



ROAD MANAGEMENT PLAN

Document	Date	Description	Authorised By	Approved
Original	23/11/04	Version 1.0	Council Report	Council
Revision 1	02/06/09	Updated links, adding walking tracks, Force Majeure clause, updated bridge and resheet program information, updating footpath service criteria	Council Report	Council
Revision 2	26/10/2015	Updated references to Council Plan, Policies/Strategies, Contracts & Current Legislation and Updated quantity and extent of Council Maintained road assets.	Council Report	Council
Revision 3	5/09/2017	Updated references to Council Plan, Policies/Strategies & Current Legislation and Updated quantity and extent of Council Maintained road assets. Review of Intervention Levels and Response Times.	Council Report	Council

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1. Executive Summary

This Road Management Plan sets out Council's policies, service delivery and actions in regards to the local road network.

The objective of the plan is to:

- identify those roads and related infrastructure for which Council is responsible;
- adopt road management standards which include the nature and frequency of road inspections, the tolerable level of defects, and the time taken to repair defects;
- identify the road management systems used by Council to discharge its duty to inspect, maintain and repair public roads for which it is responsible;
- demonstrate to stakeholders that the road network is managed effectively; and to
- comply with the legislative requirements of the *Road Management Act 2004*.

This is a dynamic document and is reviewed at regular intervals as outlined in Chapter 6.

Copies of this Road Management Plan may be inspected or obtained at Council's Bairnsdale Corporate Centre and Paynesville, Omeo, Lakes Entrance, Orbost or Mallacoota Service Centres or via Council's website at <http://www.egipps.vic.gov.au>.

2. Introduction

Local government has the responsibility for the management of the local road network, which comprises sealed and unsealed roads, bridges, footpaths, bicycle paths, drainage, signage, street furniture and other road related physical assets.

2.1 Purpose of this Plan

The road network in East Gippsland is significant and varies throughout the municipality in dimensions and construction. The network comprises of 2,898 kilometres of formed roads (of which 1157 kms are sealed), 203 road bridges & 27 footbridges, 223 kms of footpaths and 8452 culverts (including 129 major culverts). There also exist numerous other features including signs, street furniture and kerb and channel.

The significant value and importance of the above road assets requires that they be managed in a safe and efficient way, while providing the necessary levels of service.

The purpose of this Road Management Plan is to:

- identify those roads and related infrastructure for which Council is responsible;
- adopt road management standards which include the nature and frequency of road inspections, the tolerable level of defects, the methods used to prioritise repairs, and the time taken to repair defects;
- identify the road management systems used by Council to discharge its duty to inspect, maintain and repair public roads for which it is responsible;
- demonstrate to stakeholders that the road network is managed effectively; and to
- comply with the legislative requirements of the *Road Management Act 2004*;

2.2 Relationships with other documents

Council Plan 2013-2017 (Revised 2016)

Council's relevant areas of focus and goals in its Council Plan are: -

PEOPLE – “We contribute to and support healthy, resilient and connected communities.”

Goal 1.1 – “Our communities are connected and inclusive.”

PLACE – “We promote, maintain and improve the quality of our natural and built environments.”

Goal 2.3 – “Our infrastructure meets current and future community needs.”

STEWARDSHIP – “Our Shire is well managed and supported by a resourceful, responsive organisation.”

Goal 4.1 – “Shire services meet the needs of our communities and stakeholders at an acceptable cost.”

The relevant strategic objectives East Gippsland Shire Council seeks to achieve through the Council Plan in relation to these goals are:

- “Our communities are well connected”
- “Our infrastructure is efficiently delivered and maintained”
- “Shire services are tailored to community needs”

Asset Management Policy and Strategy

Council’s Asset Management Policy and Strategy were adopted on 22 January 2003 and further updated on 2 July 2013.

The purpose of the policy was to broadly outline why asset management is relevant to Council and provide guidance in developing Asset Management Plans. The objective of the strategy was to develop a structured set of actions aimed at enabling improved asset management.

Other key documents

Other key documents that are linked to this asset management plan include:

- Council Plan 2013 – 2017 (Revised 2016)
- Local Roads Asset Management Plan
- Annual Business Plan and Budget
- Road Maintenance Service Contract 984/1011 – Maintenance Service for Road Network Including Rural Roads, Urban Streets & Associated Infrastructure, Drains & Drainage Structures – Contract Area 1
- Road Maintenance Service Contract 985/1011 – Maintenance Services for Road Network Including Rural Roads, Urban Streets & Associated Infrastructure, Drains & Drainage Structures & Aerodromes – Contract Area 2
- Road Maintenance Service Contract 986/1011 – Maintenance Service for Road Network Including Rural Roads, Urban Streets & Associated Infrastructure, Drains & Drainage Structures – Contract Area 3
- Maintenance Services Contract 1003/1112 -- Maintenance Services for Bridges, Safety Barriers and Major Culverts

2.3 Assets included in the Plan

A road network, like any major asset, has a number of individual and distinct components. From an asset management point of view, the components of most interest are:

- components that are key contributors to performance (to satisfy stakeholder needs and safety);
- components that are the most expensive (in terms of life cycle costs) ; and

- components that are the most prone to deterioration or need for ongoing management interest.

Therefore, for the management of the road network, the components of most interest include road formations, pavements (the road surfacing and structural layers that support the traffic loading), drainage, bridges, traffic control equipment, road related street furniture and footpaths.

Subject to **section 2.4** the assets covered by this plan include all road infrastructure and road-related infrastructure within those roads and ancillary areas identified in Council's Public Road Register.

Figure 2.3 below identifies the key asset types and quantities that are covered by this plan. This information has been extracted from the best information sources available at the time. There is a Council commitment to ensure the assets register and quantities listed below are maintained as identified in **Section 6 – Plan Improvement and Monitoring**.

Figure 2.3 Key assets covered by this plan

Road Surface	
Sealed	1157 kms
Unsealed	1741 kms
Total	2898 kms

Drainage	
Kerb & Channel	533 kms
Culverts	8452
Table Drains	3643kms

Footpaths and Constructed Walking Tracks	
Footpaths and constructed walking tracks*	223 kms

Road Bridges	
Timber	44
Timber & Steel &/or Concrete	31
Concrete	45
Concrete & Steel	82
Steel	1
Major Culverts	129
Floodways	29

Other Road Infrastructure	
Safety Barrier	11637 m
Signs & Delineation	n/a
Street furniture	n/a
Roadside Structures	n/a
Roadsides	n/a
Raymond Island Ferry	See note**

n/a – information not yet available

** Walking tracks/ trails that are not within the road reserve of those roads identified in Council's Public Road Register are not included in this Plan. Also Walking tracks/trails on foreshore and/or river frontage land (irrespective of construction type,) for which Council is Committee of Management, are not included in this Plan*

*** The Raymond Island Ferry forms an important part of East Gippsland's road network, its management and operation, however, comes under separate legislation and is therefore currently beyond the scope of this document.*

2.4 Assets not included in the Plan

2.4.1 General

Subject to those agreements outlined in **Section 2.5** or any relevant Codes of Practice this Road Management Plan does not cover any of the following:

- roads and/or road related infrastructure on roads not identified in Council's Public Road Register (eg. un-constructed roads, laneways or tracks that have historically not been maintained by Council);
- utility related assets (either publicly or privately owned) that provide, or intend to provide, water, sewerage, gas, electricity, telephone, telecommunications or other like services;
- other non-road related infrastructure such as rail infrastructure (including boom gates and level crossings), mail boxes or roadside furniture and fences erected by utilities;
- driveways/ crossovers;
- private roads or carparks; and
- other non-municipal roads and related infrastructure (eg State, Department of Environment, Land, Water & Planning and Parks Victoria roads).

