% capacity	Risk Assessment = High Make safe within 48 hours Otherwise refer to program
SUBSURFACE DRAINS	Inspection of drains and cleaning of outlets and pits to maintain flow of water	Inspect and clean subsoil drains annually.	Refer to program
CULVERT AND PIT CLEANING	Inspection and cleaning of culverts, pits and stormwater drains to maintain flow of water	Annually or when debris inhibits free flow.	Risk Assessment = High Clean within 1 week Otherwise refer to program
STREAM MAINTENANCE	The maintenance and cleaning of debris from streams within 10 m of structure	Any log debris >150 mm in diameter Any accumulation of debris greater than 400 mm deep	Risk Assessment = High Repair within 1 month Otherwise refer to program
VEGETATION CONTROL	Control the growth of vegetation to maintain sight distance	At intersections and 30 m either side of rest areas, around all road furniture, and in compliance with the Fire Prevention Plan	Risk Assessment = High Rectify within 1 month
EDGE TRIMMING	Trimming of grass clear of kerbs to maintain drainage and appearance	All growth forward of face of kerb	Refer to program

TREE AND SHRUB MANAGEMENT	Maintenance of roadside areas, including brush cutting, foliage trimming, use of herbicides and removal of vegetation	<p>Cut tree limbs or remove trees when they become a danger to the public.</p> <p>Treat when:</p> <ul style="list-style-type: none"> - foliage growth obstructs visibility and reduces sight distance at intersections or to road signs; - foliage encroaches around structures or over footpaths; - new tree or shrub growth is within drains, the shoulder or verge. <p>Trim trees to maintain:</p> <ul style="list-style-type: none"> - minimum 1 m from back of shoulder and/or kerb; - minimum 5 m height clearance over shoulder and pavements. 	Risk Assessment = High Rectify within 1 month Otherwise refer to program
ROAD FURNITURE SIGNS	Repair, re-erection and cleaning of signs and supports	<p>Straighten sign posts when it becomes noticeable that they are not vertical, or replace</p> <p>Clean when reflectivity is reduced due to accumulation of dirt.</p>	Risk Assessment = High Rectify within 1 month Otherwise refer to program
GUARDRAIL	The realignment, repair or replacement of isolated guard fence (<= 15 m sections)	Replace defective guardfence	Risk Assessment = High Rectify within 1 month Otherwise refer to annual program
GUIDEPOSTS	The cleaning and/or replacement of damaged and missing guideposts, marker posts and delineators	<p>When not visible from 150m at night, on low beam</p> <p>When more than 10% of posts are missing or where more than two posts in a row are missing</p>	Risk Assessment = High Rectify within 1 month Otherwise refer to annual program
PAVEMENT MARKING	The repainting of pavement markings and replacement of RRPM's	When > 30% of markings for curves or barrier lines are worn through, or >10% of Regulatory markings are worn through, or >30% of RRPM's are missing	Refer to biannual program

FOOTPATH PAVED ISLAND AND FOOTPATH REPAIR	Replacement, repair and regulation of defective paved areas	Repair or replace hard paved areas where sunk, cracked, heaved when lips (ie. a slope > 1:1) are ≥ 20 mm. Grind when lips > 5mm and < 20mm	Inspect and make safe within 48 Hours Risk Assessment = High Rectify within 1 month Otherwise refer to annual program
STRUCTURES BRIDGE MAINTENANCE	The repair, cleaning and maintenance of decks, joints, Footings, abutments, wingwalls, superstructure and any other works reported from annual inspections	CLEARING AND CLEANING * When any accumulation of material causes a hazard, inhibits the function of expansion joints, interrupts the escape of drainage water, is greater than 20mm deep or supports the growth of vegetation	Inspect and make safe within 48 hours Risk Assessment = High Rectify within 2 months Otherwise refer to program as determined from annual inspection report
		RUNNING SURFACE (DECK) REPAIRS * When 10% of the area of a timber running plank is defective or has holes greater than 150mm, or gaps between the planks are greater than 20mm width, or > 10% of planks are loose. MINOR REPAIR AND/OR PAINTING * Where there is minor damage to concrete or timber elements that can be repaired without special scaffolds or materials. * When bridge rails/parapets, scuppers or other non-structural elements are visually faulty or loose. * Where painted rails/parapet surfaces have lost more than 20% of their effective protection.	

