

# Road Management Plan 2017

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# 1 Executive Summary

The Shire of Nillumbik is located less than 25 kilometres north-east of Melbourne, covers an area of 432 square kilometres and has a population of approximately 62,600 people. Within the Shire, Nillumbik Shire Council (Council) is responsible for an extensive network of physical assets including approximately 430 kilometres of sealed roads, 330 kilometres of unsealed roads and 310 kilometres of sealed pathways.

Council has a statutory duty under the Road Management Act 2004 to act 'reasonably' by inspecting and maintaining assets to protect the travelling public.

This Road Management Plan (Plan) has been developed to establish a management system for Council to inspect, maintain and repair public roads and related assets for which it is responsible.

The main purpose of this Plan is to:

1. comply with relevant legislative requirements
2. consider the needs and expectations of the road and footpath user
3. balance the economic, social, safety and environmental expectations of the community
4. consider the affordability, available resources and management of risks when determining levels of service
5. outlines and lists the documents that support the Plan

The Plan is intended to be a dynamic document and, as such, there is a need for regular review, refinement and improvement. This will ensure that the Plan is in accordance with responsible asset management, changing technology, climatic conditions and, in particular, Council and community requirements and expectations.

The key elements of this Plan are:

- the Register of Public Roads for which Council is responsible
- the systems that Council uses to manage hazards and defects on its public road network
- schedules of maintenance standards used by Council for inspection, intervention and response.

The maintenance systems and processes established by this Plan form the basis of Council's legal defence against claims in negligence arising from defective components of the road and footpath network.

## **2 About this Road Management Plan**

### **2.1 Legislative basis for the Road Management Plan**

This Road Management Plan (Plan) has been prepared in accordance with the following Acts:

- Local Government Act 1989
- Road Management Act 2004

Associated with the Road Management Act 2004 are the following Regulations that came into effect 1 July 2005:

- Road Management (General) Regulations 2005
- Road Management (Works and Infrastructure) Regulations 2005

Nillumbik Shire Council (Council) is the 'Co-ordinating Road Authority' for municipal roads within its boundaries and is responsible for their care and management.

The Plan has been reviewed with regard to the following Council plans, policies, strategies and adoptions:

- The Council Plan
- Road Asset Management Plan
- Tree Management Policy and Tree Management Guidelines
- Nillumbik Trail Strategy
- Adopted Operational and CAPEX (Capital Expenditure) Budget
- Risk Management Policy and Framework
- Local Laws
- Minor maintenance agreements between VicRoads and Council

To the extent any plan, budget, strategy, agreement or study of Council (as may be amended by Council from time to time) is necessary or required for Council to meet or fulfil the requirements of the Plan or to properly discharge its duties and responsibilities under the Road Management Act 2004, the relevant document is deemed to be incorporated by reference into, and to form a part of, the Plan.

### **2.2 Purpose of the Road Management Plan**

The purpose of this Plan is to establish a management system for Council to inspect, maintain and repair its public roads. It achieves this by:

1. complying with relevant legislative requirements
2. considers the needs and expectations of the road and footpath user
3. balances the economic, social, safety and environmental expectations of the community

4. considers the affordability, available resources and management of risks when determining levels of service
5. outlines and lists the documents that support this Plan.

It also sets the relevant standard in relation to discharging of its statutory duties in the performance of those road management functions.

The key elements of this Plan are:

- the Register of Public Roads for which Council is responsible
- the asset management systems and processes that Council uses to manage hazards and defects on its public road network
- the levels of service that detail maintenance practises in managing Councils public road network.

To complement the Plan, a Road Asset Management Plan has been developed to outline the key elements involved in managing that asset. It combines management, financial, engineering and technical practices to ensure that the level of service required by user groups is provided at the lowest long-term cost to the community within the limits of any economic constraints that may be imposed by Council.

## 2.3 Key stakeholder

The key stakeholders who are users of the road network and/or are affected by it include:

- residents, businesses, tourists and visitors to the area
- pedestrians, including those with disabilities and the elderly with restricted mobility
- users of mobility scooters, wheel chairs, prams and other mobility devices
- vehicles (as defined by the Road Safety Act 1986) such as trucks, buses, commercial vehicles, cars, motor cycles, bicycles and an animal that is being ridden or is drawing a vehicle
- emergency authorities (Police, Fire, Ambulance, SES)
- utility agencies that use the road reserve for their infrastructure (water, sewerage, gas, electricity, telecommunications)
- Council as the responsible road authority
- state and federal government that periodically provides support funding to assist with management of the public road network.

## 2.4 What is a "Road"?

A **"Road"** by definition in the Local Government Act 1989 includes a street, right of way, cul de sac, by-pass, bridge or ford, pathway, bicycle path, nature strip, culvert, kerbing or other land or works forming part of the road.

**"Public Road"** is a freeway, arterial road, a road declared under the Local Government Act, Melbourne City Link or a road set aside on a plan of subdivision.

**“Arterial Roads”** are Highways & Declared Main Roads which are managed by the State Government through VicRoads.

**“Municipal Roads”** are roads for which the municipal council is the responsible Road Authority. The Road Management Act imposes specific duties on a council with respect to the inspection, repair and maintenance of its municipal public roads which are those that are reasonably required for general public use.

**“Other Roads”** include roads in State forests and reserves, and roads on private property. The municipal council is not responsible for the care and maintenance of these.

## 2.5 Meaning of terms

Unless inconsistent with the context or subject matter, terms used in this Plan have the same meaning as the specific definitions included in the Road Management Act 2004. For the purposes of the Plan the following additional terms shall be defined as:

**Compulsory** means the defect will be rectified in accordance with the response times recorded within the Road Management Plan.

**Defect** means an identified group of like features, together with their location, the condition of which is outside the Intervention Level.

**Hazard** means an issue which has a high likelihood to create danger or serious inconvenience to users of the road or footpath network.