2.4.2 Assets within Private Properties

Road infrastructure (e.g. bridges) located within private property shall have their public function reviewed irrespective of any previous care and management by Council

Where such assets are found to serve no public function other than to the owners of the properties that the assets are located within then the appropriate processes as required under the Road Management Act may be undertaken. This may then result in the withdrawal of the ongoing care and management of the said assets by Council and the respective owners advised accordingly.

2.5 Road management and maintenance agreements

2.5.1 Arterial roads

Under Section 37 of the *Road Management Act* Council is responsible for the following components of an arterial road:

- roadsides in "urban areas" as defined under the Act but limited by Section 107;
- any pathways, other than those on freeway reserves;
- service roads; and
- the median strip between an arterial roadway and a service road.

Beyond these limits there are a number of areas that have historically been maintained by Council but are the responsibility of VicRoads. To ensure that the current levels of service continue, Council has entered into a number of arrangements with VicRoads to transfer and/or delegate road management functions

refer to Code of Practice – Operational Responsibility for Public Roads published in the Victorian Government Gazette s267.

2.5.2 Agreements with adjoining municipalities

East Gippsland shares municipal boundaries with three other Victorian councils. For the majority of those roads that cross these boundaries the limits of demarcation for road management responsibilities are clearly defined. There are, however, a number of boundary roads for which the limits of responsibility are unclear. To address this Council has entered into an agreement with Wellington Shire Council, with whom it shares all but one boundary road, Beverleys Road, Glenaladale, to clearly define management responsibilities.

2.6 Key stakeholders

The following key stakeholders are recognised as having an interest in the service provided by the local road network:

External

- Road users;
- The East Gippsland community including residents and ratepayers;
- Adjoining Municipalities;
- Other road authorities including VicRoads, the Department of Environment, Land, Water & Planning (DELWP) and Parks Victoria;
- Utility providers as prescribed in Section 3 of the *Road Management Act 2004*;
- Contractors.

Internal

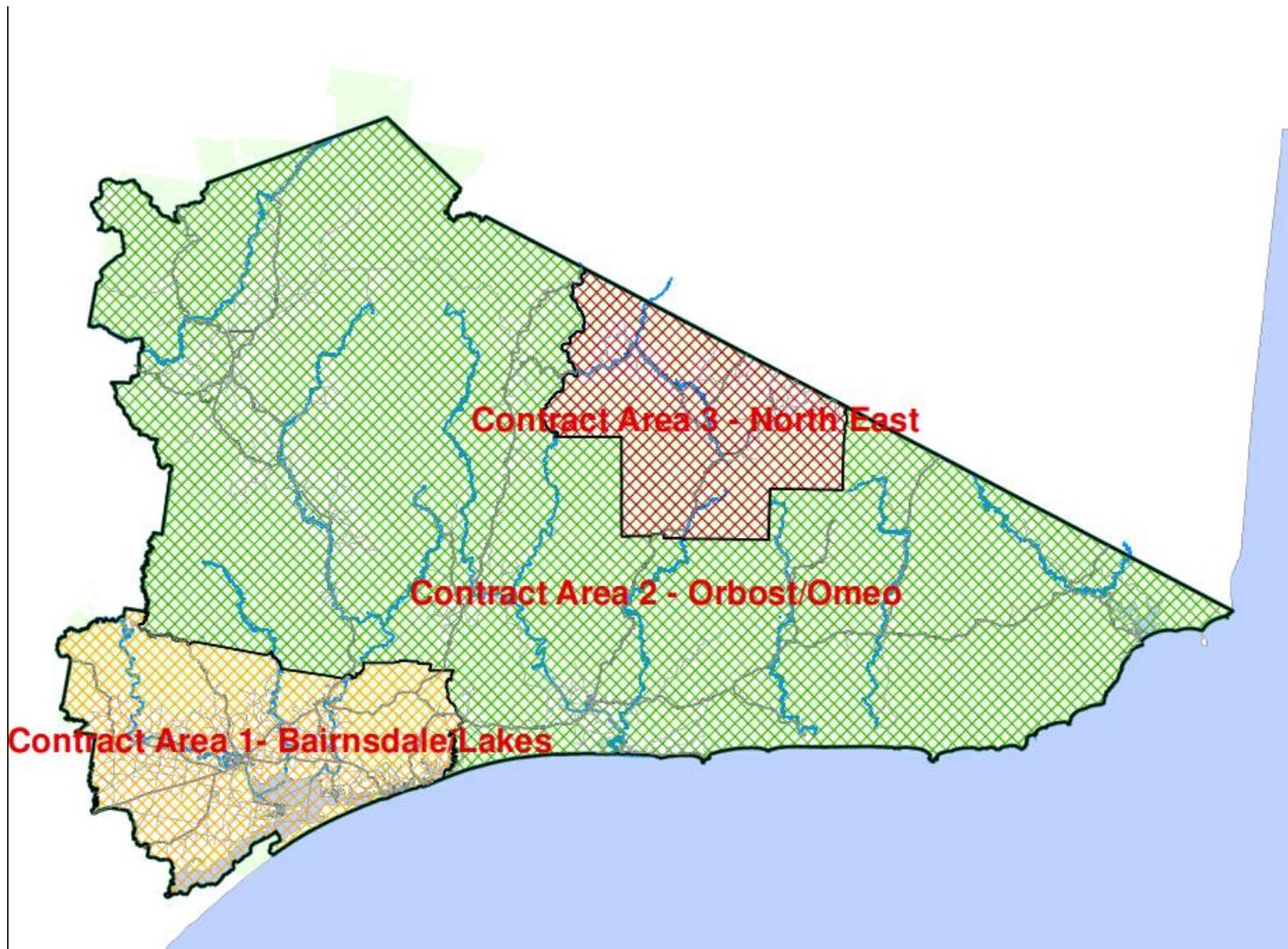
- Councillors
- Asset management staff
- Contract management staff
- Financial management staff
- Customer service staff

2.7 Road management structure

With the amalgamation of the five former councils in 1995 all external works, including the maintenance of East Gippsland Shire's road network and related infrastructure, were outsourced. Due to its geographic size the Shire was broken down into three distinct regions – Bairnsdale/Lakes Entrance, Omeo/Orbost and North East (see **Figure 2.7a**).

A single road maintenance contractor closely monitored by Council's Operations and Contract Departments services these areas.

Figure 2.7a External service contract areas



2.8 Road Management Act 2004

The *Road Management Act 2004* seeks to ensure efficient and safer management of the road network for all road users.

The key objectives of the Act are to:

- Set out the general rights of road users and their obligations in relation to responsible use;
- Establish a system for the management of safe and efficient public roads that best meet the needs and priorities of State and local communities;
- Set clear principles for the division of responsibilities between State and local road authorities;
- Provide mechanisms for coordinating the placement and maintenance of infrastructure on road reserves;
- Establish standards for the construction, inspection, maintenance and repair of local roads;
- Set out the powers and duties of road authorities;
- Clarify the law relating to civil liability for the management of public roads and other public highways.

2.9 Duties of road users

Under Section 17A of the *Road Safety Act 1986*: -

A person who drives a motor vehicle on a highway must drive in a safe manner having regard to all the relevant factors, including the: -

- Physical characteristics of the road;
- Prevailing weather conditions;
- Level of visibility;
- Condition of the motor vehicle;
- Prevailing traffic conditions;
- Relevant road laws and advisory signs;
- Physical and mental condition of the driver.

