Cardinia Shire Council

Road Management Plan Version

Prepared in response to Victorian Road Management Act 2004

Version control	Details	Date
Version 1.0.0	Adopted by Council	13 December 2004
	Published in Government Gazette on 6 January 2005	6 January 2005
	Reviewed	June 2009
	Revoked	17 August 2009
Version 2	Adopted by Council	17 August 2009
	Reviewed	30 June 2013
	Revoked	10 December 2018
Version 3	Adopted by Council	10 December 2018
	Reviewed	28 June 2021
	Revoked	20 June 2022
Version 4	Adopted by Council	20 June 2022

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1 Introduction

The Road Management Act 2004 (the Act) in conjunction with its associated regulations and Codes of Practice defines legislative principles that road authorities need to conform to in the management of their road infrastructure. The Cardinia Shire is a road authority, as defined in the Act and is responsible for approximately 1,617 km of local roads and 739 km of associated footpath assets.

This Road Management Plan (RMP) has been prepared to document the principles, methods and systems used by the Cardinia Shire in managing the local road system. The Plan has two major components:

1. Schedule of Maintenance Standards – A statement of the levels of service that the Council provides in managing the local road network.
2. Road Management System – A workflow process that provides a sound basis for traceability of inspections, work planning, scheduling, and monitoring.

In addition, this RMP refers to Council's Register of Public Roads, a requirement of the Act, which lists all roads for which Council is the designated road authority and deems to be reasonably required for use by the general public.

The Council has prepared the Register of Public Roads on the basis of its complete and fullest knowledge of the existence of relevant road and footpath assets. Council also acknowledges that in managing this infrastructure, it has established and defined a reasonable level of service to meet the expectations of road users and the local community within available budgets and resource levels. The nature of an asset's usage drives the allocation of resources within the systems used to provide this reasonable level of service.

This Plan is a dynamic document that will be reviewed regularly in accordance with the timelines specified in the Act and associated Regulations. It will be checked against the current needs and expectations of the community. Council will review the performance of the Plan on an annual basis through the Budget preparation process.

Cardinia Shire Council is committed to ensuring that accessible, quality services and facilities are provided to our community. The Road Management Plan complements the Council's development of Asset Management Plans for Roads, Pathways, Bridges and Drainage, by addressing specific elements of the maintenance and management of the road network, as well as the legislative responsibilities under the Act.

The Assets covered by this Plan include:

- road pavements and surfaces
- pathways
- bridges
- Other infrastructure servicing roadways or pathways such as drainage and signage

Declared State Roads and Freeways within the municipality are managed and maintained by VicRoads with respect to the road pavement, including signage and infrastructure relating to road drainage (kerb and channel and road pits). On some of these roads Council may be responsible for assets behind the kerb such as pathways.[1]

[1] For a more detailed demarcation between VicRoads and Cardinia Shire Council see the Code of Practice "Operational Responsibility For Public Roads"

2 Glossary of Terms

Term	Definition
Road Management Act (the Act)	Road Management Act 2004 (Vic) The Act provides a statutory framework for the management of the road network in Victoria.
Register of Public Roads	List of roads within the Municipality that Council is responsible for inspecting and maintaining. Council is required to keep a register under s.19 of the Act.
Road	Includes a street; right of way; cul de sac; by-pass; bridge or ford; footpath; bicycle path or other land or works forming part of the road.
State roads	Freeways, highways & declared main roads which are managed by the State Government through VicRoads.
Municipal Road	Roads for which the Council is the responsible Road Authority.
Pathways	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 but does not include any path: (a) which has not been constructed by a responsible road authority; or (b) which connects to other land.
Shared Pathways	A shared path is an area open to the public (except a separated footpath) that is designated for, or has as one of its main uses, use by both the riders of bicycles and pedestrians, and includes a length of path for use by both bicycles and pedestrians beginning at a shared path sign or shared path road marking and ending at the nearest of the following: a) an end shared path sign or end shared path road marking; b) a no bicycles sign or no bicycles road marking; c) a bicycle path sign or bicycle path road marking; d) a road (except a road-related area); e) the end of the path.
Road reserve	All of the area of land that is within the boundaries of a road.
Roadside	Any land that is within the boundaries of a road (other than the shoulders of the road) which is not a roadway or a pathway and includes the land on which any vehicle crossing or pathway which connects from a roadway or pathway on a road to other land has been constructed.

Term	Definition
Road Infrastructure	The infrastructure which forms part of a roadway, pathway or shoulder, including — • Structures forming part of the roadway, pathway or shoulder; and the road-related infrastructure; • Materials from which a roadway, pathway or shoulder is made; such as asphalt, bitumen, gravel, lane markers and lines. • Road related infrastructure
Road related infrastructure	Infrastructure which is installed by the relevant road authority for road related purposes to— • Facilitate the operation or use of the roadway or pathway; or • Support or protect the roadway or pathway. Examples: Traffic islands, traffic management signage, traffic control sign, traffic light, kerb and channel, a bridge, culvert or ford, road drain or embankment, a noise wall, gate, post or board installed on the road reserve.
Driveway / Crossover	Constructed access providing physical means of entry or exit for vehicles from adjoining land to a roadway. This excludes any section of a constructed Public Pathway that crosses the driveway.
Proactive Inspections	Inspections performed as part of a scheduled program for the purpose of identifying road infrastructure defects above intervention and to provide a record that the road infrastructure has been inspected
Reactive inspections	Inspections performed in response to a customer request or notification about the condition of the road infrastructure, in order to assess whether the road infrastructure contains a RMP defect that has reached the relevant intervention level.
Condition Inspection	Inspections conducted to assess the life of the road and footpath network and to prioritise major works. These inspections do not include identification and measurement of individual defects against intervention levels as this is done via proactive and reactive inspections.
Intervention Level	The size of the defect at which the road authority has determined that the defect will be rectified.
Consent applications	Applications made by other road authorities, utilities companies or residents to perform works on council-managed roads.

3 Purpose of the plan

The purpose of this Road Management Plan is to provide the following to key stakeholders:

- Detail the management systems for the road management functions under the control of Cardinia Shire Council
- Set the relevant standards in relation to the discharge of duties in the performance of those road management functions
- Base the standards on policy and operational objectives within the resources available
- Ensure the provision of a reasonably safe and efficient road network for use by road users and the community.

The key stakeholders in this Plan include:

- The community in general
- Residents and businesses abutting the road network
- Road users
- Pedestrians
- Cyclists
- Utility agencies that use the road reserve for their infrastructure (water, sewerage, gas, electricity, telecommunications)
- Council as the responsible road authority.

Council will make every endeavour to meet all aspects of its Road Management Plan, (RMP). However, there may be situations or circumstances that affect council's business activities to the extent that it cannot deliver on the service levels of the RMP. These include but are not limited to natural disasters, such as fires, floods, or storm; a prolonged labour or resource shortage, which may be due to a need to prioritise, commit or redeploy council staff and/or equipment elsewhere, or limitations imposed in reaction to pandemics.

In the event that the Chief Executive Officer (CEO) of Council has considered the impact of such an event on the limited financial resources of Council and its other conflicting priorities, and determined that the RMP cannot be met, then pursuant to Section 83 of the Wrongs Act, the CEO will write to Council's officer in charge of its plan and inform them that some, or all, of the timeframes and responses in council's RMP are to be suspended.

Once the scope of the event/s have been determined, and the impacts of the event on resources have been identified, then there will be an ongoing consultation between Council's CEO and Council's officer responsible for the RMP, to determine which parts of council's plan are to be reactivated and when.

Council statements to residents about the suspension or reduction of the services under the RMP will include reference to how the work that will be done has been prioritised, and the period for which it is likely to be affected.

