

Road Maintenance Management Plan Regional and Local Roads

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This Road Maintenance Management Manual Plan been developed to provide a consistent level of service based on the risk and asset demands of Council’s Road network.

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1. Purpose

The purpose of this Road Maintenance Management Plan (RMP) is to establish a management system for Federation Council for the discharge of its duty to inspect, maintain, repair and renew its Regional and Local Road network based on policy and operational objectives as well as available resources.

The plan reflects the intent of Council’s Asset management policy and Asset management strategy.

The Civil Liability Act (2002) NSW places certain responsibilities on road users to be accountable for their own actions as well as describing the duties of a road authority including what needs to be included in a Road Maintenance Management Plan.

Federation Council’s Transport Services Asset Management Plan includes and references:

A Road register with a description of those assets on public roads for which Council as the road authority is responsible.

The standard service level for those assets to be maintained by Council as the road authority.

A management system that documents how the Council as the road authority discharges its duty to inspect, maintain, repair and renew public roads and associated infrastructure for which it is responsible.

Maintenance of community assets is an essential part of Council activity. Councils have a duty of care to maintain assets so that they are safe, and this is achieved by Reactive and Proactive maintenance.

| | |
|------------------------------|--|
| Reactive maintenance | Involves unplanned repair work generally identified from a customer/service request |
| Proactive maintenance | Includes both planned scheduled works and maintenance identified from routine scheduled inspections. Proactive defects are prioritised and delivered using a risk-based approach |

Table 1 - Reactive / Proactive Maintenance Definitions

Both reactive and proactive defects are prioritised and delivered using a risk-based approach.

Inspections are undertaken at frequencies relative to the road hierarchy while the prioritisation of maintenance and repair activities are based on an assessment of the risks associated with individual defects and road hierarchy.

A tolerable level of defect is defined as a condition that does not require immediate attention based on a standardised risk assessment and future programmed works are scheduled to repair the defect in the future.

In establishing its maintenance and rehabilitation budget priorities, Council seeks to strike a balance between the need to invest in new infrastructure for a growing community while providing levels of service consistent with community expectations for existing assets.

Road based maintenance and rehabilitation works are undertaken by Council’s works team under the supervision of the engineering team using a combination of internal and external labour and equipment. Detailed operational procedures specify how the various activities are to be undertaken and the technical standards to be achieved.

Community requests for works to be undertaken are recorded in Council’s customer request system. This system records individual requests and can be updated as works are programmed or undertaken so that customers who enquire can be advised of the status of their request.

2. Definitions

For the purpose of this Plan, the following definitions apply:

'Asset': Includes any Council owned asset such as road pavements, structures, roadside assets, facilities and traffic control devices.

'Bridge': A structure carrying a road or path across a river, road or other obstacle. It also refers to a culvert which has a longitudinal span greater than 6.0 metres.

'Culvert': One or more adjacent pipes or enclosed channels for conveying water, watercourse or stream below the formation level of a road up to a maximum overall longitudinal span of 6.0 metres. A culvert marker peg may mark its position.

'Debris': Any collection of fragments or material such as litter, detritus, shredded tyre pieces, road spillages, fallen leaves or branches, animal carcasses, deposits of windblown sand or grit, deposits of loose aggregates, slips (collapsing banks and fretting from cuttings and embankments), rockfall and build-up of any material resulting from road accidents, passing traffic or climatic conditions (e.g. sediment build up).

'Defect': A defect is a visible or measurable failure of an asset which affects the asset's functionality, aesthetic qualities or is an undesirable condition on the Road Network which affects the use of the road or road safety. A defect is also any condition that is likely to become a hazard before the next scheduled or required inspection.

'Exceptional circumstances': Includes a rare instance or extraordinary situation such as a natural disaster or very heavy and prolonged rainfall that results in widespread defects developing across the Transport Network.

'Forward works program': Includes periodic maintenance (works and treatments undertaken at fairly regular intervals typically longer than one year) and capital renewal works (major works undertaken to return the asset to its original as-constructed condition).