Road users other than a person driving a motor vehicle must use a highway in a safe manner having regard to all relevant factors.

A road user must -

- have regard to the rights of other road users and take reasonable care to avoid any conduct that may endanger the safety or welfare of other road users;
- have regard to the rights of the community and infrastructure managers in relation to road infrastructure and non-road infrastructure on the road reserve and take reasonable care to avoid any conduct that may damage road infrastructure and non-road infrastructure on the road reserve;
- have regard to the rights of the community in relation to the road reserve and take reasonable care to avoid conduct that may harm the environment of the road reserve.

- otherwise constitutes a danger to vehicles or pedestrians or compromises the safe and convenient use of the road;
- Council has responsibility to ensure that the landowner does not allow private assets to become a hazard.

2.10.3 Roadworks/openings

In accordance with Section 63 of the *Road Management Act 2004* a person must not conduct any works in, on, under or over a municipal road without the written consent of Council and subject to the requirements of A Guide to Working in the Road Reserve by VicRoads July 2015. This does not apply if the person is required to conduct the works by specified requirements specified in or under any other Act and the works are conducted in accordance with these requirements refer to VicRoads - A Guide to Working in the Road Reserve, July 2015.

2.11 Force Majeure

Council will make every endeavour to meet all aspects of its Road Management Plan. However, 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 a lack of Council staff or suitably qualified Contractors, Council reserves the right to suspend compliance with its Road Management Plan under Section 83 of the (Victorian) Wrongs Act 1958 as amended.

In the event that the Chief Executive Officer has to consider the limited financial resources of Council and its other conflicting priorities pursuant to Section 83 of the above Act, meaning Council's Plan cannot be met, the Chief Executive Officer will write to Council's Officer in charge of its Road Management Plan and inform them 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, the Chief Executive Officer will write to Council's Officer responsible for the Council's Plan and inform them which parts of the Plan are to be reactivated and when.

3. Levels of Service

The levels of service or service standards identified in this plan are based on those levels currently specified by the service contracts identified in **Section 2.2**. These levels of service are based primarily upon: -

- Customer expectation;
- Safety and risk; and
- Asset preservation.

The combination of these demands is balanced against the funds and resources available each year.

3.1 Customer expectations

Understanding customers' expectations and perceptions of levels of service, and ensuring that management plans reflect the changing needs of customers, requires Council to undertake periodic service level reviews. The methods used by EGSC for assessing customer perceptions and expectations in relation to the local road network include: -

- Annual Department for Victorian Community customer satisfaction survey;
- Regular review of customer action requests;
- Road Management Plan public consultation.

When determining appropriate standards East Gippsland Shire Council gives consideration to:

- A Community Consultation program with residents, specific service users, service providers and other key stakeholders to determine their expectations and values for particular services.
- A Service Review process that evaluates the current level and standard of service delivery, assesses value for money with other similar service providers, and determines the most appropriate method of service delivery.
- Performance Plans that identify standards and performance indicators as a measure to the achievement of continuous improvement.
- Local Government Performance Reporting Framework 2015-2016

3.2 Safety and risk

The maintenance of roads in a condition that is safe for use by the public is a complex, and expensive, proposition. There are many factors that contribute to the condition of local roads and related infrastructure, only some of which Council has some degree of control over.

The management of these risks involves their identification, assessment, treatment and monitoring via the inspection processes outlined in **section 4.1.3** and the routine maintenance levels of service outlined in **Appendix A**. These maintenance standards will vary across the network in line with relevant risk factors such as the nature and volume of traffic using the road.

3.3 Asset preservation

Asset preservation relates to the optimum long and short-term solutions used to maximise the life of the asset while minimising the total life cost.

3.4 Road funding

3.4.1 Sources of funding

While road management has a number of aspects and issues to be considered, the paramount issue is that of funding.

Current sources of funding for road maintenance include: -

- general rate revenue;
- local road funding from external bodies
 - Victoria Grants Commission (VGC);
 - other State and Federal funding (eg Roads to Recovery, Black Spot funding);
 - Bridges Renewal Program
- Special Charge Scheme contributions.

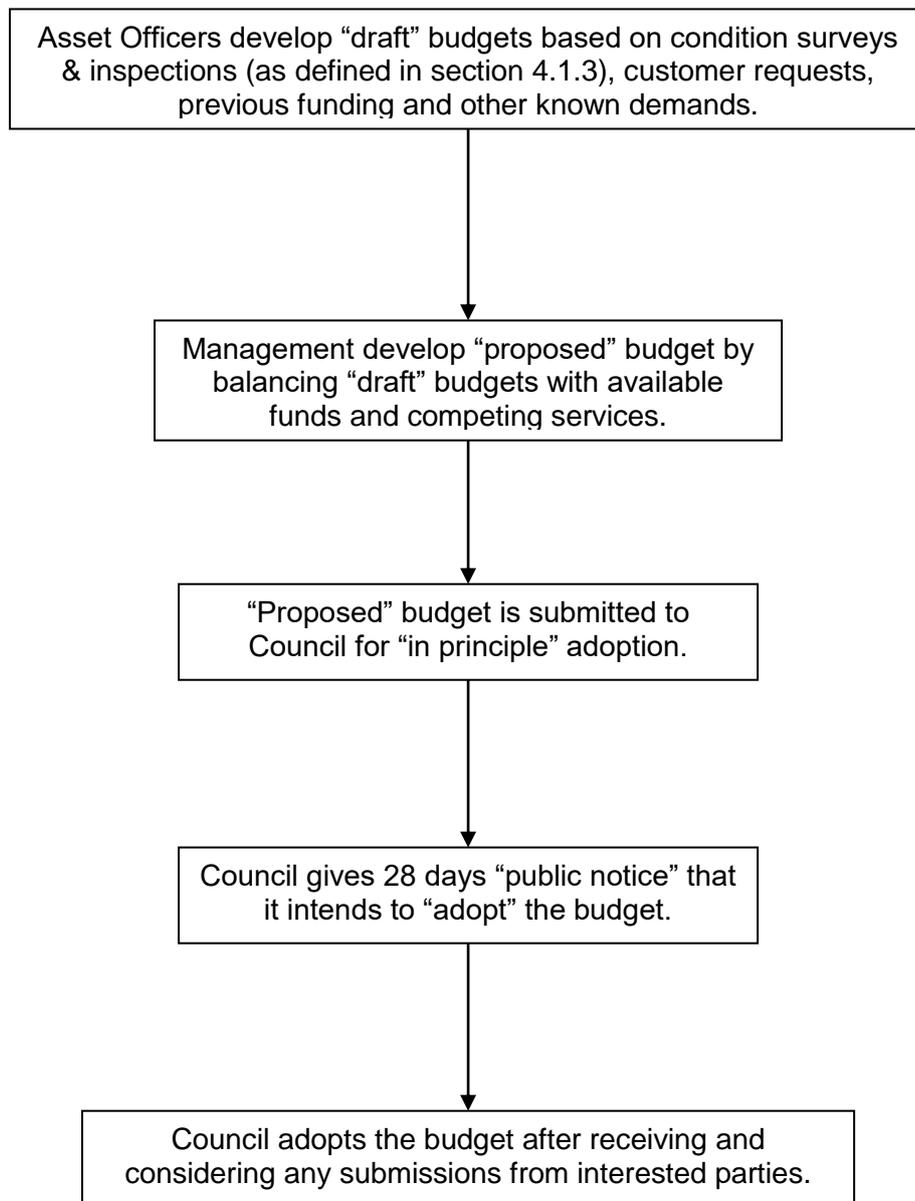
3.4.2 Budget Allocation Process

The funding for roads maintenance must compete with a wide range of other services provided by Council while external funding specifically targeting local roads varies each year.