ACTIVITY	DESCRIPTION	INTERVENTION TARGET	RESPONSE TARGET
GENERAL REINSTATE ROAD OPENINGS	The reinstatement of road openings carried out by utilities and private bodies using appropriate material	All works carried out in accordance with current Council standards	Reinstate within 1 week of - notification of completion
EMERGENCY WORKS AND SERVICES	All emergency and incident management work including urgent reinstatement resulting from flooding, fires, cyclones traffic accidents etc. for safety.	Attendance and action required following call or detection to make safe only any damage that is a hazard to traffic.	Respond on site within 4 hrs
LITTER CONTROL	Collection and removal of litter from within the road reserve	When a health hazard or visually intrusive	Rectify within 1 week
REST AREAS	The routine clearance of rubbish bins and collection of litter throughout the rest area	Empty rubbish bins and collect litter weekly	Refer to program

Notes:

1. **Response targets may be affected by prolonged periods of wet weather or severe storms. At these times, defects will be assessed, prioritised and programmed for treatment as soon as possible.**
2. **The maintenance targets will not apply for pavements, drainage and guideposts on unfenced roads and roads affected by regular stock movements.**
3. **Where response targets refer to "make safe" this may be achieved by the erection of appropriate warning signs.
ie. "rectify if possible or provide appropriate warning"**

5 DEFECT RISK ASSESSMENT METHODOLOGY

5.1 GOAL

To ensure assets are maintained, rehabilitated, and renewed with a view to **minimising risk** and **optimising life cycle**, at a sustainable level for present and future generations.

5.2 INSPECTIONS

Council will set inspection regimes for all asset classes at varying frequencies determined by combinations of the following aspects:-

- Functionality of asset
- Usage of asset
- Deterioration rate of asset

An example of this may be that an asset class with a slow deterioration rate may have an inspection frequency of every two or three years compared to an asset class that may deteriorate rapidly and thus become a risk in a shorter period of time if condition not detected.

Council will maintain a history of when, and by whom, inspections were carried out on each asset.

5.3 DEFECT RECORDING

Any defects detected during the inspection will be recorded in Council's asset register against the relevant asset.

Defects will be recorded against work codes using criteria established by Council staff and management. Combinations of the criteria and statistical information recorded against each asset will enable prioritisation of works.

After completion of works relevant details will be recorded against the defect.

A full history of inspections, outstanding defects, completed works and costs will be available for each asset in the asset register. This information will become vital in assessing efficiency and life cycle economy requirements.

5.4 CRITERIA

All defects will be assessed using the following three ratings :-

Likelihood Rating

- **the probability of the defect causing an incident**

The criteria for assessing the likelihood is the number of contributing factors present.

A road defect may cause an incident due to the following contributing factors:

- Sight distance to the defect
- Deviation from travelling alignment and/or braking
- Lack of traction
- Hazard to other road users

Likelihood Rating	Criteria	Example Description
A – Almost Certain	Any four factors	Is expected to occur in most cases.
B – Likely	Any three factors	Will probably occur in many cases.
C – Possible	Any two factors	Might occur in some cases.
D - Unlikely	One factor	May occur in a very few cases.
E – Rare	No factors	Could occur only in exceptional cases.

Consequence Rating

- **The severity or impact of the incident**

The criteria for assessing the severity is the number of contributing factors present.