In preparing this Plan, road users are to be reminded of their obligations under the Act and the Road Safety Act 1986

Obligation of Road Users (section 17A Road Safety Act 1986)

(1) A person who drives a motor vehicle on a highway must drive in a safe manner having regard to all the relevant factors.

(2) A road user other than a person driving a motor vehicle must use a highway in a safe manner having regard to all the relevant factors.

(2A) For the purposes of subsections (1) and (2) and without limiting their generality, the relevant factors include the following—
- (a) the physical characteristics of the road;
- (b) the prevailing weather conditions;
- (c) the level of visibility;
- (d) the condition of any vehicle the person is driving or riding on the highway;
- (e) the prevailing traffic conditions;
- (f) the relevant road laws and advisory signs;
- (g) the physical and mental condition of the driver or road user.

(3) A road user must—
- (a) take reasonable care to avoid any conduct that may endanger the safety or welfare of other road users;
- (b) take reasonable care to avoid any conduct that may damage road infrastructure and non-road infrastructure on the road reserve;
- (c) take reasonable care to avoid conduct that may harm the environment of the road reserve

4 Roads for which this plan applies

This Plan applies to all Public Roads for which Council is the coordinating road authority in accordance with Sections 36 and 37 of the Act. These are roads and pathways listed in Council's Register of Public Roads that Council has deemed to be:

- Managed and maintained by Council, and
- Considered to be reasonably required for general public use.

The register provides a list of the roads for which Council is the Responsible Authority, and includes (where applicable) the following;

- Council Asset ID
- Road name
- Description of road section
- Location
- Classification
- Surface Type (Sealed or Unsealed)
- Length
- Date Road became a Public Road[2]
- Date road ceased to be a Public Road
- Ancillary Areas
- Reference to arrangement relating to the transfer of road management functions to or from another road authority or service utility.
- Reference to Plan or Instrument made on or after 1 July 2004 that fixes or varies the boundary of a Public Road

The Register of Public Roads has been adopted by Council and is amended from time to time as required. The Register of Public Roads is also available for inspection at Council offices.

Where applicable, the details of agreements between the Council and other road authorities or service authorities, made pursuant to Section 15 of the Act, are also included in the Register of Public Roads. The demarcation of asset ownership has been defined by the negotiation of demarcation agreements between the Council and other road authorities in accordance with the Act[3]. Agreements have been adopted with the following:

- Casey City Council

[2] Noted only for roads that have been declared as a Public Road on or after 1/7/2004.
[3] Code of Practice

- Baw Baw Shire Council
- Yarra Ranges Council
- Bass Coast Shire Council
- South Gippsland Shire Council
- VicRoads

The agreements define the extent of boundary roads, private roads, state roads, other authority roads and structures.

This Plan does not apply to:

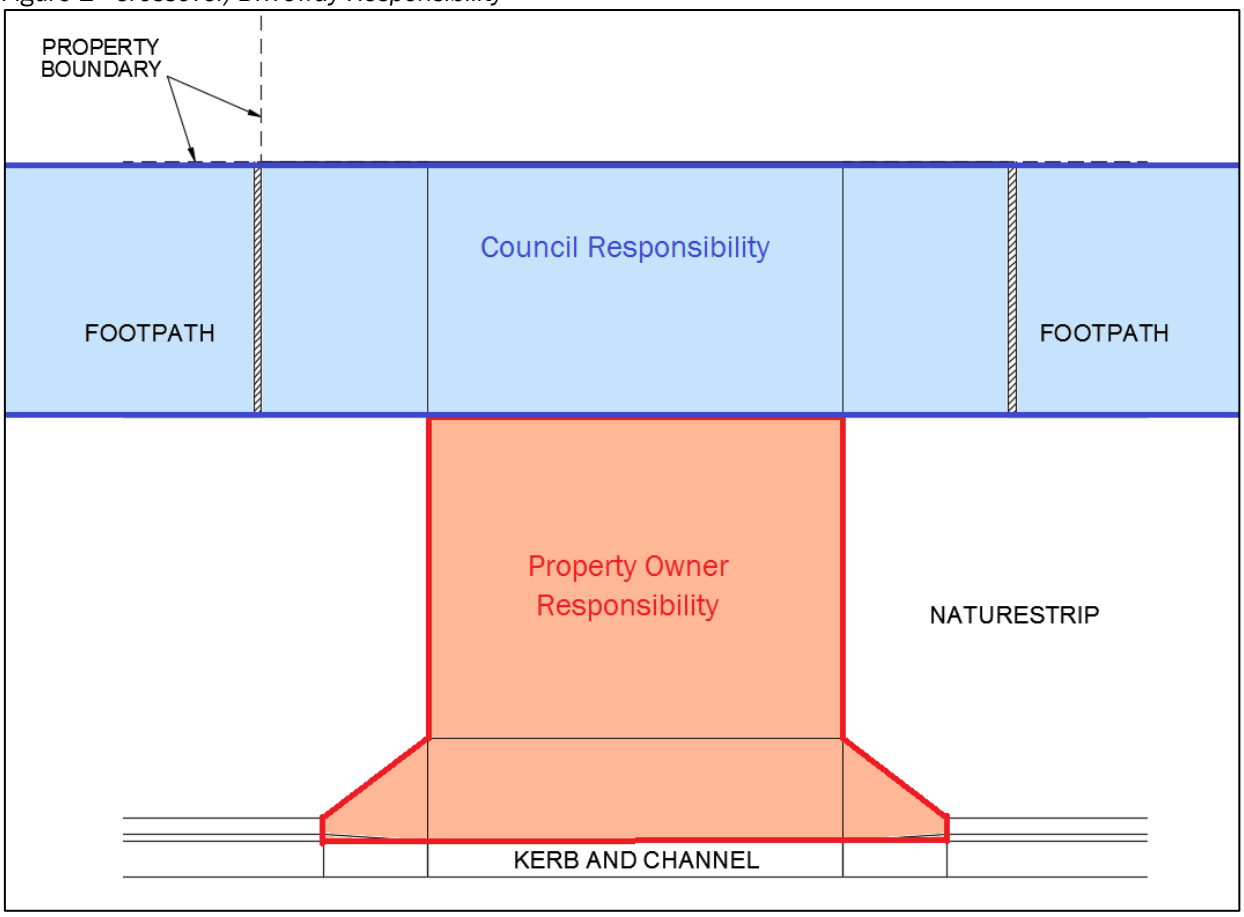
- Any driveway or pathway providing access from private property to a public road, other than the section of driveway/crossover that forms part of the public pathway (see below for further details).
- Fire Access Tracks, except where these tracks are ungated and accessed by the general public. These tracks will be inspected and maintained with the same standard as a 4D – Limited Access public road.
- Non-Road infrastructure as defined by The Act, including, but not limited to, gas pipes, water and sewerage pipes, cables, electricity poles, bus shelters, rail infrastructure, public telephones, mail boxes, road side furniture and fences erected by utilities or providers of public transport

4.1 Vehicle Crossovers/Driveways

The vehicle crossover refers to the crossing which provides access from the road to the property boundary.

The following diagram illustrates the layout of a typical vehicle cross-over showing the areas of responsibility of Council and that of the Property Owner.

Figure 1 - Crossover/Driveway Responsibility



5 Legislative basis for plan

This Road Management Plan is prepared in accordance with Part 4, Division 5 of the Act, in accordance with Road Management (General) regulations 2016 and the Ministerial code of practice for Road Management Plans.

In developing the relevant standards detailed in this Plan, Council has had regard to the following Service Performance Principles as per the Local Government Act 2020.