Under the *Local Government Act 1989*, Council is required to prepare and adopt an annual budget. The budget is required to include information about the rates and charges that Council intends to levy as well as a range of other financial information required by the *Local Government (General) Regulations, 2015*.

The process of preparing and adopting the annual budget for road maintenance is depicted in **Figure 3.4.2**.

Figure 3.4.2 Budget Preparation Process



4. Maintenance Management

4.1 Background data

4.1.1 Public road register

Under Section 19 of the *Road Management Act 2004* all road authorities are required to keep a register of public roads specifying the roads in respect of which it is the coordinating authority. The Register of Public Roads includes: -

- the name of each public road;
- if the road becomes a public road after 1 July 2004, the date on which the road became a public road;
- if a road ceases to be a public road, the date on which the road ceased to be a public road;
- the classification of the public road;
- the reference of any plan or instrument made on or after 1 July 2004 that fixes or varies the boundaries of a public road;
- any ancillary areas;
- references to any arrangements under which road management functions is transferred to or from another road authority.

Appendix - B lists those roads for which Council is the coordinating road authority.

Roads that have not been included on Council's Public Road Register consist of, but may not be limited to: -

- arterial roads (for which VicRoads is the coordinating road authority);
- forest roads and tracks (for which DELWP or Parks Victoria is the coordinating road authority);
- un-constructed roads, laneways or tracks that have historically not been maintained by Council and that are considered not to be reasonably required for public use;
- Road infrastructure that is located within private properties; and
- private roads and carparks.

4.1.2 Road hierarchy

To improve the effectiveness of asset management East Gippsland Shire Council has allocated its roads and footpaths to categories or sub-networks. In this way, roads and footpaths with similar purposes are treated consistently with respect to decisions on standards and levels of service, regardless of legal or administrative classification. Roads have been allocated to a category based on indicators such as function, traffic volume, percentage of heavy vehicles, travel speed, and strategic significance. Footpaths have been allocated to a category based on traffic volume.

Figures 4.1.2a and 4.1.2b list the classifications and their definitions for both the road and footpath network.

Figure 4.1.2a Road Hierarchy

ROAD HIERARCHY	
Classification	Description
State/VicRoads	Roads under the responsibility of an authority other than Council.
Urban Link	Roads of this classification primarily provide a linkage between significant residential, industrial and commercial nodes and or the arterial road network. These roads have an identifiable origin and destination (eg suburbs, industrial areas or places of significance).
Urban Collector	Roads of this category primarily provide a route between and through residential, industrial and commercial areas and convey traffic to the Urban Link or Arterial Road network system.
Urban Access	A road, street, court or laneway that primarily provides direct access for abutting residential, industrial and commercial properties to their associated nodes with minimal to no through traffic.
Urban Limited Access	An un-constructed road that provides direct access or a laneway that provides secondary access for abutting residential, industrial and commercial properties.
Rural Link	Roads of this classification primarily provide a direct linkage between significant population centres and major traffic generators such as residential, industrial, commercial, agricultural and tourist areas and declared roads. These roads have an identifiable origin and destination (eg townships and places of significance).
Rural Collector	Roads of this classification primarily provide a route between, and through, residential, industrial, agricultural, tourist and forest traffic nodes and the Rural Link and/or Arterial Road network.
Rural Access	A road or laneway in this category primarily provides direct access for abutting Residential, Industrial, Commercial, and in other locations, Forestry, Tourist and Agricultural properties and connect into either the Link, Collector or Arterial Road network. There is minimal to no through traffic.
Rural Limited Access	Roads that are un-constructed but provide direct access for abutting property or roads that provide direct access for vacant abutting property.
Rural Fire Access	A road, laneway or track that primarily provides access for fire fighting purposes.

Figure 4.1.2b Footpath Hierarchy

FOOTPATH HIERARCHY	
Classification	Description
High Traffic	Major retail areas, schools, hospitals, elderly homes.
Medium Traffic	Tourist and significant volume pedestrian areas.
Low Traffic	Low volume pedestrian areas, residential areas, constructed walking tracks and shared use paths.

4.1.3 Asset condition and inspection regimes

Documenting the condition of road assets is crucial to determining the standards of maintenance, rehabilitation and renewal required to deliver the target level of service.

Quantitative (workload) and qualitative (intervention levels) indicators of maintenance standards are sensitive to the condition of the asset at any point in time.

Inspections of the road network form the cornerstone of the maintenance program. In order that the need for maintenance is properly assessed, and that safe passage for road and path users is maintained, it is necessary to carry out regular surveys and inspections. These fall into two categories: -

Condition surveys

Overall condition of the asset is determined from a lifespan and renewal expenditure planning perspective as such these inspections are not intended to identify or record individual specific defects.

Figure 4.1.3a lists the condition inspection frequencies for each classification of road, footpath and bridge within the Shire. The condition surveys include: -

- sealed road surface inspection (based on VicRoads – Guide to Visual Inspection of Pavement Condition);
- unsealed road surface inspection;
- Level 2 bridge inspections (based on VicRoads – Bridge Inspection Manual);
- Footpath condition.

Hazard inspections

These are designed to identify those defects that exceed the stated intervention levels considered likely to create a danger or serious inconvenience to the public. These inspections follow the principles established within the road and footpath hierarchy and the routine maintenance levels of service outlined in **Appendix A**.

Figure 4.1.3a lists the hazard inspection frequencies for each classification of road, footpath and bridge within the Shire. The inspections include: -

- road hazard inspections;
- footpath condition/hazard inspections;
- Level 1 bridge inspections (based on VicRoads – Bridge Inspection Manual).