'Graffiti': Any inscription or drawing scribbled, scratched or sprayed on a surface.

'Hazard': A defect may become hazardous if the intervention criteria is exceeded or it is determined that there is an unacceptable risk to road safety.

'Incident': Incidents include but not limited to abandoned vehicles, traffic accidents, offensive vandalism, storm damage, rock falls and land slips, floods, fires, and catastrophic structural failures and spills or discharges (accidental or intentional).

'Litter': Paper, refuse, rubbish, garbage, tyre parts, drink bottles and cans or any item of a like nature.

'Maintenance clear zone': Means the area, measured from edge of travelled way to the line of existing woody species (> 50 millimetres base diameter, measured 300 millimetres from base of tree) or within area previously cleared where regrowth is evident, but not wider than 9 metres.

'Maintenance Performance Objectives': The performance objectives of Routine Services.

'Large Sign': A sign with a sign face > 4 square metres.

'Small Sign': A sign with a sign face ≤ 4 square metres.

'Pedestrian fence': Pedestrian fences include concrete, steel rail, timber, plastic and steel wire rope fencing systems.

'Pedestrian zone': Areas in which there are significant pedestrian movements such as pedestrian crossings, footpaths, cycleways, bus stops and within rest areas.

‘Poster’: Any poster, sign, sticker, unauthorised third-party sign etc. Poster may include supports and items that cause hazards or potential hazard that interferes with the effectiveness of a traffic control device; distracts a driver at a critical time; obscures a drivers view; gives instructions such as “Stop” or “Halt”; attempts to imitate a traffic control device; distracts a driver’s attention from the driving task; or is considered to be a dangerous obstruction.

‘Reactive Maintenance’: A category of maintenance that includes repair of safety related defects and repair of other defects needing a short response time.

‘Road Network’: Means the network of roads assets included in the area maintained by Council.

‘Routine Maintenance’: A category of maintenance activity that can generally be planned and scheduled in advance as described.

“UOM”: Means the unit of measurement to be adopted for reporting work accomplishment.

‘Vegetation-free zone’: The area in which vegetation is generally not permitted to grow or encroach and include the space 2.5 metres above pathways and cycleways and 5 metres above trafficable road pavement (including road shoulders).

3. Background

3.1 Relationship between RMP and the Civil Liability Act (2002)

The Roads Act 1993 sets out the powers, duties and functions of road authorities. Federation Council is the designated road authority for roads and is responsible for the care and management of the road networks and associated infrastructure.

The Civil Liability Act was enacted in 2002 to address issues with the application of tort law of negligence. Responsibility for taking reasonable precautions by the claimant is required. This plan is a structured approach for the inspection, maintenance and repair of roads, having regard to the type of road, the resources available to Council and its budgetary and policy priorities.

A road authority keeps a register of public roads with the register including all roads that Council has deemed are reasonably required for general public use. Council is not obliged to do any specific work on a road and in particular is not obliged to undertake surface or drainage work on an unmade and/or unformed road, or on Crown roads.

All Council approved subdivisional roads designed and constructed to Council’s standards which have received construction compliance are included in subsequent updates of the road register, subject to Council having made a decision that the roads are reasonably required for general public use.

3.2 Purposes of the plan

The purpose of the plan is to establish a maintenance management system for Council for the discharge of its duty to inspect, maintain and repair its public roads based on policy and operational objectives as well as available resources.

It also sets the relevant standard in relation to discharge of duties in the performance of those road maintenance management functions.

The Road Maintenance Plan otherwise is and remains a stand-alone and all-encompassing document of Federation Council (for the inspection, repair and maintenance of public roads and road infrastructure within Federation Council) without recourse to any other policy, practice or procedure of Council which requires (or purports to require) any act, matter of thing to be done by or on behalf of Council in relation to the performance of Council's public road, path and road infrastructure management functions.