The severity of an incident may be affected by the following contributing factors:

- Width of road
- Road speed limit
- Curved alignment
- Structures or trees that may be impacted

Consequence Rating	Criteria	Example Description
5 – Catastrophic	Any four factors	Permanent injury or death, huge financial loss, irreparable damage to property.
4 – Major	Any three factors	Serious non-permanent injury, major financial loss, major detriment to health, major damage to property.
3 – Moderate	Any two factors	Injury (medical treatment required), high financial loss, moderate detriment to health, moderate damage to property.
2 – Minor	One factor	Injury (self treatable – minor cuts or abrasions), medium financial loss, minimal detriment to health, minor damage to property.
1 – Insignificant	No factors	No injuries, low financial loss, no detriment to health, no damage to property.

Deprivation Rating

- **the asset lifecycle consequences of not rectifying the defect quickly.**

The criteria for assessing the lifecycle consequences is the number of contributing factors present.

The lifecycle consequences may be affected by the following contributing factors:

- Increased cost
- Rapid deterioration
- Increased traffic hazard
- Effect on other assets

Deprivation Rating	Criteria	
5 - Catastrophic	Any four factors	Huge financial loss, threatens lifecycle of asset.
4 – Major	Any three factors	Major financial loss, budget impacts high.
3 – Moderate	Any two factors	High financial loss.
2 – Minor	One factor	Medium financial loss.
1 – Low	No factors	Low financial loss.

Risk Analysis Matrix

Results from the **likelihood** and **consequence** ratings are combined to determine the risk score.

Likelihood	Consequences				
	1 – Insignificant	2 – Minor	3 – Moderate	4 – Major	5 - Catastrophic
A – Almost	5.5 H				

Certain		H	E	E	E
B – Likely	M	H	H	E	E
C – Possible	L	M	H	E	E
D – Unlikely	L	L	M	H	E
E - Rare	L	L	M	H	H

Legend of Risk Analysis Matrix

Risk	Risk Category	Action
E	Extreme Risk	Urgent action required.
H	High Risk	Attention needed.
M	Moderate Risk	To be programmed.
L	Low Risk	Monitor condition.

Table 4.2 Maintenance Targets

5.6 HAZARD ASSESSMENT

The inspection of defects will include a risk assessment which will be used to prioritise maintenance programs in order to comply with the response times as specified in the maintenance targets.

The risk assessment procedure is documented in the “**Defect Risk Assessment Methodology**” as contained in the **Road Maintenance Agreement**.

6 ASSET MANAGEMENT SYSTEM

6.1 ASSET RENEWAL

The Moloney Asset Management System is used to record asset condition assessments.

The system is updated every three years to include the current condition rating following the triannual condition assessments. It is further updated annually on completion of the capital works program.

The modelling function of the system is used for future projections, depreciation and renewal gap reporting.

6.2 ASSET MAINTENANCE, INSPECTION AND REPAIR

Towong Shire Council utilises the *RoadAsyst* Maintenance and Inspection Module (MIM) of the Moloney Asset Management System for the recording of inspections, defects and repairs.

6.3 SERVICE AGREEMENT

Towong Shire Council manages the maintenance of its roads by a **Road Maintenance Agreement** with its in-house works team. Operations are carried out from depots at Tallangatta and Corryong.

Specifications are based on Council’s modified version of VicRoads Specification, Section 750, and the schedule of **Maintenance Targets** as specified in the Agreement.

6.4 CUSTOMER ACTION REQUEST SYSTEM

Towong Shire Council maintains a Customer Action Request System (CARS) to record electronically all customer requests.

This system will operate in conjunction with the Moloney *RoadAsyst* MIM to record all reported defects and the subsequent inspection and action taken.

6.5 CUSTOMER RESEARCH

Towong Shire Council carries out a range of community consultation activities to ensure that assets are meeting the needs of users and is committed to involving it’s community in determining acceptable levels of service.

Council has endeavoured to assess this through the following means:

- Best Value Review
- Regular Community consultation forums
- Annual Community Satisfaction Surveys
- Review of Customer Action Requests

7 SCHEDULE 1 - REGISTER OF ROADS

8 SCHEDULE 2 – ASSET REGISTER – BRIDGES

9 SCHEDULE 3 – ASSET REGISTER – FOOTPATH, KERB & CHANNEL

10 SCHEDULE 4 – ASSETS ON STATE ROADS