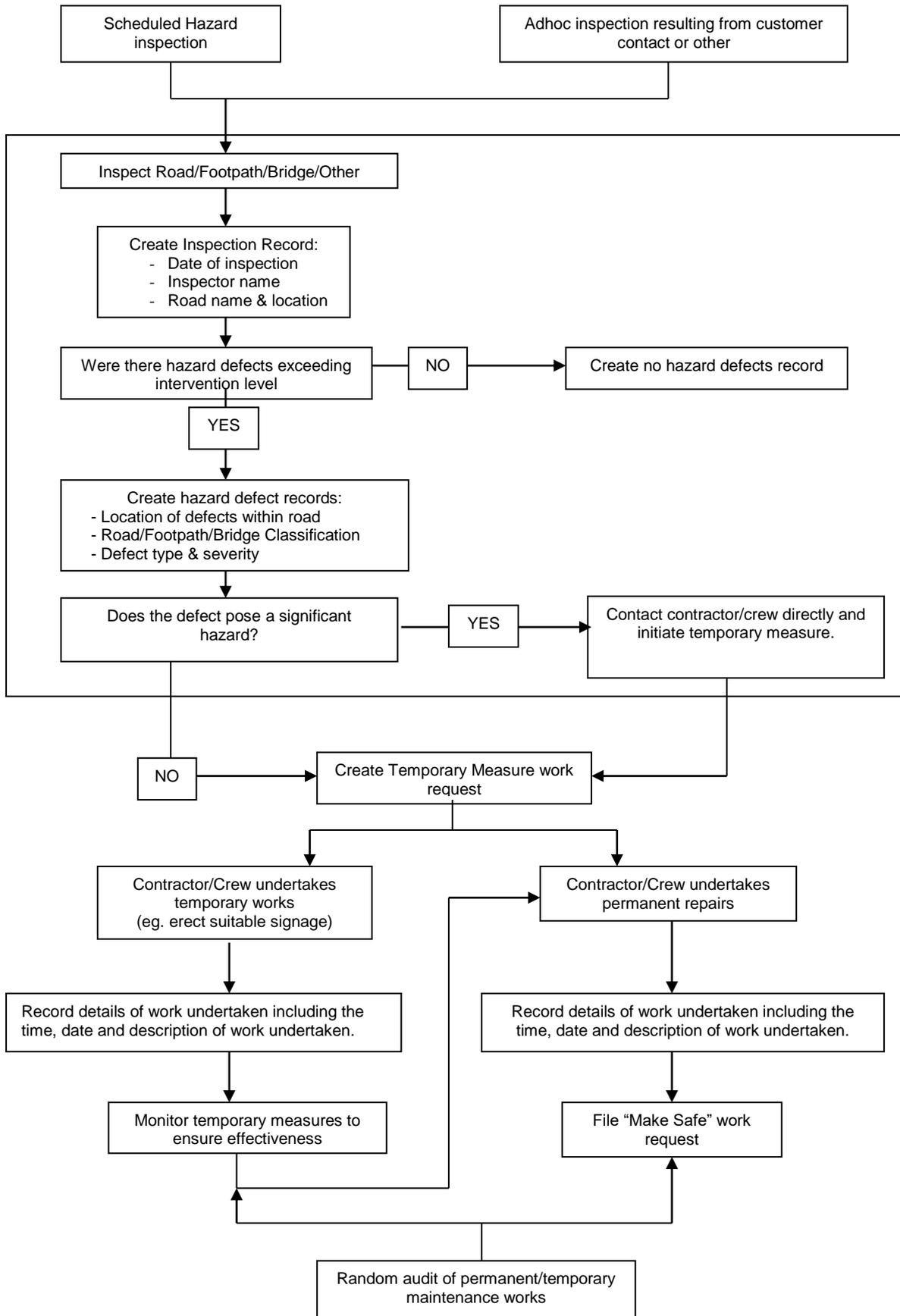
Figure 4.1.3b illustrates the process followed when undertaking hazard inspections.

The monitoring of the road and footpath network between condition assessments is a combination of the proactive formal hazard inspections carried out at pre-determined intervals and reactive inspections in response to reports of potential hazards by members of the public or staff.

Figure 4.1.3a Inspection Frequencies

CLASSIFICATION	INSPECTION INTERVAL	
	CONDITION	HAZARD
Roads		
VicRoads/State	n/a	n/a
Urban Link	5 Years	6 weeks
Urban Collector	5 Years	3 months
Urban Access	5 Years	12 months
Urban Limited Access	n/a	12 months
Rural Link	5 Years	6 weeks
Rural Collector	5 Years	3 months
Rural Access	5 Years	12 months
Rural Limited Access	n/a	12 months
Rural Fire Access	n/a	12 months (Pre fire season)
Footpaths and constructed walking tracks		
High Traffic Footpaths	4 months	
Medium Traffic Footpaths	6 months	
Low Traffic Footpaths	12 months	
Bridges and related structures		
	(Level 2)	(Level 1)
Bridges - concrete and concrete and steel	60 months	12 months
Bridges – load limited timber and timber and steel	As determined following Hazard (Level 1) Inspections but not greater than 24 months	3 months
Bridges – timber and timber and steel	24 months	3 months

Figure 4.1.3b Hazard Inspection Process



4.2 Maintenance plan

Sealed and unsealed roads deteriorate as a result of repeated traffic loading and environmental influences such as climate and soils. Maintenance is carried out to ensure the safety of traffic and to sustain the serviceability and appearance of the road and its associated facilities.

Road maintenance involves remedying the defects that occur from time to time and providing treatments such as resurfacing which slow down the rate of deterioration. For management and administrative purposes maintenance is divided into two categories: routine and periodic. Generally, routine maintenance is funded through Council's operational budget while periodic maintenance is funded through the capital works budget.

4.2.1 Routine maintenance

Routine maintenance is carried out to ensure the safety of traffic and to sustain the serviceability of the road and its associated facilities within the stated acceptable intervention levels. General road maintenance activities are delivered under Contract by external service providers (refer s 2.5 and s 2.7 for details) and that maintenance of footpaths and minor road related structures (eg signs) is undertaken by in-house works crews to ensure a timely and cost-effective response to repair defects exceeding intervention levels identified in routine hazard inspections.

4.2.1.a Proactive maintenance

Proactive maintenance covers those activities that occur on a regular consistent schedule and are designed to proactively maintain an asset within the predefined level of service. Examples of these activities include: -

- Grading
- Pothole patching
- Crack sealing
- Roadside slashing
- Culvert cleaning
- Clearing/cleaning of open drains
- Picking up of rubbish within road reserves
- Minor bridge maintenance such as tightening of fixtures and cleaning scuppers
- Grinding of footpaths

In general routine maintenance is undertaken on a cyclic schedule based on geographic regions. Such maintenance works at below intervention levels are undertaken at Council's absolute discretion and are not for the purpose of hazard or risk reduction but more for the purpose of benefitting the long-term condition and lifespan of the respective assets.

4.2.1.b Reactive maintenance

Reactive maintenance is that group of activities that address isolated and random defects exceeding stated intervention levels that occur within the road network. Examples include surface defects, damaged signage and obstructions in traffic lanes. These activities are usually undertaken as a result of notification or inspection.

Appendix A lists the intervention levels (tolerable levels of defect) and response times used by Council for routine – reactive type maintenance.

Prioritisation of maintenance

In instances where a defect type has been identified and the works required to return the asset to a below intervention level condition are significant and/or widespread, require special plant, materials and/or suitable weather conditions the works are prioritised based on the classification of the asset (ie traffic type and volume), the defect type and its severity.

Temporary measures

In the event that repairs are unable to be undertaken within the prescribed response times, because of the nature of the repair required, level of resources required or workload, temporary measures may be implemented to reduce the risk of an incident until such time as maintenance or repair works can be completed. Examples of such measures include: -

- erection of appropriate warning signs;
- temporary repairs.

Where warning signs are erected or temporary repairs undertaken these treatments are to be inspected and maintained as required on a weekly basis.

Emergency works

Emergency works are works required to be undertaken to ensure the safety of road users and the public as a result of an emergency incident. Emergency works could include traffic incident management, response to fires, floods, storms and spillages, and assistance under the Victorian State Emergency Response Plan. Emergency works are provided by way of a 24-hour callout service.

In the event of widespread or extreme events the response times documented within **Appendix A** may not be achievable due to resource limitations at the time. In such instances works will be prioritised based on the classification of the asset (i.e. traffic type and volume), the defect type and its severity. Refer to s 2.11 Force Majeure

4.2.2 Periodic maintenance

Periodic maintenance comprises cyclic activities, usually a more extensive kind than those of routine maintenance. The need for these activities is usually predicted and the required work planned.

Activities that come under the heading of “periodic maintenance” include sealed road resurfacing, gravel road resheeting and bridge rehabilitation.

Sealed road resurfacing program

The Road Resurfacing Program is an annual program that involves both the road surface and road pavement. The primary focus is for the renewal/replenishment of the surface however, small repairs to the road pavement need to occur prior to the application of the new treatment.