A council must plan and deliver services to the municipal community in accordance with the service performance principles, which are:

(a) services should be provided in an equitable manner and be responsive to the diverse needs of the municipal community;
(b) services should be accessible to the members of the municipal community for whom the services are intended;
(c) quality and costs standards for services set by the Council should provide good value to the municipal community;
(d) a Council should seek to continuously improve service delivery to the municipal community in response to performance monitoring;
(e) service delivery must include a fair and effective process for considering and responding to complaints about service provision

6 Management system

In the context of this Plan, and as per the requirements of the Act, Cardinia Shire Council defines Management System as a process based system which enables Council to make the following decisions in line with community expectations, needs and targets.

6.1 Long-Term Decision System

- Budgetary decisions in terms of funding allocations for capital, renewal and maintenance.
- Prioritisation decisions for capital renewal programs withing provided budgets including (but not limited to); reseal programs, re-sheeting programs, and rehabilitation programs.
- Long Term Risk Management Strategies.
- Long Term Transportation Management Strategies.

6.2 Long-Term Decision System Process

Council has five Asset Management Plans that impact assets found in the Road Reserve including:

- Roads Asset Management Plan,
- Pathway Asset Management Plan,
- Open Space Asset Management Plan,
- Bridge Asset Management Plan, and
- Drainage Asset Management Plan.

These are the fundamental documents in detailing the strategic guidelines and identifying maintenance, renewal, and upgrade improvements for the road network. The Road Asset Management Plan takes a lifecycle approach to the management of Council's road network and identifies the elements necessary for the long-term sustainability of the road asset. It provides details of the particular actions and resources required to manage the road system and provide defendable analyses using road performance models for future funding needs. Council's current funding profile for each asset group to deliver desired services is contained in each of the Asset Management Plans.

6.3 Day to Day Decision System

- Maintenance scheduling and planning in line with maintenance service levels[4], intervention levels and response time frameworks.
- Maintenance prioritisation on the basis of defect guidelines and risk.
- Pro-active inspections based on service levels as per this Road Management Plan.
- Reactive request logging and inspection scheduling.
- In addition to the inspection process for unsealed roads, a cyclic program of maintenance scheduling will be implemented based on historical data to drive regular maintenance and improve overall performance of the unsealed road network.

6.4 Day to Day Decision System Process

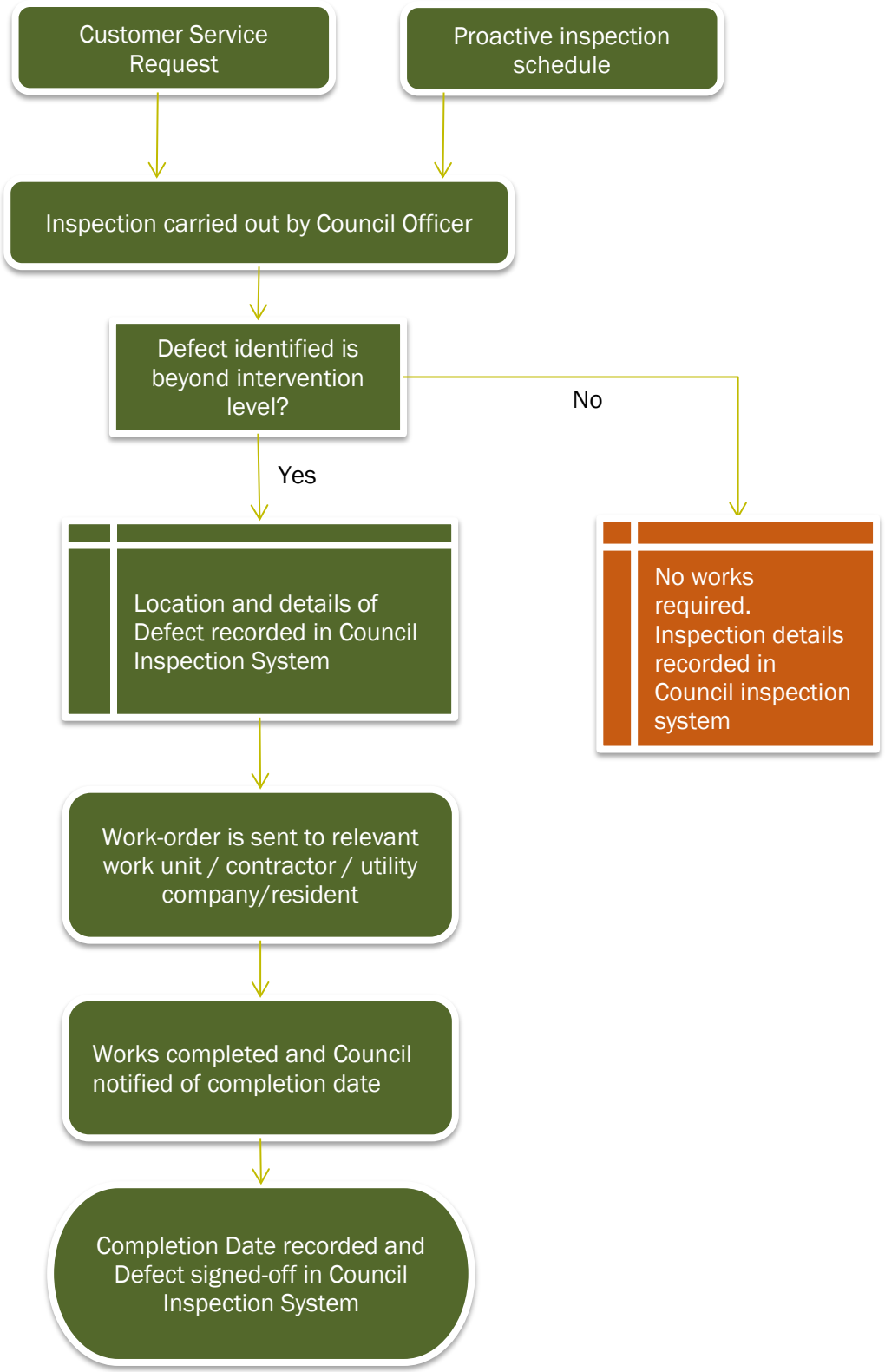
The flow chart shown below outlines Council's day to day decision system process that includes how Council records works and inspections undertaken (to demonstrate compliance with our statutory duties[5]). This process includes:

- Pro-active inspections based on this RMP.
- Reactive inspections when required.
- Work scheduling and planning as per Council service levels.
- Work prioritisation as per risk and response times.

[4] (refer Schedule A)

[5] As per section 40 and 102 of the Act

Figure 2 - Maintenance process



7 Asset repair standards

Council's road management standards have been developed by taking into account historical information of risk and events, community expectations, industry standards and available resources. Council has set standards on the basis of the following:

- An intervention level which defines the size, shape or nature of an asset deficiency or hazard.
- A response time for repair, calculated from the date the defect is recorded by Council.

Council emphasizes that standards will vary across the road network in line with relevant risk factors such as the nature and volume of traffic using the road, operating speed, location and vicinity, the susceptibility of assets to deterioration, the cost effectiveness of repairs and the competing priorities for funding. Roads, Footpaths, Bridges and Drainage have therefore been classified into hierarchies where each hierarchy has a different standard.

Council's standards for risk, maintenance, and repair[6] have been developed to keep current assets reasonably safe and serviceable.

[6] Refer section 9

8 Hierarchical classification system

The classification system has been developed to ensure that appropriate management, engineering standards and planning practices are applied to a road asset based on its function.

The classification system also enables more efficient use of resources by allocating funding to those road assets that are more utilised and provide benefit to a greater part of the community.

8.1 Road classification

In developing the road classification system, the following guiding principles have been used:

- The classification system is based on a combination of intended functionality and existing traffic usage;
- The classification system is risk based – higher usage implies higher potential for a hazard to impact users.