**Highway** means a road or road-related area as defined by the Road Safety Act 1986.

**Intervention Level** means the level at which works on an asset is required to be undertaken. May be expressed in terms of a threshold condition of the asset, frequency for performing work or response time.

**Response Times in days** refer to business days (unless stated otherwise) and excludes weekends and public holidays. The days comprising any period of days computed in accordance with this clause must be deemed to be consecutive if interrupted only by days which are not taken into account under this clause.

**Roadside** are those residual areas between the edge of the road or back of the kerb and the adjacent property boundary not occupied by footpath.

**Road Reserve** is the area vested in the relevant coordinating road authority for the purpose of housing community assets, such as roads and footpaths. This area is typically the reserve between two opposing property boundaries.

**Service Level Agreement** refers to the maintenance performance criteria used to achieve the adopted levels of service in accordance with this Plan.

## 2.6 Duty of road user

All road users have a duty of care under the Road Management Act 2004, with particular obligations prescribed in the Road Safety Act 1986, which states:

*"(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 the road*

*(c) take reasonable care to avoid conduct that may harm the environment of the road reserve.*

## 2.7 Availability of the Road Management Plan and Nillumbik's Register of Public Roads

The Plan and Nillumbik's Register of Public Roads are available for inspection, in hard copy format, at the Nillumbik Civic Centre, Civic Drive, Greensborough, during office hours: 8.30am to 5pm Monday-Friday inclusive.

An electronic version of this Plan is available on [Council's website](#): [www.nillumbik.vic.gov.au](http://www.nillumbik.vic.gov.au). Nillumbik's Register of Public Roads will be made available upon request.

## **3 Roads and ancillary areas subject to the Road Management Plan**

### **3.1 Coordinating Road Authority**

Nillumbik Shire Council (Council), under the Road Management Act 2004, is the 'Coordinating Road Authority' for municipal roads within the Shire of Nillumbik as set out in the Register of Public Roads.

VicRoads is the Coordinating Road Authority for Arterial Roads within the municipality. A copy of VicRoads's Road Management Plan can be found on the [VicRoads website: www.vicroads.vic.gov.au](http://www.vicroads.vic.gov.au)

Section 205 of the Local Government Act 1989 requires Council to have responsibility for the care and management of local roads within its boundaries subject to the Road Management Act 2004.

### **3.2 Register of Public Roads**

Section 19 of the Road Management Act 2004 requires Council to establish and maintain a Register of Public Roads.

This Register of Public Roads is part of the Nillumbik Asset Register. The Asset Register records information such as the type, configuration and quantity of road assets for which Council is responsible, together with a history of assets.

The following assets within the public road network identified in Council's Asset Register are subject to this Road Management Plan (Plan):

- road surface and supporting pavement
- road shoulders
- footpaths
- shared use paths within the road reserve and open spaces
- traffic calming devices such as roundabouts and traffic islands
- line marking
- traffic control signage
- bridges and major culverts
- kerb and channel
- 'ancillary areas' such as car parks and service roads.

The Register of Public Roads establishes a road hierarchy and the relevant road categories are used to differentiate service levels and maintenance standards.

The details of the agreements between Council and other road authorities, made pursuant to Section 15 of the Road Management Act 2004, are included in the Register of Public Roads (referred to in section 3.10 of the Road Management Plan).

The Register of Public Roads and information on road infrastructure are generated from Council's asset records. This information will be updated as assets are created, amended, discontinued or disposed of.

### 3.3 Road hierarchy

The Register of Public Roads establishes a road hierarchy and the relevant road categories are used to differentiate service levels and maintenance standards. The hierarchy adopted for the Shire of Nillumbik is summarised below in Table 1:

Road type	Description
Link Roads - Sealed	Urban and Rural
Collector Roads - Sealed	Urban and Rural
Collector Roads - Unsealed	Urban and Rural
Access Roads - Sealed	Urban and Rural
Access Roads - Unsealed	Urban and Rural

Table 1 - Nillumbik's Road Hierarchy

Further detail about the road hierarchy is outlined in Appendix A.

### 3.4 Footpath hierarchy

Council has developed a footpath hierarchy as set out in Table 2 below:

Category	Function
High	Defined as areas of very high pedestrian use for example around major shopping precincts, maternal and child health centres, schools, hospitals, secondary shopping precincts, public transport interchanges. It also includes all shares pathways. A shared path is a footpath designated by signs jointly used by pedestrians and cyclists and may include a separate footpath. As defined in the Road Safety Road Rules 2009.
Medium	Defined as areas of moderate pedestrian usage for example in local streets that form part of a key pedestrian route and provide access to areas of high pedestrian activity.
Low	Defined as areas of low pedestrian usage e.g. local residential streets, courts, dead end streets, and isolated areas etc where the majority of pedestrians are residents of the immediate area.

Table 2 - Nillumbik's Footpath Hierarchy

### **3.5 Codes of Practice**

The Road Management Act 2004 includes provision for the making of Codes of Practice to provide practical guidance for road authorities, service providers and infrastructure managers in the performance of their functions and duties under the Road Management Act 2004. The following Ministerial Codes of Practice may be viewed on the [VicRoads website: www.vicroads.vic.gov.au](http://www.vicroads.vic.gov.au)

- **Operational Responsibility for Public Roads:** This Code provides guidance in determining the physical limits of operational responsibility between road authorities for the different parts or elements within the road reserve of public roads.
- **Clearways on Declared Arterial Roads:** This Code provides guidance to VicRoads in the establishment of proper management and consultation processes, particularly with Council, with regard to the implementation of clearways on Declared Arterial Roads.
- **Managing Utility and Road Infrastructure in Road Reserves:** This Code provides guidance for road authorities and utilities in planning and managing their infrastructure in road reserves.

### **3.6 Car parks**

Car parks included in this Plan are those that are identified in Nillumbik's Public Road Register.