In an ideal environment where funding is not constrained and the condition and shape of the roads is good, there are two primary objectives of a resurfacing program. The first is to replenish or replace the surface of the road when the original surface has aged or deteriorated. The second objective is for the most cost effective treatment to be selected, considering ongoing maintenance costs and the traffic type and volume the road must support.

The annual Road Resurfacing Program (Reseal Program) is currently developed by ranking the overall condition of road segments (as identified by the sealed road surface inspection). This information is then used by the relevant officer/contractor through a series of site visits to refine the list and make decisions on for example, the worst roads, traffic type and volume, the most appropriate treatment and estimated costs.

Council reviews its capital works program annually and takes into account road funding as detailed in clause 3.4.

Gravel road resurfacing program

The resurfacing/resheeting of unsealed roads is a necessary regular activity due to loss of pavement material resulting from: -

- degradation of stone;
- climatic conditions, i.e. wind and rain;
- scouring and erosion
- traffic abrasion;
- maintenance practices; and
- pavement material selection.

The development of the annual gravel road resurfacing program is undertaken in a similar manner to that used for the Sealed Road Resurfacing Program. Unsealed roads requiring resheeting are identified primarily through the unsealed road surface inspection process or by notification. The roads are then prioritised based on traffic type and volume and estimated cost.

Bridge rehabilitation and renewal program

Council's bridge maintenance program is based on the bridge prioritisation model - a tool developed to prioritise the importance of rehabilitating Council's bridge assets which nominates various inspection frequencies for the range of bridges in the network and also specifies 'minor maintenance' activities to be undertaken at the time of inspection. Other works recorded at the inspection are subsequently ranked and then programmed in priority order. Three levels of priority exist:

- Priority one – including a failed structural component reducing the load limit of the bridge, defective running deck, protruding fasteners, failed handrails presenting a 'fall risk' and abutment slump reducing travel width.
- Priority two – including defective cross deck, defective kerbs and handrails, debris accumulation under bridge, abutment and wingwall failures outside 'priority one'.
- Priority three – malfunction of expansion joints, stream beaching repairs, general and cosmetic/visual matters such as painting, alignment of approach guard fences.

The bridge renewal program is generally a 'reactive' program because the demands greatly outstrip Council's financial capacity. Subject to this capacity works are ranked in priority order using the following principles:

- A load-limit severely restricting functionality.
- Availability and convenience of any alternative access.
- Traffic type and volume.
- Ability to stage any necessary upgrade to better fit budget constraints.

Footpath rehabilitation program

Council has implemented an annual program to rehabilitate the network. The program utilises the ongoing footpath condition/hazard inspections to prioritise works based on a combination of defect severity and footpath classification (ie traffic type and volume). Utilising this method ensures that those areas of greatest risk to path users are addressed first.

Council's in-house concrete crew is responsible for delivering the majority of the footpath rehabilitation program, ensuring timely and cost-effective program delivery.

4.2.3 Maintenance procedures and standards of work

The standards and procedures used for maintenance works are documented in Council's service agreement contracts.

These service agreement contracts take into account various industry standards, geographic and climatic conditions as well as Council's capacity to deliver.

Intervention levels are used in conjunction with minimum maintenance frequencies to determine maintenance actions for each asset (this is important because many maintenance activities are driven by customer requests and the intervention levels provide guidance in assessing risks and prioritising reactive maintenance works).

The Service Agreement Contracts provide clear identification of the scheduled activities, workload indicators and performance criteria, as well as documenting the minimum particular quality/standard of materials and workmanship for each scheduled activity. These items are reviewed when contract tenders are being prepared – typically every 5-7 years.

4.3 Road network expansion and upgrades

4.3.1 Road network expansion

Over time East Gippsland's road network has steadily expanded and will continue to do so. This expansion is primarily the result of residential property development. Although the developer funds the construction of these roads and the short to medium term maintenance requirements are minimal, the long-term maintenance and renewal requirements must be accounted for over the asset's useful life.

4.3.2 Road infrastructure upgrades

Road infrastructure upgrades relate to works that allow an asset to provide a higher level of service than that currently provided. Examples of such works may include: -

- sealing of gravel roads;

- widening of roads;
- replacement of open drains with kerb and channel;
- bridge works to remove or increase load limits.

The motivation for undertaking upgrades and the methods of assessing and prioritising them varies significantly. The basis for undertaking such works could include: -

- to address traffic safety issues;
- to minimise long term maintenance requirements;
- in response to increased traffic volumes/loads; or
- in response to specific requests from the community.

Due to the variety of reasons for undertaking an upgrade each case must be assessed on an individual basis balanced with available budget and competing priorities.

Council's Black Resheet Program is based on the following evaluation: -

- Minimum Width
- Existing Pavement
- Reasonable Alignment

The evaluation process only applies to rural / rural residential gravel roads with those gravel roads located within urban areas / townships generally being required to be fully constructed under Special Charge Schemes or other Council or external funding.

Once roads conform to this evaluation criteria they are prioritised in Council's Capital Works Program annually according to: -

- Traffic volumes
- Strategic significance
- School bus route
- Public concerns
- Safety consideration
- Number of houses

The statutory duty imposed by the *Road Management Act 2004* to inspect, maintain and repair public roads does not create a duty to upgrade a road or to maintain a road to a higher standard than the standard to which the road is constructed.

5. Management Systems

A management system is a combination of processes, data and software applied to provide the essential outputs for effective asset management such as reduced risk and optimum infrastructure investment.

The management systems utilised by East Gippsland include: -

5.1 Analysis of accident data

Council analyses accident data to assist in providing a safe and efficient road network for all road users. This analysis is undertaken utilising the VicRoads - Victorian Accident Statistics and Mapping Program – Crash Stats.

5.2 Notice of incidents and road condition reports

Pursuant to Sections 115 and 116 of the *Road Management Act 2004* Council will, within 14 days of receiving notice of an incident arising out of the condition of a public road or infrastructure, carry out an inspection of the condition of the part of the public road or infrastructure specified in the notice and prepare a report which will include:

- a statement of the condition of the relevant part of the road or infrastructure
- photographs, where appropriate, showing the condition of the site of the incident
- reference to any relevant plan, policy or policy decision relating to the construction, maintenance or repair of the road or infrastructure
- a summary of any inspections, reports, maintenance and repairs conducted on the road or infrastructure in the period of 12 months before the incident

5.3 Analysis of insurance claims

Council has implemented a process for dealing with insurance claims regarding incidents occurring within road reserves for which the Council is responsible. These claims are assessed and monitored to identify any trends or implications for similar elements and/or work practices within road reserves.

5.4 Road asset register

The core data relating to road infrastructure including basic attributes, condition and inspection results are stored within a relational database.

The data currently recorded against each asset (where appropriate) include: -

- asset location, type, capacity, condition, special uses (eg bus routes), age, configuration and quantity;
- asset valuation information (to satisfy AAS27);
- inspection history (previous and proposed inspection dates and defects identified);

- linkages with any customer service requests.