The network of Public Roads is classified into the following hierarchies (Note: The traffic volumes indicated are regarded as a general indication for each category and do not solely determine a road's classification.):

Table 1 - Road Classifications

			Urban		Rural	
Classifications	Description	Strategic Value	Approximate Volume	Strategic Considerations	Approximate Volume	Strategic Considerations
4A - Local Arterial - Road	Caters for major vehicle movements across shire. Provides vital contribution to arterial road network may have limited alternative higher order routes available locally. May have limited direct property access provisions.	Very High	5000+	Focus on through traffic movements. Provides access between major activity centres. Key economic significance for the area.	1000+	Focus on high value strategic connections. Preferred through access routes and heavy vehicle routes. Key economic significance for the surrounding areas.
4B1 - Local Major Collector - Road	Provides connection between local collector/access roads and arterials with low/medium access provisions. Makes major contribution to road network complimenting arterial network. Alternative routes may be available.	High	2500-6000	Provides major connection between estates, arterial network roads and activity centres.	500-1500	Significant strategic connections. Generally providing access between arterial network and/or activity centres. May be a heavy vehicle access route.
4B2 - Local Minor Collector - Road	Provides important connection between local roads and arterials whilst also providing access. Makes minor contribution to road network, generally impacting limited area. Alternative routes will likely be available.	Medium	1000-3000	Provides connection between properties, arterial/collector network and/or activity generators	100-1000	Low volume connections with low strategic significance. May be heavy vehicle access route with limited connections
4C - Local Access - Road	Provides access from properties to the higher order road network. Low strategic value and usually minor contribution to surrounding network.	Low	50-1500	Provides direct access to properties and the “normal” or default classification of a local road.	0-200	Provides access to properties.
4D - Limited Access - Road	Limited to only a handful of properties. Very low use and very little impact on surrounding network.	Very Low	0-100	Short link to provide access to generally only a few properties	Very low volume	Limited use roads, generally no through access.

8.2 Pathways classification

The pathway classification system has been developed based on the expected usage of the network, reflecting risk based on pedestrian traffic nature and volumes. The pathway network including shared paths, pedestrian paths and bicycle paths that fall within the RMP are classified into the following hierarchies:

Hierarchy	Description
High	Areas identified as potential high risk due to the nature and volume of pedestrian traffic associated with particular properties adjacent to Council footpath. These properties may include malls, major shopping areas, preschools, schools, community buildings (halls, library, health centres,) elderly homes precincts, medical precincts and hospitals.
Medium	Moderately trafficked pedestrian areas such as designated collector footpaths as well as shared bicycle/pedestrian paths.
Low	All other constructed paths for which Council is responsible including residential areas

8.3 Bridge classification

The bridge hierarchy adopted by Council is based on the classification of the road or pathway that it services.

Table 2 - Vehicular Bridge and Major Culvert Hierarchy Classifications

Vehicular Bridge Classification
4A – Local Arterial
4B1 and 4B2 – Local Collector
4C – Local Access
4D – Limited Access

NB: The prefix 4 is related to the Aust Roads National Functional Road Classification categories.

Table 3 - Pedestrian Bridge and Major Culvert Hierarchy Classifications

Pedestrian Bridge Classification
High
Medium
Low

8.4 Drainage classification

Council's drainage asset hierarchy is illustrated in the following diagram and table below. The asset class is the most general grouping of asset types within the asset category that allows for ease of reporting. The asset type is the lowest level of grouping for similar assets or similar assets that provide similar services.

This Road Management Plan covers only those drainage asset classes and assets located within the road reserve.

Table 4 - Drainage Classification Descriptions

Drainage classification	Service Function Description	Brief Description
Roadside Underground Drains	Pipes carry rain that falls onto roofs and streets into Melbourne Water main drains or directly to local receiving waterways.	Pipes are located underground within the roadway, nature-strip or property easement. They generally range in size from 150mm in diameter to greater than 1,200mm in diameter, dependent upon the capacity of the stormwater they have been designed to cater for underground.
Roadside Drainage Pits	Provides points of entry for stormwater from the above ground drainage system to the underground drainage system.	Pits generally fall into two main categories being entry pits and junction pits. The entry pits are typically located at the lowest point of the roadway (as part of the kerb and channel, table drain etc) to allow water to enter the underground drainage system. Junction pits are constructed to provide for changes in the direction of the pipe, provide for connection of the pipe and/or to allow for a point of entry to inspect and clean the underground drainage system
Roadside Surface Drains	Roadside Surface Drains act as drainage channels, directing stormwater road surface flows into the underground stormwater drainage network via drainage pits or directly into local receiving waterways or Melbourne Water drains.	Table drains can also be of natural construction.
Gross Pollutant Traps	Gross Pollutant Traps (GPTs) serve to reduce the amount of litter and other large objects from entering the drainage system and receiving waters	GPTs can either be associated with a roadside drainage pit (e.g. netting within the pit to capture gross pollutants) or larger standalone structures.
Sediment Pits	Sediment pits capture sediment and other solids in stormwater	Sediment pits capture sediment and other solids in stormwater
Water Sensitive Urban Design (WSUD) within road reserve	WSUD devices reduce the amount of pollutants entering road reserves	WSUD devices take many forms ranging from significant wetlands down to inlet structures around a single tree. Typically, they rely on a combination of plant life and particular soil makeup to effectively treat runoff.

9 Standards of risk and maintenance

Risk and Maintenance Standards have been developed in consultation with internal stakeholders, the community, an assessment of available historical data and industry standards. Standards will vary across the road network in line with relevant risk factors such as the nature and volume of traffic using the road or footpath, operating speed, the susceptibility of assets to deterioration, the cost effectiveness of repairs and the competing priorities for funding. The variation of maintenance standard across the network is reflected in Council's road classification system.

Section 11 provides details of adopted service levels, which are Council's nominated standards.

10 Inspections

10.1 Reactive Inspections

These inspections are undertaken by Council staff in response to a customer request or notification about the condition of the road or road related infrastructure, in order to assess whether it contains a RMP defect that has reached the relevant intervention level.

The following tables detail the timeframes for undertaking these inspections.

10.1.1 Roads

Table 5 - Reactive inspection timeframes for Roads

Classification	Inspection Response Time (Working/Business Days)
4A – Local Arterial	Inspect within 5 days
4B1 - Local Major Collector	Inspect within 5 days
4B2 - Local Minor Collector	Inspect within 5 days
4C – Local Access	Inspect within 5 days
4D – Limited Access	Inspect within 5 days

Table 6 - Reactive inspection timeframes for Roadside Street Furniture

Category	Inspection Response Time (Working/Business Days)
Guideposts & Pavement markings, includes guideposts, rumble bars and pavement markings including Raised Reflective Pavement Markers	Inspect within 10 days
Guard Rail and Safety Fence 'Maintenance	Inspect within 3 days
Regulatory Signs	Inspect within 3 days
Road Retaining Walls	Inspect within 5 days
Traffic Control Devices	Inspect within 3 days

10.1.2 Footpaths

Table 7 - Reactive inspection timeframes for Footpaths

Classification	Inspection Response Time (Working/Business Days)
High	Inspect within 5 days
Medium	Inspect within 5 days
Low	Inspect within 5 days

10.1.3 Bridges

Table 8 - Reactive inspection timeframes for Bridges

Category	Classifications	Inspection Response Time (Working/Business Days)
Road related structures	All Roads	Inspect within 5 days
Pathway related structures	High	Inspect within 5 days
	Medium	Inspect within 5 days
	Low	Inspect within 5 days

10.1.4 Drainage

Table 4 - Reactive inspection timeframes for Drainage

Category	Inspection Response Time (Working/Business Days)
Roadside Drainage Pits	Inspect within 5 days
Roadside Underground Drains	Inspect within 5 days
Roadside Surface Drains	Inspect within 5 days
Gross Pollutant Traps	Inspect within 14 days
Sediment Pits	Inspect within 14 days

10.2 Pro-active asset nominal inspection frequency

Council inspects all roads, footpaths, and bridges for which it is responsible on a cyclic basis to identify potential safety hazards, and defects which exceed the stated intervention levels. The inspection program reflects the priority identified in each asset group classification system and appropriate use of resources in accordance with the requirements of the Act.