Car parks within the road reserve are managed in accordance with this Plan. All other Council-maintained car parks are managed in accordance with Nillumbik's Road Asset Management Plan.

### **3.7 Bridges and major culverts**

Bridges and major culverts, which form part of a public road within the meaning of the Road Management Act 2004, are included within this Plan. All other bridges and major culverts are managed under Nillumbik's Road Asset Management Plan.

### **3.8 Trees and vegetation in road reserve**

There is no requirement under this Plan to inspect and maintain trees and vegetation within the road reserve (refer to Section 107 of the Road Management Act 2004).

All levels of service for inspection, intervention and response relevant to road reserve trees, including trees overhanging the road, can be found in Nillumbik's Tree Management Policy and Tree Management Guidelines.

### 3.9 Boundary roads

The boundary roads within Nillumbik are listed below:

#### City of Banyule:

- Fitzsimons Lane, from Main Road to Yarra River
- Main Road, from Fitzsimons Lane to Bolton Street
- Bolton Street, from Main Road to Bridge Street
- Sherbourne Road, from Bolton Street to Karingal Drive
- Karingal Drive, from Sherbourne Road to Weidlich Road
- Weidlich Road, from Karingal Drive to Progress Road
- Progress Road, from Weidlich Road to Ryans Road
- Ryans Road, from Progress Road to Wind Mill Rise.

#### City of Whittlesea:

- Yan Yean Road, from Doctors Gully Road to Arthurs Creek Road
- Ridge Road, from Arthurs Creek Road to Deep Creek Road

#### Shire of Yarra Ranges:

- Skyline Road

Detailed information on the maintenance agreements between Council and other road authorities regarding the above boundary roads are included in Nillumbik's Road Asset Management Plan.

### 3.10 Non Council assets

Not all areas or all assets within the road reserve are the responsibility of Council and therefore do not require intervention by Council for the purposes of this Plan.

Section 107 of the Road Management Act 2004 states that a road authority does not have a statutory duty or a common law duty to perform road management functions in respect of a public highway which is not a public road or to maintain, inspect or repair the roadside of any public highway (whether or not a public road).

Road related assets that are not included for inspection and repair under this Plan are:

- Declared Arterial Roads. These are the responsibility of VicRoads (excluding some ancillary areas and assets where Council is the Coordinating Road Authority).
- Shared boundary roads that are agreed to be the responsibility of the adjoining municipality
- Bridges/major culverts/overpasses that are the responsibility of other road authorities including Melbourne Water, VicRoads and VicTrack

- Service Authority infrastructure including:
  - water supply pipes and fittings;
  - drainage pipes, sewerage pipes and manholes;
  - telecommunications cables, pits and structures;
  - electricity distribution wires, poles and structures; and
  - gas supply pipes and fittings.
- Assets and land owned, managed and maintained by other authorities including:
  - temporary reinstatements to the road and pathways and other road reserve assets, and/or permanent restatements prior to Council certification; and Crown and Service Authority land/easements.
- Non-Council street infrastructure including:
  - VicRoads signage and signal hardware (except for those identified as Council's responsibility and shown on the Public Roads Register);
  - Bus shelters owned and managed by other authorities;
  - Privately owned and managed signs including direction and advertising signs; and
  - Public street lighting (with the exception of some decorative street lighting)
- Car parks (constructed or unconstructed) generally used for car parking purpose that are not in the list of car parks on the Register of Public Roads
- Nillumbik's stormwater drainage system is considered under Nillumbik's Drainage Asset Management Plan
- Roads constructed by others or without Council approval, unformed access tracks for the purposes of local access or un-constructed right of ways that are not listed on the Register of Public Roads
- Road reserves which are unconstructed and do not have any road of the type referred to in Section 107 of the Road Management Act 2004
- All footpaths (formed and unformed) outside the road reserve which are not defined as recreational trails within the Nillumbik Trail Strategy
- Nature strips and infill areas within urban areas (the residual areas between the edge of the road or back of the kerb and the property boundary) not occupied by the pathway. It is acceptable practice that residents maintain these areas (generally grassed nature strips) as an extension of their garden.
- Street trees and landscaped garden beds located on the road reserve that are maintained by Council.

The following are considered privately owned and managed assets:

- Vehicle crossovers and driveways. Council is responsible for the component of footpath which runs continuously through the crossover.
- Culvert pipes which form part of the vehicle crossover. This includes keeping the culvert opening free of debris.
- A pathway providing access from private property to a public road.
- Single property stormwater drains constructed within the road reserve from the property boundary to a discharge outlet in the kerb, open drain or an underground drain.

## **4 Exceptional circumstances**

Nillumbik Shire Council (Council) will make every effort to meet its commitments under this Road Management Plan (Plan). However, there may be situations or circumstances that affect Council's business activities to the extent that it cannot deliver on the levels of the service. These include but are not limited to: natural disasters such as fires, floods or storms, or a prolonged labour or resource shortage due to a need to commit or redeploy Council staff and/or equipment elsewhere.

In the event that the Chief Executive Officer (CEO) of Council has considered the impact of such an event on the limited financial and other resources of Council and the Council's other competing priorities and budgetary constraints (whether or not in conjunction with the Council) and has determined that any standards or requirements in the Plan cannot be adequately met, then pursuant to and reliant on the principals set out in Section 83 of the Wrongs Act 1958, the CEO will write to the Council officer in charge of this Plan and inform them which levels of service are to be varied or suspended.

Continual assessment of the event(s) will be undertaken to determine when the levels of service in this Road Management Plan will be reinstated. All decisions are to be made in consultation with the CEO.

Council will communicate to residents the variation or suspension of the levels of service in this Plan with reference to how the work will be prioritised, the anticipated period for which it will apply and when normal duties resume.

## 5 Levels of service

The levels of service specified within this Road Management Plan (Plan) indicate how Nillumbik Shire Council (Council) will inspect, maintain and repair the road network from the time of its publication.