3.3 Key Stakeholders

Key stakeholders in relation to road management planning comprise the general public, local community, the Council and council staff, consultants, contractors, local industry, professional associations, public utilities and state and federal government departments.

3.4 Strategic Planning Process

The RMP, together with its support documents (being incorporated documents), is a vital component of Council's overall strategic planning and risk management processes. It links to the following key corporate strategies, plans and systems.

Specifically, linkages include but is not limited to:

- Annual Budget – detailed action plan on projects and finances for each particular year.
- Annual Report
- Asset Management Policy, Strategy and Plans
- Asset condition inspections
- Council standards, policies and permits – associated with asset creation, new subdivisions, and management to support asset management and maintenance activities.
- Financial Plan – This plan outlines all aspects of the key financial strategy objectives and commitments.
- Operational work procedures – description of typical repair process.
- Boundary agreements – agreements regarding the management of maintenance and inspections on boundary roads and infrastructure assets.

To the extent any of the above documents/linkages (as they may be amended by Council from time to time) are necessary or required for Council to meet or fulfil the requirements of the current RMP (or to properly discharge its duties and responsibilities under the Civil Liabilities Act (2002) NSW the relevant document/linkage is deemed to be incorporated by reference into, and to form a part of, the current RMP.

3.5 Legislative and Statutory Requirements

3.5.1 Duties of road users – Civil Liability Act 2002

All road users have a duty of care with particular obligations prescribed in the Civil Liability Act 2002

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

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.

A road user must

Have regard to the rights of other road users and take reasonable care to avoid any conduct that may endanger the safety or welfare of other road users.

Have regard to the rights of the community and infrastructure managers in relation to the road infrastructure and non-road infrastructure on the road reserve and take reasonable care to avoid any conduct that may damage road infrastructure and non-road infrastructure of the road reserve; and

Have regard to the rights of the community in relation to the road reserve and take reasonable care to avoid conduct that may harm the environment of the road reserve.

3.5.2 Duties of Federation Council as the road authority

The RMP describes certain actions and outcomes that Council as a road authority needs to achieve to provide road services for the community arising out of Council's management of their road network including.

Reference to a Register of Public Roads with a description of those assets for which Council as the road authority is responsible.

The standard of service, of those assets to be maintained by the Council as the road authority.

This management system that documents how the Council as the road authority discharges its duty to inspect, maintain and repair public roads for which it is responsible; and

Agreements reached with other authorities responsible for other roads within the Council area.

3.6 Register of Public Roads

A Register of Public Roads and ancillary items for which Council is the responsible road authority is periodically updated which lists the road name, length and hierarchy. Ancillary items can include car parks or similar infrastructure, where Council wishes to obtain defence under the RMP.

As a road authority, Council is typically responsible for the road pavement and seal, kerb and gutter, footpaths, drainage, ancillary signs and road furniture within the road reserve for those roads identified in the road register.

3.7 Demarcation Issues

3.7.1 Maintenance Demarcation Agreements

Where roads on Council's Register of Public Roads abut or intersect roads that are the responsibility of others (for example Federal, State or other Local government authorities or privately owned roads) responsibility ceases and another's commences.

In the context of this plan the relevant authorities are:

Berrigan Shire Council
Greater Hume Shire Council
Lockhart Shire Council
Murrumbidgee Council
Narrandera Shire Council
Transport for New South Wales

Riverina Water
 Department of Defence
 Non-Council private infrastructure
 West Corugan Private Irrigation

In most instances, demarcation of areas of responsibilities between Council and other authorities can be described satisfactorily by reference to the physical limits of the road in the Road Register.