The following are the nominal inspection cycles for each group of assets.

10.2.1 Roads

Roads Hierarchy	Sealed Roads	Unsealed Roads
4A – Local Arterial	Inspect once per calendar month	Inspect once every 4th calendar month
4B1 - Local Major Collector	Inspect once every 2nd calendar month	Inspect once every 6th calendar month
4B2 - Local Minor Collector	Inspect once every 3rd calendar month	Inspect once every 12th calendar month
4C – Local Access	Inspect once every 12th calendar month	Inspect once every 12th calendar month
4D – Limited Access	Not applicable to sealed roads	Inspect once every 12th calendar month

The following examples show how compliance to this plan will practically work for a 4A Local Arterial sealed road with a nominal inspection frequency of once per calendar month:

- An example of compliance with this schedule would be if inspections were completed on the 19th of Jan, the 17th of Feb, the 26th of March, and the 23rd of April.
- An example where Council has not complied would be if inspections were completed on the 19th of Jan, the 17th of Feb, the 1st of April, and the 23rd of April.

Road inspections shall incorporate visual inspections of road related furniture including delineation and line marking, safety barriers, traffic control devices, regulatory signage, and road related retaining walls.

Where Fire Access tracks are ungated and accessed by the general public. These tracks will be inspected and maintained with the same standard as a 4D – Limited Access public road.

10.2.2 Footpaths

Footpath Hierarchy	Inspection Frequency
High	All footpaths in this classification will be proactively inspected once every 6th calendar month
Medium	Each footpath in this classification will be proactively inspected once every 12th calendar month
Low	Each footpath in this classification will be proactively inspected once every 24th calendar month
Gravel and Paver Paths	All footpaths constructed from these materials will be proactively inspected once every 6th calendar month

10.2.3 Bridges

Council has adopted three levels of inspections as recommended by the VicRoads Bridge Inspection Manual 2000 and the nominal inspection frequencies adopted are considered to be current industry standard and therefore reasonable in the context of Council's human and financial resources. For further details about the inspection types see Council's Bridge Asset Management Plan.

Inspection Type	REASON FOR ACTIVITY	HIERARCHY	FREQUENCY
Level 1 Inspections Regime (for proactive maintenance)	Carried out in conjunction with a Routine or Reactive inspection to check the general serviceability of the structure, particularly the safety of road users, and to identify any emerging problems.	Concrete Bridges	Inspected once every 12th calendar month / or Within 20 working days of floods / natural disasters
		Timber Bridges	Inspected once every 6th calendar month / or Within 20 working days of floods / natural disasters
		Culverts	Inspected once every 12th calendar month / or Within 20 working days of floods / natural disasters
		Pedestrian Bridges	Inspected once every 6th calendar month / or Within 20 working days of floods / natural disasters
		Timber Boardwalks	Align with footpath inspections timeframes
Level 2 and 3 inspections	To assess the structural integrity and capacity of the bridge substructure and superstructure. Inspections will be carried out in accordance with VicRoads Bridge Inspection Manual.	Concrete Bridges	Nominally 48 months or as determined from Level 1 inspection'
		Timber Bridges	Nominally 24 months or as determined from Level 1 inspection'
		Culverts	Nominally 48 months or as determined from Level 1 inspection'
		Pedestrian Bridges	Nominally 24 months or as determined from Level 1 inspection'
		Timber Boardwalks	Nominally 24 months or as determined from Level 1 inspection'
		All	Level 3 will be triggered by a level 2 inspection if required or by a catastrophic event – fire, flood etc.

10.2.4 Drainage

Council currently undertakes proactive inspections on a subset of drainage assets that have been identified by maintenance supervisors as having an increased risk of failure as shown by past records of flooding issues. These inspections are undertaken at the same time as the proactive road inspection for the adjacent roads.

Sample inspections of roadside surface drainage will occur during the proactive inspections of road assets

Inspection Type	Inspection Frequency
Roadside Surface Drains	4A – Local Arterial - Inspect once every 4th calendar month, in conjunction with road inspections 4B1 - Local Major Collector - Inspect once every 6th calendar month, in conjunction with road inspections 4B2 - Local Minor Collector - Inspect once every 12th calendar month, in conjunction with road inspections 4C – Local Access -- Inspect once every 12th calendar month, in conjunction with road inspections 4D – Limited Access - Inspect once every 12th calendar month, in conjunction with road inspections
Gross Pollutant Traps	Inspect once every 6th calendar month / or within 14 working days of floods/ natural disasters
Sediment Pits	Inspect once every 6th calendar month / or within 14 working days of floods/ natural disasters
Water Sensitive Urban Design (WSUD) within road reserve	Inspect once every 6th calendar month / or within 14 working days of floods/ natural disasters

11 Schedule A – Risk and maintenance standards

11.1 Road Service Standards

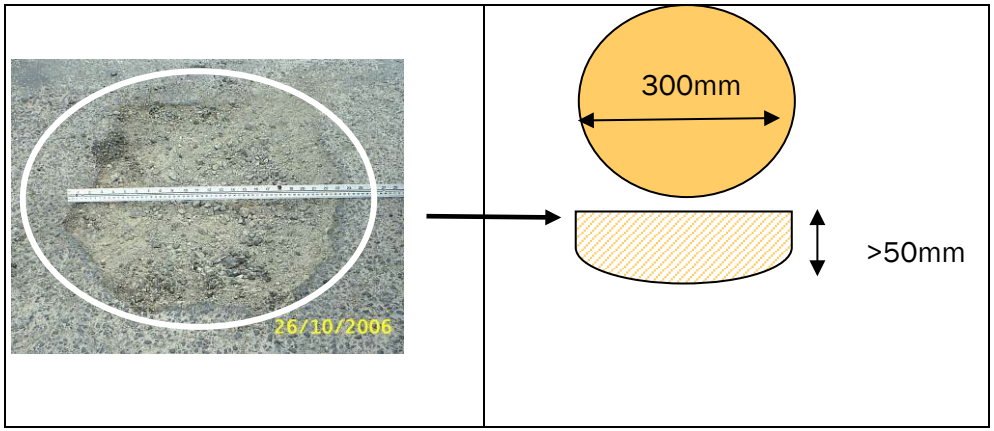
The following standards define the defect intervention points and response times for defects exceeding intervention levels.

Note: If a sealed road is listed on a funded rehabilitation program, then it would be irresponsible to undertake major repair works only to have the pavement reconstructed shortly after. Therefore, in these situations warning signage may be used for defects that are outside intervention levels, until the pavement is rehabilitated.

Warning signage and barricading

While council will endeavour to meet the response times as noted in the following tables, if at any time available resources are not sufficient to ensure maintenance works are carried out within the response times then other steps will be undertaken such as warning signage and/or safety barricading will be installed until such time as the work is completed. Warning signage is not seen as a permanent solution and will be utilised for a maximum of 3 months during which time the maintenance work will be undertaken, with the exception roads on the rehabilitation program as defined in the note above.