Refer to Appendix B, C and D which detail the levels of service subject to this Plan.

These levels of service have been determined by balancing the economic, social, safety and environmental expectations of the community with consideration of the funding and resource allocation available to Council and the management of risks associated with roads and footpaths.

### 5.1 Inspections

Inspection processes are required for competent management of the road network assets. Council has implemented five categories of inspection, titled; hazard, defect, condition, night and incident for the purposes of managing risks associated with the road and footpath network. The purpose and reporting requirements for each inspection type is detailed in Appendix E.

Hazard inspections are undertaken following the report of a hazard from a customer. These inspections are to be undertaken within four to 48 hours of receipt of the request, dependant on the nature of the hazard. Refer to Appendix D.

Defect, Condition and Night inspections are proactive in nature and are undertaken on a scheduled basis. The inspection schedule for Defect, Condition and Night inspection can be viewed in Appendix B and C.

Where bulk inspections have been undertaken in place of the normal scheduled inspection program and typical defect response times cannot be achieved, a detailed rectification program will be developed to address the defects identified. The program will reflect available resources, funding, associated hierarchy and risk and be developed immediately following the bulk inspections. Approval to implement the program will be sought through Council's Executive Management Team.

### 5.2 Intervention levels and response timeframes

The levels of service relating to defects and hazards subject to this Plan are summarised in Appendix D. These levels of service comprise the following:

- a. the task or work expected to be undertaken
- b. the intervention limits applied for defects and hazards
- c. the response time applied to rectify the defect or hazard.

This Plan acknowledges the importance of understanding and monitoring the linkage between workload indicator and intervention action. A substantial increase in area of pavement to be maintained can materially impact upon intervention action (and citizen satisfaction and duty of care requirements) if not accompanied by a comparable increase in budget allocation or productivity improvement.

The standards of maintenance detailed in this Plan are considered reasonable in the context of the provisions of the Road Management Act 2004.

### **5.3 Community consultation**

As part of the implementation and review process of the Plan, Council undertakes community consultation in accordance with Section 54(5) of the Road Management Act 2004.

Further to this, research into the needs of the community includes consideration of:

- community and/or user satisfaction survey
- state and federal policy / data
- community and industry trends.

### **5.4 Risk assessment**

The levels of service, as outlined in this Plan, have been determined in accordance with the principles of Australian Standard AS/NZS 31000 – Risk Management.

### **5.5 Standards for construction, expansion, upgrading, renewal and refurbishment**

The standards for construction of new road assets and for the expansion, upgrading, renewal and refurbishment of existing road assets will be in accordance with Council's Road Asset Management Plan, with consideration of industry and local standards, Council's specifications and standard drawings.

## **6 Financial resources**

### **6.1 Budget provisions**

The commitments and obligations specified in this Road Management Plan are matched to the financial resources available to deliver those commitments and obligations as set out in the Council Plan and Council Budget. To achieve and sustain acceptable standards for service for the local road asset, Nillumbik Shire Council (Council) is required to commit annual funding adequate to provide for regular and responsive maintenance and for timely renewal or replacement of the asset.

The financial resources allocated for works on local roads and pathways are considered reasonable having regard to the overall service delivery priorities of Council.

### **6.2 Other sources**

Road works can be funded from sources other than those provided directly by Council. These can include Special Rate Schemes and Special Charge Schemes, Developer Contribution Schemes and direct funding by developers for provision of the original asset and upgrading of road infrastructure affected by development.

The following grants and funding programs also provide opportunity for Council to undertake road-related projects:

- Victorian Grants Commission
- Black Spots program
- Roads to Recovery program

## **7 Management systems**

### **7.1 Establishing works priorities**

Nillumbik Shire Council (Council) will establish works priorities in accordance with its programmed and reactive maintenance schedules taking into account its duty to inspect, maintain and repair public roads and footpaths.

### **7.2 Responsibilities for Road Management Plan implementation**

The Chief Executive Officer (CEO) has responsibility for assigning the roles and responsibilities of the appropriate Council officers for the purposes of implementing the requirements of the Road Management Act 2004 and this Road Management Plan (Plan). Duties to be undertaken by Council officers shall include but are not limited to those set out in Schedule 7 of the Road Management Act 2004. The CEO shall ensure that key personnel responsible for implementing the provisions of this Plan have the appropriate training and experience and are provided with adequate resources to undertake their roles and responsibilities in an effective manner. The roles and responsibilities shall be in line with Council's organisational structure.

### **7.3 Reactive and programmed works**

Council operates a Service Request System to log and track requests from any member of the public that is reporting a defect, hazard or other matters requiring repair or maintenance. Service requests have predetermined response times and community service delivery targets.

The processes and systems provide for the recording of:

- the defect, hazard or issue requiring attention
- the location of the reported issue
- name and address of person reporting the defect, hazard or issue
- the anticipated completion date of the works
- the date the service request was completed.

Programmed inspections are recorded electronically using mobile devices. Work orders are issued for any works received either through the Service Request System or the Asset Management System for repair and tracking. A flowchart of each system is included in Appendix F.

These systems and procedures are subject to regular review and updated as part of Council's commitment to the continuous improvement process.

#### **7.4 Safety at worksites**

All construction and maintenance work on local road assets will be undertaken in accordance with the relevant occupational, health and safety legislation, codes of practice and Council's SafetyMap procedures.

#### **7.5 Duty to inform service provider or infrastructure manager**

If, in the course of meeting its obligations under this Plan, Council becomes aware of an issue with non-road infrastructure for which a service provider or infrastructure manager is responsible, Council will convey that information to the relevant service provider or infrastructure manager within three business days of Council becoming aware of the aforementioned situation. Issues may include non-road infrastructure that:

- is not in the location shown in the relevant records
- appears to be in an unsafe condition
- appears to be in need of repair or maintenance.