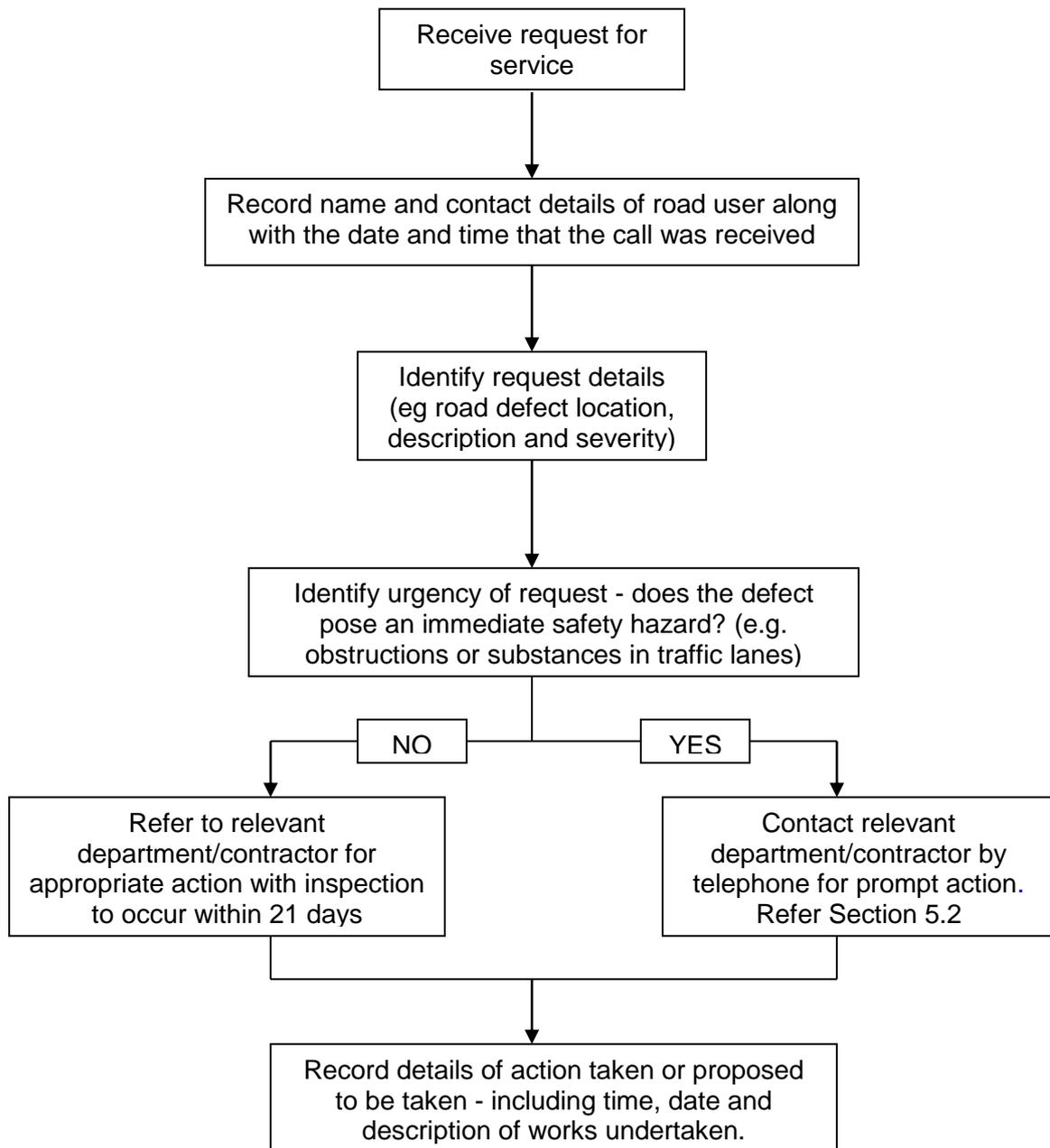
The linkage of the above data with Council's Geographic Information System allows staff to spatially visualise both data and information – and to assist them with decision-making and planning.

5.5 Customer request management

Council receives customer service requests through a variety of means. Usually these will be in the form of a telephone call to Council's switchboard or through direct contact with customer service staff at any one of Council's business centres.

To minimise response times (in line with Council's customer service charters) and to ensure that a permanent record is kept, requests are recorded and transmitted to the relevant department/contractor using a computerised Customer Request Management System. The process involved in managing requests involves the initial recording, its referral for action/attention, recording action taken/proposed to be taken and, finally, the closing off and filing of the request. **Figure 5.5** illustrates the process followed when receiving customer requests relating to road infrastructure.

Figure 5.5 Customer Action Request Workflow



6. Plan Improvement and Monitoring

To ensure the effective development and implementation of this plan, a review will be undertaken in accordance with the statutory requirements and timeframes specified by the *Road Management (General) Regulations 2005* and will reflect any changes or alterations.

The review will include, but not limited to: -

- audit and review of maintenance response times (to confirm whether maintenance works were delivered on time);
- review of inspection frequencies (to ensure appropriateness);
- review of levels of service (to ensure appropriateness);
- review of road classifications (to ensure appropriateness);
- review of customer feedback/contact;
- random audit of maintenance works (to confirm whether maintenance works were delivered to the specified quality).

Subject to the results of the review any amendments required to be made to the Plan will be undertaken pursuant to Section 54 of the *Road Management Act 2004*.

The Plan may also be updated if or when the Road Asset Management Plan changes significantly through internal continuous improvement processes.

This plan is monitored as follows:

- Quarterly internal audits for selected road and footpath assets
- Six monthly road register updates

References

1. "Council Plan 2013-2017 (Revised 2016)", East Gippsland Shire
2. "Unsealed Roads Manual – Guidelines to Good Practice", *ARRB Transport Research*
3. "International Infrastructure Management Manual (IIMM) 2015", *IPWEA*
4. "MAV Asset Management Improvement Step Program – Asset Management Framework", *Municipal Association of Victoria*
5. "MAV Asset Management Improvement Step Program – Road Asset Management Plan Framework", *Municipal Association of Victoria*
6. "Sealed Local Roads Manual – Guidelines to Good Practice", *ARRB Transport Research*
7. "Guidelines for Community Input in Setting Level of Service and Intervention Standards for Road Networks", *AustRoads*
8. "Integrated Asset Management Guidelines for Road Networks", *AustRoads*
9. "Local Roads Bridge Management Manual – Guidelines to Good Practice", *ARRB Transport Research*
10. Local Government Performance Reporting Framework 2015-2016
11. Infrastructure Design Manual

Terminology

Term	Meaning as used in this document
“Act”	means <i>The Road Management Act 2004</i>
“Arterial Road”	means a road which is declared to be an arterial road by VicRoads under Section 14 of the Act.
“Asset management system”	means a system for collecting and analysing data on the performance of existing assets including their maintenance and operating costs.
“Asset management”	means a comprehensive and structured approach to the delivery of community benefits through management of road networks.
“Asset register”	means a record of items considered worthy of identification as discrete assets, including information such as construction and technical details about each. Specifically, a road asset register is an information system containing details of the location, configuration, condition, and history of the individual road segments that comprise the network.
“Asset”	means a physical component of a road system or network. An asset is considered worthy of separate identification if it delivers services or benefits to the community of sufficient current or future value to warrant control and management on an individual basis.
“Coordinating Road Authority”	means the road authority which has coordination functions as determined in accordance with section 36 of the Act
“Council”	means the East Gippsland Shire Council.
“Emergency Incident”	means an incident that has potential to place property or human life at risk.
“Hazard”	for the purposes of these maintenance standards, is a defect that <u>exceeds a stated intervention level</u> .
“Level of service”	means a generic term used to describe the quality of services provided by the asset under consideration. Depending upon various factors such as demand or importance, a higher Level of Service may be required for some assets compared to others.
“Public Highway”	means any area of land that is a highway for the purposes of the common law
“Public Road”	means a public road within the meaning of Section 17 of the Act
“Repair”	means the taking of any action to a defect in a roadway, pathway or road-related infrastructure to make it compliant with the relevant intervention level.
“Responsible Road Authority”	means the road authority which has operational functions as determined in accordance with Section 37 of the Act.