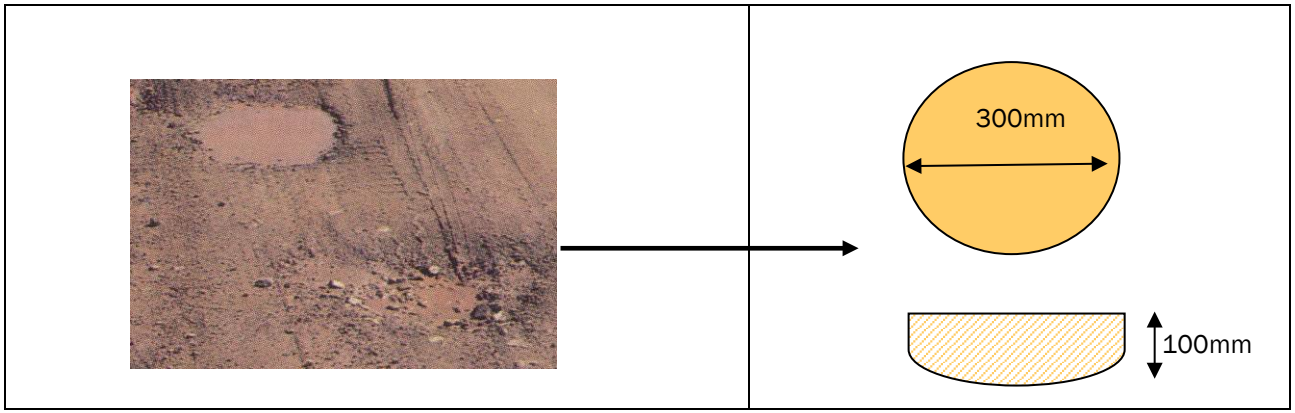
Sealed Road Pothole



Intervention Level	Hierarchy	Response Time
Isolated hole in sealed wearing surface and into the granular pavement underneath Excludes loss of surface on edges of sealed surface roadway – See Sealed Edge Break	4A	10 days
	4B1 & 4B2	15 days
	4C	20 days
	4D	60 days

Notes: All times noted in working days.

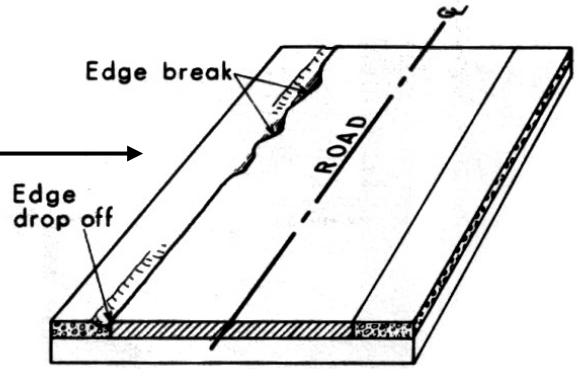
Unsealed Shoulder Pothole



Intervention Level	Hierarchy	Response Time
Greater than 300mm in diameter. and depth is a minimum of 100mm.	4A	30 days
	4B1 & B2	30 days
	4C	60 days
	4D	60 days

Notes: All times noted in working days.

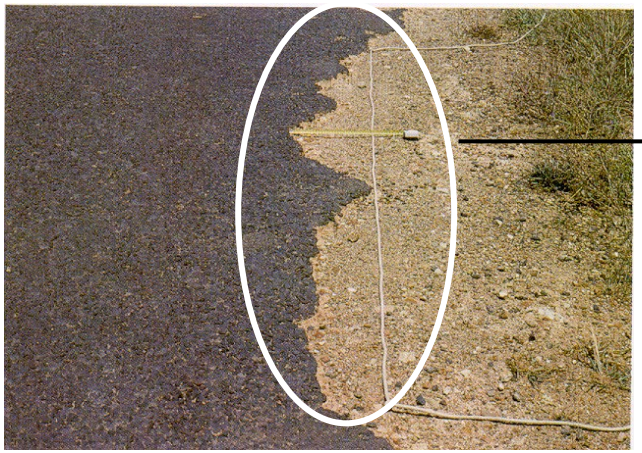
Sealed Road Edge Drop

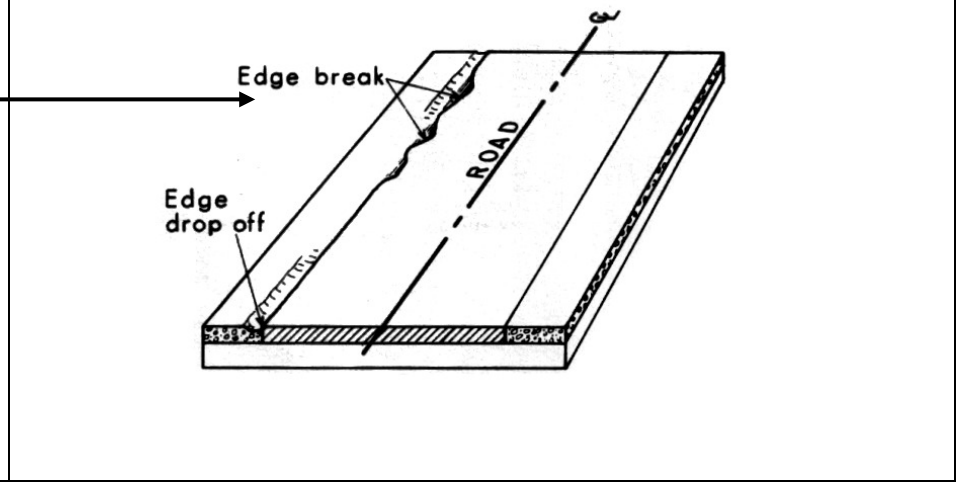


Intervention Level	Hierarchy	Response Time
Greater than 75mm drop off for a continuous length of 1m or more	4A	30 days
	4B1 & B2	30 days
	4C	60 days
	4D	60 days

Notes: All times noted in working days.

Sealed Edge Break





Intervention Level	Hierarchy	Response Time
Fretting and breaking of sealed edge, greater than 75mm in depth on average within a 2 m section which also has an associated 75mm edge drop off.	4A	15 days
	4B1 & B2	30 days
	4C	60 days
	4D	60 days

Notes: All times noted in working days.

Sealed Road Pavement Deficiency

Intervention Level	Hierarchy	Response Time
Isolated failed surface or pavement represented by loss of shape or structure and showing deformities. Surface area greater than 20 m^2; and Depth greater than the following based on the minimum average dimension of length or width; **e.g.** 3 m x 2m defect must be at least 75mm deep to require treatment because 2m is it's minimum dimension	4A	3 months
	4B1 & B2	6 months
	4C	12 months
	4D	12 months

Dimension (m)	>=1	>2	>3	>4	>5
Depth (mm)	50	75	100	125	150

Notes: All times noted in working days.