#### **7.6 Notice of incidents**

As soon as practicable, but in no case longer than 14 calendar days of receiving notice of an incident under Section 115 of the Road Management Act 2004, Council will cause an incident inspection to be carried out by a suitably qualified person and a condition report to be prepared. Any condition report prepared should include:

- a statement of the condition of the road or infrastructure
- photographs, where appropriate, showing the condition of the incident site
- reference to the relevant sections of this Plan
- reference to any relevant Council policy or policy decision
- reference to the latest inspections, (hazard, defect, night or condition) or other reports relating to the incident site
- a summary of inspections, maintenance and repairs to that part of the road or infrastructure conducted within the previous annual.

## **8 Asset Management Strategy**

This Road Management Plan forms an integral part of Nillumbik Shire Council's (Council) Asset Management Strategy and recognises the complex linkage between the effective management of road assets and the standard of maintenance specified in this Road Management Plan. Council is progressively updating its Asset Management System through a continuous improvement program.

### **8.1 Transport and infrastructure management**

Council develops a four-year Council Plan, which includes the strategic direction and objectives and strategies for achieving these objectives over the life of the document. The Council Plan also includes the vision and goals to be met by the organisation and is reviewed annually. The Road Management Plan aims to meet the objectives set within the Council Plan. The Council Plan objectives are also incorporated into Council's strategic asset management documents.

### **8.2 Road Asset Management Plan**

A Road Asset Management Plan has been developed by Council in accordance with the requirements of the International Infrastructure Management Manual (IIMM) 2011 and with regard to Austroads Integrated Asset Management Guidelines for Road Networks (AP-R202) 2002. The Road Asset Management Plan supports and complements this Road Management Plan.

### **8.3 Management of road asset**

If the effective management of a road asset is not achievable, the level of maintenance effort and/or standard of maintenance may need to be varied, for example:

- the maintenance levels may need to increase if the intervention levels or standard of maintenance, as specified in this Road Management Plan, are to be retained as the underlying condition of the road regresses
- due to budgetary constraints, the intervention levels and/or standards of maintenance may need to be varied to match the deteriorating condition of the road, in which case this Road Management Plan will need to be amended accordingly.

Similarly, changes in level of service may impact upon the maintenance levels required and/or standard of maintenance.

Where changes are proposed to this Road Management Plan it must be undertaken in accordance with the Road Management Act 2004 and its Regulations.

## **9 Performance management and review**

### **9.1 Performance monitoring**

Performance monitoring is undertaken on a regular basis generally as follows:

- Monthly meetings of the relevant departments to review day-to-day operations. Managers oversee implementation of the various maintenance programs
- Fortnightly meetings of the Capex (capital expenditure) Working Group which manages implementation of the Capital Works Program
- Weekly meetings between responsible staff to review the various maintenance programs, including handling of correspondence, programming of works, occupational health and safety (OHS) and other matters
- Daily meetings with works crews to track the progress of the works program and to discuss resourcing, OHS and other matters.
- Council's Annual Report to report on performance against the stated levels of service within this Road Management Plan.

Performance monitoring is based on key performance indicators which align to the levels of service outlined in this Road Management Plan.

### **9.2 Audits**

Council supervisors undertake auditing of completed works, both maintenance and capital, to ensure that the works are being delivered to the specified standards. Council also undertakes condition audits for the purposes of reviewing asset condition and meeting statutory obligations.

Noncompliance reports are available within Council's Asset Management System and are used to monitor the delivery of service levels adopted by Council for its road and footpath network assets.

### **9.3 Road Management Plan review**

The Road Management Plan (Plan) is intended to be a dynamic document and, as such, there is a need for regular review, refinement and improvement. This will ensure that the Road Management Plan is in accordance with responsible asset management, changing technology, climatic conditions and, in particular, Council and community requirements and expectations.

It is proposed that following each Condition inspection cycle, the Plan will be reviewed and amended (if required) to reflect any significant changes in the condition of the road and footpath network. Any revised Plan would be subject to the consultation and approval processes as detailed in the Road Management Act 2004.

Any review of the Plan will, in addition to that set out above, have regard to:

- asset performance following delivery of the maintenance program

- the level of achievement of asset management strategies against the expected benefits to road users, stakeholders and the community
- the consideration of any external factors that is likely to influence the contents of this Road Management Plan.

## **10 Supporting documents**

The documents in Section 10.1, whilst they do complement, do not form part of the Road Management Plan. All supporting documents may change from time to time to reflect changes in Council policy, legislative changes, and operational changes or as a result of audit findings.

### **10.1 Technical references**

- Risk Management Standard, AS/NZS ISO 31000
- International Infrastructure Management Manual (IIMM) - 2011
- CMP Road Reserve Risk Management Statement of Principles 2002
- Ministerial Code of Practice – Road Management Plans, September 2004
- Code of Practice for Management of Infrastructure in Road Reserves - 2008