Term	Meaning as used in this document
"Response time"	means the time measured from the time the hazard exceeding intervention is recorded by, or notified to, Council to the time that the hazard is permanently repaired or there have been temporary measures implemented.
"Urban area"	As defined in Section 3 of the Act.

Appendix A – Routine Maintenance Levels of Service

Service Criteria	Defect Type	Description of Hazard (Defect requiring intervention)	RESPONSE TIME ¹									
			Urban				Rural					
			LINK	COLLECTOR	ACCESS	LIMITED ACCESS	LINK	COLLECTOR	ACCESS	LIMITED ACCESS	FIRE ACCESS	
Road Surface (General)	Obstructions & substances in traffic lane	Any fallen trees, rubbish, waste material, foreign matter, oil spills and other slippery substances, animal carcasses or accumulation of granular materials on the traffic lane of sealed roads which may constitute a hazard.	2 hours				24 hours	4 hours			1 Week	12 months (Seasonal Works Only)
Sealed Road Surface	Pot Holes	Where the pothole exceeds 50mm in depth and 300mm in diameter.	48 Hours	1 Week (96 hours for bus routes)	2 Weeks (96 hours for bus routes)	4 Weeks	48 Hours	1 Week (96 hours for bus routes)	2 Weeks (96 hours for bus routes)	Not Applicable		
	Rutting & Depressions	If the rutting/depression exceeds 50mm in depth under a 1.2 metre straight edge.	48 Hours	1 Week (96 hours for bus routes)	2 Weeks (96 hours for bus routes)	4 Weeks	48 Hours	1 Week (96 hours for bus routes)	2 Weeks (96 hours for bus routes)			
	Shoulders	When a 50 mm drop from the sealed pavement edge occurs for more than 20 metres in any 100 metres or a single edge break greater than 100mm over a 300mm length or greater.	48 Hours	1 Week (96 hours for bus routes)	2 Weeks (96 hours for bus routes)	4 Weeks	48 Hours	1 Week (96 hours for bus routes)	2 Weeks (96 hours for bus routes)			
Unsealed Road Surface	Pot Holes	When frequency of pot holes measuring 50mm or more in depth and 300mm or more across in any direction is equal to or greater than a concentration of 7 or more potholes in any 100 square metres of surface area.	Not Applicable				12 months ³	1 week	2 weeks (1 week for bus routes)	4 weeks (1 week for bus routes)	12 months ³	
	Rutting	When frequency of rutting of 50mm depth or more is equal to or greater than a concentration of rutting of 30 square metres or more in any area of 100 square metres of surface area.						1 week	2 weeks (1 week for bus routes)	4 weeks (1 week for bus routes)		
	Corrugations	When frequency of corrugations measuring 30mm or more in depth is equal to or more than a concentration of corrugations of a 30metre length of any 100 metre section of road.						1 week	2 weeks (1 week for bus routes)	4 weeks (1 week for bus routes)		
	Surface Scour	Transverse and longitudinal scouring to depth of 50mm or more having a length of 30 metres or more in any 100 metre section of road.						1 week	2 weeks (1 week for bus routes)	4 weeks (1 week for bus routes)		
	Loose Material	Build-up of loose material exceeding 100mm. depth or covering an area of 100 square metres or more and averaging a depth of 50mm. or more over the area.						1 week	2 weeks (1 week for bus routes)	4 weeks (1 week for bus routes)		
	Coarse Surface	More than 125 square metres in any 1000 square metres section of road which has material more than 40mm in size penetrating the surface by more than 30mm.						1 week	2 weeks (1 week for bus routes)	4 weeks (1 week for bus routes)		

Drainage	Side entry pits, culverts, table drains (cut off/run off) and open drains (constructed)	Culvert, pit or waterway obstructed causing 100mm or greater ponding to occur on the trafficable area.	2 hours			24 hours	4 hours			1 week	
	Drainage Pit (Lids/Surrounds)	Drainage pit lid and/or surround suffering significant structural damage or movement and/or missing in pedestrian areas or traffic lanes	48 hours				n/a				
Signs & Delineation	Signage (Regulatory, Safety & fire plug markings)	Sign is missing, poorly located or damaged to an extent that makes it substantially ineffective.	48 Hours	1 Week (96 hours for bus routes)	2 Weeks (96 hours for bus routes)	12 months	48 Hours	1 Week (96 hours for bus routes)	2 Weeks (96 hours for bus routes)	12 months	12 months(Seasonal works only)
	Guide Posts	Missing or damaged guide posts at a critical location ² making them substantially ineffective.	48 Hours	1 Week (96 hours for bus routes)	Weeks (48 hours for bus routes) ²		48 Hours	1 Week (96 hours for bus routes)	2 Weeks (96 hours for bus routes)		
	Line-marking	Linemarking illegible or confusing at a critical location ² .	4 weeks	6 weeks	3 months		4 weeks	6 weeks	3 months		
Vegetation	Tree Clearance over roadways	Clearances for overhanging branches or limbs within an envelope from the back of shoulder and/or kerb and a minimum of 3.5m height clearance over pavement and the trafficable portion of shoulders.	48 hours	1 week	2 weeks (1 week for bus routes)		1 week	2 weeks (1 week for bus routes)	4 weeks (1 week for bus routes)		
	Roadside and Shared Path Vegetation	Vegetation that restricts design sight distance to intersections or restricts viewing of regulatory or safety signs ³ on roads or sight distance and signage along shared paths	48 hours	1 week	2 weeks (1 week for bus routes)		1 week	2 weeks (1 week for bus routes)	4 weeks (1 week for bus routes)		
Roadside Structures	Guardrail	Guardrail damaged at a critical location ² .	24 hours			n/a	48 hours			n/a	
	Utility access pits (lids & surrounds)	Pit lid and/or surround having significant structural damage and/or missing	Notify Appropriate Service Provider within 24 hours							n/a	
Bridges	Structural damage	Significant damage affecting structural performance	2 hours			n/a	4 hours			n/a	

Service Criteria	Defect Type	Description of Hazard	RESPONSE TIME		
			Footpath Classification		
			HIGH TRAFFIC	MEDIUM TRAFFIC	LOW TRAFFIC
Footpaths and shared paths	Trip hazards	Vertical level differential of lips, rutting and scouring & greater than 30 mm in height and depressions and heaves greater than 40mm over a 1.2m flat edge. Crack width greater than 30 mm. Loose material & debris greater than 30mm in depth.	48 hours	1 month	2 months
	Tree Clearance over, and vegetation growth alongside or across, pedestrian paths	Vegetation intruding into a clearance envelope between the edges of path and a minimum of 2.5m height clearance over path and/or weeds and tree roots along edges and within a real extent of footpath/ shared path.			

A "Safety Sign" is a road sign that provides the driver with advice on the safe use of the road.

¹ The response time is measured from the time the hazard is recorded by, or notified to, Council.

² A critical location is a location where the road alignment and/or pavement width and/or geometry are identified by additional markings or furniture to guide the travelling public.

³ Defect types and response times do not apply to roads that are unformed and lack suitable pavement material (e.g. earth road/track)

Appendix B – Public Road Register

(Not provided due to its size – can be down loaded from Council’s website)