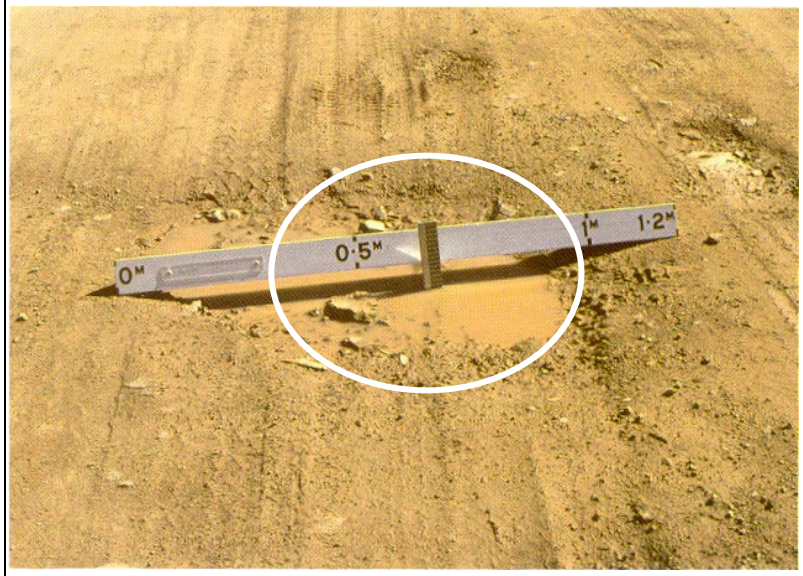
Road Signs Deficiency

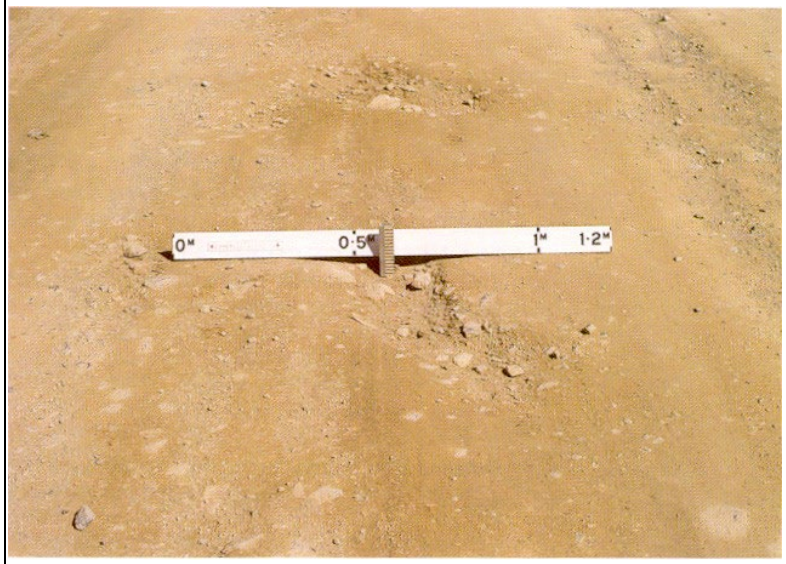
Intervention Level	Hierarchy	Response Time
Replace regulatory signs (Parking Signs excepted) that are missing or illegible at 100 metres at night using low beam or are illegible at 100 metres in daylight'. Parking signs should be legible from 10m.	4A 4B1 & B2 4C 4D	5 days 5 days 5 days 5 days

Notes :

1. All times noted in working days.
2. Applies to regulatory signs only
3. Inspector will only identify missing signs, where it is clearly evident that a pre-existing sign is missing.
4. Inspector is not investigating or assessing the 'need' for signage at any location. The assessment of 'signage needs' is a Traffic Engineering investigation and inspection.

Unsealed Road Pot-hole Defect





Intervention Level	Hierarchy	Response Time
An unsealed road pothole is defined as isolated depressions caused by loss of pavement from the road Any pothole with depth greater than 100mm and/or greater than 500mm lateral dimension	4A	40 days
	4B1 & B2	40 days
	4C	60 days
	4D	12 months

Notes: All times noted in working days.

Unsealed Road Grading

Council will maintain an unsealed road grading program.
Defects such as channels scouring, corrugations, rutting, shoving, and soft spots are to be limited to less than 5% of the area directly after grading.

Unsealed Road Pavement Deficiency Hazards

<table>
<tr><th>Intervention Level</th><th>Hierarchy</th><th>Response Time</th></tr>
<tr><td rowspan="4">1. Isolated deformation style defects such as depressions, shape-loss, and soft spots.

Surface area less than 60 m^2; and

Depth greater than shown in the following table based on the least dimension of the defect's length or average width;

<table><tr><th>Least Dimension (m)</th><td>>=1</td><td>>2</td><td>>3</td><td>>4</td><td>>5</td></tr><tr><th>Depth (mm)</th><td>50</td><td>75</td><td>100</td><td>125</td><td>150</td></tr></table>
e.g. 3 m x 2m defect has a least dimension of 2m and therefore must be at least 75mm deep to require treatment ; or

2. Scouring with depth > 100mm</td><td>4A</td><td>30 days</td></tr>
<tr><td>4B1 & B2</td><td>30 days</td></tr>
<tr><td>4C</td><td>60 days</td></tr>
<tr><td>4D</td><td>6 months</td></tr>
</table>

Notes: All times noted in working days.

Defect Type	Intervention Level	Response Time
Guard Rail and Safety Fence Maintenance	Guard and safety fence with a panel or component affected so as to render ineffective.	3 months
Guideposts & Pavement marking includes guideposts, rumble bars and pavement markings including Raised Reflective Pavement Markers	Pavement marking segments clearly missing or Pavement Marking >50% not clearly visible in daylight conditions.	15 months all road hierarchies
Road and Footpath Retaining Walls	Road and footpath retaining walls with a panel or component affected so as to render ineffective.	6 months
Kerb and channel	Step or misalignment in kerb and channel >50mm.	3 months

Emergency Response

In addition to the above, the following list of specific hazards that warrant an Emergency Response, where hazard/defect that presents an immediate and significant threat to the safety of road and footpath users.

Note: This does not apply to road hierarchy 4E – Fire Access Track, except where these tracks are ungated and accessed by the general public. These tracks will be inspected and maintained with the same standard as a 4D – Limited Access public road.

Hazard	Response Time
Hazardous material such as oil, fuel, concrete or dangerous chemicals spilt on traffic lane.	1 day
Isolated section of loose stones greater than 10 m2 on a sealed road surface in 100km/h speed zone and in the near vicinity of a bend. to being washed off driveways, intersecting unsealed roads or other reasons	
Flooding across 50% of the road surface	
Road Pavement Deficiency greater than 150mm deep within one square metre	
Any object obstructing ability to travel on the road or footpath	
Significant erosion of road pavement due to culvert failure	
Pit lids missing or where obvious signs of significant loss of structural integrity	

11.2 Footpath Service Standards

Temporary Measures refers to the installation of temporary safety measures such as Safety Barricading and/or signage.

Footpath intervention levels will be applied at pavement marked and signalised pedestrian crossings

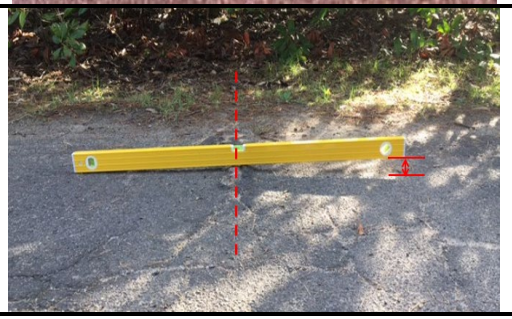
All response times noted below are in working days.

Concrete Footpaths **Repair Treatments may include: bay replacement, grinding, ramping.**
includes stencilled (faux brick) type pathways

Defect	Response Time by Intervention and Hierarchy***			Typical Photographic Example
	High	Medium	Low	
Vertical Displacement Vertical displacement of 25mm or greater	Undertake temporary repair where viable – 14-days. Place on footpath maintenance program for prioritisation and repair – 6 months	Undertake temporary repair where viable – 8 weeks. Place on footpath maintenance program for prioritisation and repair – 1 year	Undertake temporary repair where viable – 6 months. Place on footpath maintenance program for prioritisation and repair – 2 years	
Cracking Crack with an average width > 20mm	Repair within 3 months	Repair within 12 months	Repair within 18 months	

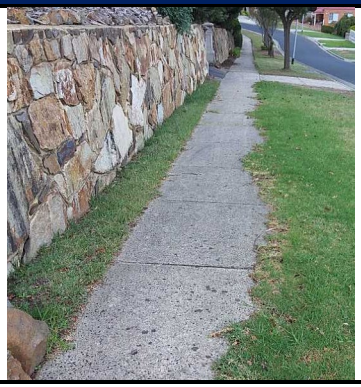
Concrete Footpaths **Repair Treatments may include: bay replacement, grinding, ramping.** includes stencilled (faux brick) type pathways				
Defect	Response Time by Intervention and Hierarchy***			Typical Photographic Example
	High	Medium	Low	
Vegetation encroachment (above ground level) <2.5m in height or >1m from edge	Repair within 3 months	Repair within 3 months	Repair within 3 months	
Vegetation encroachment (ground level) Encroaching>25% in width & > 20m in length	Repair within 12 months	Repair within 12 months	Repair within 12 months	