### **10.2 Appended documents**

**Appendix A:** Road Hierarchy

**Appendix B and C:** Nillumbik Programmed Inspection Frequencies

**Appendix D:** Defect and Hazard Intervention Levels

**Appendix E:** Asset Inspection Details

**Appendix F:** Service Request and Asset Management System

## Appendix A: Road Hierarchy

Road Category	Road Function
Urban Link	<ul style="list-style-type: none"> <li>• Supplements the Arterial Road network in providing for through traffic movement</li> <li>• Cater for through traffic and heavy vehicles</li> <li>• Target minimum speed limit of 60 km/h.</li> </ul>
Rural Link	<ul style="list-style-type: none"> <li>• Supplement the Arterial Road network in providing for through traffic movement.</li> <li>• Linkage between areas of significance that may not be served by the Arterial Road network.</li> <li>• Cater for through traffic and heavy vehicles.</li> <li>• Target speed limit 80 km/h</li> </ul>
Urban Collector	<ul style="list-style-type: none"> <li>• Important local roads whose function is to distribute traffic between Arterial Roads and / or Link Roads.</li> <li>• May carry limited through traffic generally from the surrounding area (less than 4,000 vehicle per day desirable)</li> <li>• Speed limit generally 50 km/h</li> <li>• Potential bus route.</li> </ul>
Rural Collector	<ul style="list-style-type: none"> <li>• Important local roads whose function is to distribute traffic between Arterial Roads and / or Link Roads</li> <li>• May serve as links between lightly populated localities that are not serviced by arterial roads.</li> <li>• May carry limited through traffic, generally from the surrounding area.</li> <li>• Target speed limit 70 to 80 km/h.</li> </ul>
Urban Access Street	<ul style="list-style-type: none"> <li>• Provides direct access for abutting land owners or occupiers</li> <li>• Dissuade high speed</li> <li>• Dissuade through traffic</li> <li>• Dissuade heavy vehicles (but must be able to access in the case of deliveries or emergency).</li> <li>• Target speed limit 50 km/h.</li> </ul>
Rural Access Road	<ul style="list-style-type: none"> <li>• Provides direct access for abutting land owners or occupiers.</li> <li>• Intended for predominantly local traffic.</li> <li>• Target speed limit 50 to 70 km/h</li> </ul>

Road Category	Road Function
Laneway/Right of Way - treated as an Access Road for the purposes of this Road Management Plan	<ul style="list-style-type: none"> <li>• Provides direct access for abutting land owners or occupiers.</li> <li>• Intended solely for access to abutting properties.</li> <li>• Low speed environment.</li> </ul>
Private Road	<ul style="list-style-type: none"> <li>• Provides access for abutting land owners or occupiers.</li> <li>• May be on private land or road reserve.</li> <li>• Not constructed or maintained by Council.</li> </ul>
Unconstructed	<ul style="list-style-type: none"> <li>• Unused road reserve.</li> </ul>
Car park - treated as an Access Road for the purposes of this Road Management Plan	<ul style="list-style-type: none"> <li>• Car park constructed within road reserve.</li> <li>• May be associated with local area shops, etc.</li> </ul>

## Appendix B: Road Programmed Inspection Frequency

Sealed Roads			
	Condition Audit Link Road, Collector Road and Access Road	Defect Inspection Link Road	Defect Inspection Collector Road and Access Road
Pavement	5 years	6 Monthly	Annual
Shoulder	5 years	6 months	Annual
School Crossings	N/A	School Days	School Days
Linemarking and Delineators	N/A	6 months	Annual
Guard fence	N/A	6 months	Annual
Road Signage	N/A	6 months	Annual
Traffic Treatments	N/A	6 months	Annual
Night Inspections	N/A	4 years	4 years

<b>Unsealed Roads</b>		
	Condition Audit Collector Road and Access Road	Defect Inspection Collector Road and Access Road
<b>Pavement</b>	N/A	Annual
<b>Shoulder</b>	N/A	Annual
<b>Delineators</b>	N/A	Annual
<b>Guard fence</b>	N/A	Annual
<b>Road Related Signage</b>	N/A	Annual
<b>Night Inspections</b>	N/A	4 years

## Appendix C: Footpath Programmed Inspection Frequency

	Condition Audit Sealed footpaths	Defect Inspection Sealed footpaths	Defect Inspection unsealed footpaths and trails*
<b>High</b>	5 years	6 months	Reactive
<b>Medium</b>	5 years	2 years	Reactive
<b>Low</b>	5 years	2 years	Reactive

\*Note: Where unsealed paths located in the road reserve form part of a recognised trail as defined in the Nillumbik Trail Strategy (NTS), these will be inspected and maintained in accordance with the level of service defined in the NTS.

## Appendix D: Defect Intervention Levels, Hazards and Response Times

### Road pothole

This activity covers the reinstatement of bituminous or granular sealed surface for roads and footpaths.

Road Category	Defect Intervention Level	Response Time
Link roads	Depth greater than 50mm and/or diameter 300mm or equivalent lateral dimension.	Rectify within 5 days
Collector roads	Depth greater than 50mm and/or diameter 300mm or equivalent lateral dimension.	Rectify within 7 days
Access roads	Depth greater than 50mm and/or diameter 300mm or equivalent lateral dimension.	Rectify within 14 days

## Grading unsealed roads

This activity includes the grading and reshaping of unsealed road formations, whether the surfacing comprises imported granular material or the natural subgrade. The activity also includes filling pot holes.

Road Category	Defect Intervention Level	Response Time
All	<p>Programmed grading works undertaken following an inspection where it is identified that defects exceed the intervention as identified below.</p> <p>Corrugations, roughness or multiple potholes exceeding 75mm deep measured with a 1.2 metre straight edge AND over</p> <ul style="list-style-type: none"> <li>· 20% of any length of road greater than 100m OR</li> <li>· 50% of any length of road up to 100m.</li> </ul> <p>Road crossfall is less than or equal to 1 percent over</p> <ul style="list-style-type: none"> <li>· 20% of any length of road greater than 100m OR</li> <li>· 50% of any length of road up to 100m.</li> </ul>	annual
Collector	<p>Corrugations, roughness or multiple potholes exceeding 75mm deep measured with a 1.2 metre straight edge AND over</p> <p>20% of any length of road greater than 100m OR</p> <p>50% of any length of road up to 100m.</p> <p>Road crossfall is less than or equal to 1 percent over</p> <p>20% of any length of road greater than 100m OR</p> <p>50% of any length of road up to 100m.</p>	Affected areas to be rectified within two weeks.

Road Category	Defect Intervention Level	Response Time
Access	<p>Corrugations, roughness or multiple potholes exceeding 75mm deep measured with a 1.2 metre straight edge AND over                      20% of any length of road greater than 100m OR                      50% of any length of road up to 100m.</p> <p>Road cross fall is less than or equal to 1 percent over                      20% of any length of road greater than 100m OR                      50% of any length of road up to 100m.</p>	Affected areas to be rectified within six weeks.

## Shoulder edge break repair

This activity covers the repair of broken edges of seal or asphalt surfaced pavements. The repair aims to restore the line and level of the original surfacing. Edge repair may involve restoration utilising gravel and asphalt or cold mix, or bituminous seal with fine aggregate. Edge break distress is not encountered in roads where the surfacing extends to a kerb and channel. Edge break repair refers to activities on both sealed roads with unsealed shoulders and sealed roads with sealed shoulders.

Road Category	Defect Intervention Level	Response Time
Link roads	When edge break exceeds 75mm laterally over at least a 1m length from the nominal seal line.	2 weeks
Collector roads	When edge break exceeds 75mm laterally over at least a 1m length from the nominal seal line.	4 weeks
Access roads	When edge break exceeds 75mm laterally over at least a 1m length from the nominal seal line.	8 weeks

## Grading unsealed shoulders

This activity covers the grading of unsealed shoulders. The activity includes rolling after grading and the inclusion of water if this is deemed necessary. This activity also includes spot filling, grading and reshaping to correct drop off from edge of seal, roughness, scouring or potholing and holding of water.

Road Category	Defect Intervention Level	Response Time
Link roads	Edge of seal drop off greater than 50mm for more than 10 per cent per kilometre length.	Affected areas to be rectified within 4 weeks
Collector and Access roads	Edge of seal drop off greater than 50mm for more than 10 per cent per kilometre length.	Affected areas to be rectified within 6 weeks

## Footpath

This activity covers the intervention levels and response all concrete, sealed and paved footpaths and shared pathways.

Footpath Category	Vertical Displacement Defect Intervention	Deformation Defect Intervention	Pot Hole Defect intervention	Response Time
High	Between 10 and 20 millimetres	Between 40 and 75mm over 1 metre	Greater than 300mm diameter and greater than 40mm deep	annual
High	Between 20 and 40 millimetres	Between 75 and 100mm over 1 metre	Greater than 300mm diameter and greater than 75mm deep	1 month
High	Greater than 40 millimetres.	Greater than 100mm over 1 metre	Greater than 300mm diameter and greater than 100mm deep	3 weeks
Medium	Between 20 and 40 millimetres.	Between 75 and 100mm over 1 metre	Greater than 300mm diameter and greater than 75mm deep	annual
Medium	Greater than 40 millimetres.	Greater than 100mm over 1 metre	Greater than 300mm diameter and greater than 100mm deep	3 months
Low	Between 20 and 40 millimetres.	Between 75 and 100mm over 1 metre	Greater than 300mm diameter and greater than 75mm deep	annual
Low	Greater than 40 millimetres.	Greater than 100mm over 1 metre	Greater than 300mm diameter and greater than 100mm deep	6 months

## Unsealed Paths and Recreational Trails

This activity covers the intervention levels and response of unsealed pathways and recreational trails located within the road reserve.

All intervention levels and response times are detailed within the NTS 2011.

## Kerb and Channel

This activity covers the inspection and maintenance of all concrete kerb and channel located adjacent to the carriageway.

Road Category	Defect Intervention Level	Response Time
Link	Kerb and channel Vertical or Horizontal displacement greater than 50mm	1 month
Collector	Kerb and channel Vertical or Horizontal displacement greater than 50mm	3 months
Access	Kerb and channel Vertical or Horizontal displacement greater than 50mm	6 months

## Traffic island maintenance

This activity covers the inspection and maintenance of all concrete kerbed islands located on the carriageway and including those with hard or paved infill areas.

Road Category	Defect Intervention Level	Response Time
Link roads	Vertical or Horizontal displacement greater than 30mm over 1200mm length misalignment in island kerbing or paving.	2 weeks
Collector roads	Vertical or Horizontal displacement greater than 30mm over 1200mm length misalignment in island kerbing or paving.	1 month
Access roads	Vertical or Horizontal displacement greater than 50mm in island kerbing or paving.	2 months

## Signage and linemarking – general

Where a sign or line mark is identified as missing but there is insufficient existing information to determine the location, type or whether it is still required, the defect will be referred to Infrastructure Development for investigation and advice.

Road Category	Response Time
All	1 month, after which the associated standard defect response times apply.

## Linemarking maintenance

This activity includes the maintenance of all types of linemarking. At intersections or junctions with roads not maintained by Council, linemarking on these other roads shall not be maintained.

Road Category	Defect Intervention Level	Response Time
Link roads	Greater than 30 per cent of line marking per segment missing or defective relative to original installation and design standards.	Annual Program
Collector roads	Greater than 40 per cent of line marking per segment missing or defective relative to original installation and design standards.	Annual Program
Access roads	Greater than 50 per cent of line marking per segment missing or defective relative to original installation and design standards.	Annual Program

## Delineator maintenance

This activity includes the maintenance of all types of delineators. These include guideposts, rumble bars, raised pavement markers (reflective and non-reflective), flaps and guard fence delineators and width markers on bridges and culvert. At intersections or junctions with roads not maintained by Council, guideposts on these other roads shall not be maintained. This also includes the replacement of damaged and missing delineators, their cleaning and painting where necessary.

This activity does not include the replacement of raised pavement markers (RRPMs) after resurfacing.

Road Category	Defect Intervention Level	Response Time
Link roads	Greater than 30 per cent of delineator installations per segment missing or defective relative to original installation and design standards.	1 month
Collector roads	Greater than 40 per cent of delineator installations per segment missing or defective relative to original installation and design standards.	2 months
Access roads	Greater than 50 per cent of delineator installations per segment missing or defective relative to original installation and design standards.	3 months

## Regulatory signs

This activity covers the inspection and maintenance regulatory signage including but not limited to; stop; give way and speed.