Concrete Footpaths **Repair Treatments may include: bay replacement, grinding, ramping.** includes stencilled (faux brick) type pathways				
Defect	Response Time by Intervention and Hierarchy***			Typical Photographic Example
	High	Medium	Low	
TGSI (Tactile Ground Surface Indicators) Missing, damaged, cracked or peeling	Repair within 3 months	Repair within 12 months	Repair within 18 months	

ASPHALT FOOTPATHS				
Defect	Response Time by Intervention and Hierarchy***			Typical Photographic Example
	High	Medium	Low	
Vertical Displacement Vertical displacement >25mm	Undertake temporary repair where viable – 14-days. Place on footpath maintenance program for prioritisation and repair – 6 months	Undertake temporary repair where viable – 8 weeks. Place on footpath maintenance program for prioritisation and repair – 1 year	Undertake temporary repair where viable – 6 months. Place on footpath maintenance program for prioritisation and repair – 2 years	
Depression < 1.2m in length and Vertical displacement measured > 50mm **Measurement Methodology:** Place 1.2 m metre straight edge centre over depression and measure greatest vertical displacement.	Repair within 3 months	Repair within 12 months	Repair within 18 months	
Hump <1.2m in length **and** Vertical displacement measured > 100mm **Measurement Methodology:** Place 1.2 m metre straight edge centre on hump and measure greatest vertical displacement at either end.	Repair within 3 months	Repair within 12 months	Repair within 18 months	

ASPHALT FOOTPATHS				
Defect	Response Time by Intervention and Hierarchy***			Typical Photographic Example
	High	Medium	Low	
Cracking Crack width >20mm	Repair within 3 months	Repair within 12 months	Repair within 18 months	
Vegetation encroachment (above ground level) <2.5m in height or >1m from edge	Repair within 3 months	Repair within 3 months	Repair within 3 months	
Vegetation encroachment (ground level) Encroaching>25% in width & > 20m in length	Repair within 12 months	Repair within 12 months	Repair within 12 months	

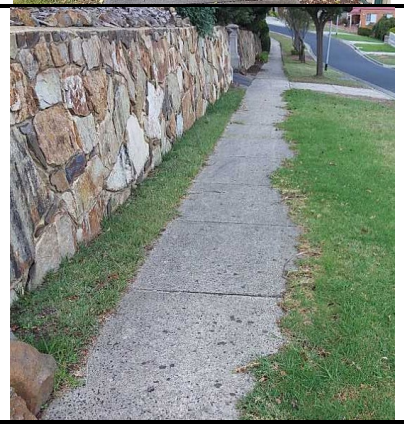
GRAVEL FOOTPATHS				
Defect	Response Time by Intervention and Hierarchy***			Typical Photographic Example
	High	Medium	Low	
Potholes / Erosion Vertical displacement > 50mm **Measurement Methodology:** Place 1.2 m metre straight edge centre over pothole/erosion and measure greatest vertical displacement.	Repair within 3 months	Repair within 12 months	Repair within 18 months	
Hump length < 1.2m and Vertical displacement measured >100mm **Measurement Methodology:** Place 1.2 m metre straight edge centre on hump and measure greatest vertical displacement at either end.	3 months	Repair within 12 months	Repair within 18 months	
Vegetation encroachment (above ground level) <2.5m in height or >1m from edge	Repair within 3 months	Repair within 3 months	Repair within 3 months	

GRAVEL FOOTPATHS				
Defect	Response Time by Intervention and Hierarchy***			Typical Photographic Example
	High	Medium	Low	
Vegetation encroachment (ground level) Encroaching>25% in width & > 20m in length	Repair within 12 months	Repair within 12 months	Repair within 18 months	

TIMBER FOOTPATHS				
Defect	Response Time by Intervention and Hierarchy***			Typical Photographic Example
	High	Medium	Low	
Vertical Displacement Vertical displacement >25mm	3 months	Repair within 12 months	Repair within 18 months	
Missing Plank missing plank	Repair within 1 day	Repair within 1 day	Repair within 1 day	
Deformation Over 1.2m and vertical displacement > 50mm	Repair within 3 months	Repair within 12 months	Repair within 18 months	

TIMBER FOOTPATHS				
Defect	Response Time by Intervention and Hierarchy***			Typical Photographic Example
	High	Medium	Low	
Dislodged Nails/Screws	Repair within 3 months	Repair within 12 months	Repair within 18 months	
Vegetation encroachment (above ground level) <2.5m in height or >1m from edge	Repair within 3 months	Repair within 3 months	Repair within 3 months	
Vegetation encroachment (ground level) Encroaching>25% in width & > 20m in length	Repair within 12 months	Repair within 12 months	Repair within 12 months	

PAVER FOOTPATHS				
Defect	Response Time by Intervention and Hierarchy***			Typical Photographic Example
	High	Medium	Low	
Vertical Displacement Vertical displacement > 25mm **Repair activity:** Re-set pavers – Option 1 Replace pavers – Option 2	Make Safe in 3 working days Repair within 3 months	Repair within 12 months	Repair within 18 months	
Hump length < 1.2m and Vertical displacement measured >100mm **Measurement Methodology:** Place 1.2 m metre straight edge centre on hump and measure greatest vertical displacement at either end.	Repair within 3 months	Repair within 12 months	Repair within 18 months	
Depression < 1.2m in length and Vertical displacement measured > 50mm **Measurement Methodology:** Place 1.2 m metre straight edge centre over depression and measure greatest vertical displacement.	Make Safe in 3 working days Repair within 6 months	Repair within 12 months	Repair within 18 months	

PAVER FOOTPATHS				
Defect	Response Time by Intervention and Hierarchy***			Typical Photographic Example
	High	Medium	Low	
Vegetation encroachment (above ground level) <2.5m in height or >1m from edge	Repair within 3 months	Repair within 3 months	Repair within 3 months	
Vegetation encroachment (ground level) Encroaching>25% in width & > 20m in length	Repair within 12 months	Repair within 12 months	Repair within 12 months	

***Response time runs from time Council has recorded the defect.

11.3 Bridge Service Standards

Defect Type	Intervention level	Response Time
Vehicular Bridges & Major Culverts	Visible defects on components likely to affect users or public safety identified as part of the Bridge, Major Culvert, Pedestrian Bridges, Timber Boardwalks and scheduled inspection program.	As per Bridge, Major Culvert, Pedestrian Bridges, Timber Boardwalks and scheduled maintenance program.
Pedestrian Bridges, Timber Boardwalks and Viewing Platforms		

11.4 Drainage Service Standards

1. Response times apply only after a nominated Council inspector has inspected the request or has undertaken a scheduled inspection.
2. Resident is considered responsible for the upstream side of the legal point of discharge including connections to the legal point of discharge, unless it can be proved that council's actions have in the recent past interfered with the residents drains and connections.

Pipes and Pits

Reactive Maintenance - Unplanned Maintenance of Stormwater Pipes and Pits

Sub-Activities	Intervention Level *	Action/Response Times	
Clear Blockages General minor repairs	Blocked line reported by incident or inspected through CCTV.	If flooding roadside	Respond within 2-days to minimise damage

* Schedule managed by Drainage Supervisor.
* Capacity issues associated with Melbourne Water outfall drains obstructing water flow from council drains will be referred to Melbourne Water for action