Road Category	Defect Intervention Level	Response Time
Intersection Control	Greater than 50 per cent sign illegible at 150m under low beam or in daylight or sight distance criteria not met	2 weeks
Link roads	Greater than 50 per cent sign legend illegible at 150m under low beam or in daylight or sight distance criteria not met	1 months
Collector roads	Greater than 50 per cent sign legend illegible at 150m under low beam or in daylight or sight distance criteria not met	2 months
Access roads	Greater than 50 per cent sign legend illegible at 150m under low beam or in daylight or sight distance criteria not met	3 months

## Warning signs

This activity covers the inspection and maintenance of warning signs including but not limited to; bends; speed hump, advisory speed and concealed driveways.

Road Category	Defect Intervention Level	Response Time
Link roads	Greater than 50 per cent sign legend illegible at 150m under low beam or in daylight or sight distance criteria not met	1 months
Collector roads	Greater than 50 per cent sign legend illegible at 150m under low beam or in daylight or sight distance criteria not met	2 months
Access roads	Greater than 50 per cent sign legend illegible at 150m under low beam or in daylight or sight distance criteria not met	3 months

## Guide signs

This activity covers the inspection and maintenance of direction and information signs including street name, town signs, advanced direction and directional signs as well as reassurance signs and other specialised and tourist signs.

Road Category	Defect Intervention Level	Response Time
Link and collector roads	Greater than 50 per cent sign legend illegible at 150m under low beam or in daylight or sight distance criteria not met	2 months
Access roads	Greater than 50 per cent sign legend illegible at 150m under low beam or in daylight or sight distance criteria not met	3 months

## Guard fence maintenance

This activity includes the inspection and maintenance of W-beam guard fence. The work will include the inspection, reporting, scheduling and supervising all guard fence repairs. Periodic inspection is required to check alignment and anchorage and stability of posts and that all bolts, nuts, shackles and cables are in place and functional. Work shall include the removal and replacement of sections.

Road Category	Defect Intervention Level	Response Time
Link and Collector roads	Guard fence with a panel or component affected so as to jeopardise performance	2 months
Access roads	Guard fence with a panel or component affected so as to jeopardise performance	3 months

## Hazards

This activity includes the inspection and response to hazards reported from members of the public or Council employees. It includes works to make the area safe and then arrange follow up works (where required) to complete the job.

Hazard Description	Hazard Intervention Level	Response Time
Missing stormwater pit lids in the road reserve	Pit lid is dislodged or missing. Pit lid id damaged, having no pedestrian bearing capacity.	4 hours
Road Obstruction	A tree or part of a tree or any other obstruction resulting in a complete or partial lane or road blockage.	4 hours
Footpath Obstruction	A tree or part of a tree or any other obstruction resulting in a complete or partial blockage of the footpath forcing the pedestrian onto the road or an area unsafe for pedestrian movements.	24 hours
Oil Spills	Oil spills on the road pavement	4 hours
Other	An issue which is likely to create danger or serious inconvenience to users of the road or footpath network.	48 hours

## Appendix E: Inspection Types

Inspection Type	Purpose	Who must perform inspection	Reporting Requirements
Hazard	<p>Hazard inspections are undertaken following a notification from a customer. Customers include community members as well as Council employees while undertaking their normal duties.</p> <p>Hazard inspections are designed to inspect the reported issue for its likelihood to create danger or serious inconvenience to users of the network or the wider community</p>	Officer of the Council with some knowledge of road maintenance techniques who may then call in a higher level of expertise if necessary.	<p>Recording to identify specific hazard, time first reported, time inspected and by whom, subsequent action and time of completion.</p> <p>Recorded in Councils customer relationship management tool.</p>
Defect	<p>Inspection undertaken in accordance with a formal inspection schedule to determine if the road asset complies with the levels of service as specified in this document;</p> <p>A record of each street/road is to be completed detailing the name of the inspector, the inspection date, time and street/road name and a description of any defects found that are at the specified intervention levels defined in the Maintenance Service Agreement;</p> <p>In addition, a notation must to be recorded of any street/road inspected where no defect was apparent under the specific rigour of the inspection.</p>	Appropriately qualified personnel with knowledge of road maintenance techniques.	A record of the inspection and who undertook the inspection is placed on council's asset database for reference purposes (this may include insurance or litigation requirements).

Inspection Type	Purpose	Who must perform inspection	Reporting Requirements
Condition	<p>An inspection specifically to identify deficiencies in the structural integrity of the various components of the road infrastructure assets which if untreated, are likely to adversely affect network values. The deficiencies may well impact short-term serviceability as well as the ability of the component to continue perform for the duration of its intended life span;</p> <p>The condition inspection process must also meet the requirements for accounting regulations and asset management;</p> <p>Regular or periodic assessment, measurement and interpretation of the resulting condition data is required so as to determine the need for any preventive or remedial action then development of relevant programs of rehabilitation or renewal works.</p>	<p>Qualified engineer or Experienced Technical Officer with extensive knowledge and experience in road construction and maintenance practices.</p>	<p>Specific data to be recorded is determined by requirements of the Asset Management System used to assess asset component needs.</p>
Night	<p>An inspection undertaken outside of daylight hours to identify whether the reflectivity of signs and delineation including line marking meets Australian Standards. The inspection includes all urban and rural roads.</p>	<p>Appropriately qualified personnel with knowledge of maintenance techniques.</p>	<p>Specific data to be recorded is determined by requirements of the Asset Management System.</p>
Incident	<p>An inspection carried out to comply with the requirements the Road Management Act 2004 [Division 5 – Claims Procedure, Clause 116];</p> <p>This inspection enables an incident condition report to be prepared for use in legal proceedings and the gathering of information for the analysis of the causes of accidents and the planning and implementation of road management and road safety measures.</p>	<p>Qualified engineer or Experienced Technical Officer with extensive knowledge and experience in road construction and maintenance practices.</p>	<p>Formal Incident Report required, as described.</p>

## Appendix F: Service Requests Management System