3.7.2 Non-road infrastructure

Non-road infrastructure within the road reserve (for example, rail crossings, telecommunications structures, street lighting) is to be maintained by the body responsible for that infrastructure. A list of non-road infrastructure contained within the Council’s road reserves is set out in the following table.

| Asset type | Infrastructure Manager |
|---|---------------------------------------|
| Streetlights | Federation Council |
| Traffic signal installations – TfNSW assets | TfNSW |
| Telecommunications infrastructure assets | Telstra, Optus and NBN |
| Water and sewerage infrastructure assets | Federation Council and Riverina Water |
| Electricity infrastructure assets | Origin Energy |
| Gas infrastructure assets | Origin Energy |
| Rail crossings | URL, ARTC |

Table 2 - Non Road Infrastructure

3.8 Delegations

The General Manager has through an “instrument of sub-delegation” delegated the various functions under the Local Government Act 1993 to the respective officers of the Council detailed in the instrument of sub-delegation.

4. Asset inspection process

Survey and inspection processes are required for competent management of the road network assets. A three-tier inspection regime has been implemented covering safety, incidents and defects. Attachment two lists the inspection types with the frequency of inspections outlined in Attachment three.

The types of inspections undertaken include:

- Reactive/safety inspections.
- Programmed defect inspections; and
- Condition Inspections - identify deficiencies in the structural integrity of the road infrastructure assets which if untreated, are likely to adversely affect network values.

Safety issues may be detected either as the result of the programmed defect inspection or by observation and notification to council by members of the community or council employees. A subsequent reactive inspection may then be conducted by an appropriate council officer.

4.1 Activities and service standard targets

The current methodology is to provide a consistent approach to prioritising asset maintenance works to:

- Minimise risk.
- Provide a safe road environment for all users.
- Optimise the life of existing and future assets; and
- Deliver best value to the community.

The inspection frequency regime uses a risk approach which considers the road/path hierarchy. The higher up the road hierarchy, the higher the risk exposure and the more frequent the inspections and the quicker the response time.

A tolerable level of defect for each asset class can be described as a condition that does not require immediate attention. Defects which don't meet the intervention levels will be referred to a future program for repair.

The level of risk for the road condition is broken into the categories shown in Table 3

| LEVEL OF RISK |
|---------------|
| Very High |
| High |
| Medium |
| Low |
| Very Low |

Table 3 - Level of Risk

Hazards identified that don't fall within the categories of defects as described, can be given a risk rating and schedule as deemed appropriate by the delegated officer.

4.2 Resource allocation

Federation Council's annual budget seeks to strike a balance between the need to invest in new infrastructure for a growing community while providing levels of service for existing infrastructure and services.

Funding provided for maintenance and rehabilitation is allocated to several functional areas. In broad terms, these functional areas comprise of:

Bridges and major culverts.
Signs and road furniture.
Footpaths and cycle paths.
Sealed roads.
Drainage, kerb and gutter.
Line marking.
Street sweeping.
Rural roadside maintenance; and
Gravel roads.

4.3 Service provision

Road based maintenance and rehabilitation works are undertaken by the Council's works and engineering units using a combination of internal and external labour and equipment.

Discussions occur between Assets, Engineering and the operational works team to establish certain works programs and budgets to optimise the delivery of works.

4.4 Operational procedures for the delivery of road maintenance activities

Road maintenance is delivered by the works team in accordance with operating procedures and at times utilising contractors.

Works to be undertaken by the various works teams is developed in conjunction with the following sources.

Requests from Council's customer request system – this should include requests coming from residents/ratepayers, Councillor's, and correspondence

Asset and condition inspections / assessments undertaken by Council staff and recorded in Reflect.

Available funding from Council's adopted yearly operations budgets or available grant funding.

5. Levels of Service

5.1 Customer Expectations

Council has not carried out any research on customer expectations as to their expectation of levels of service they expect to be provided for various components of the road network. This will be undertaken as part of the adoption of this plan

The service standard targets describe the proposed level of service in relation to response times for maintenance activities with inspection frequencies associated with the road or footpath hierarchy.

5.2 Legislative Requirements

Council has to meet many legislative requirements including Australian and State legislation and State regulations. Relevant legislation is shown in *Table 4*

| Legislation | Requirement |
|---|--|
| <u>NSW Local Government Act 1993</u> | <ul style="list-style-type: none"> ▪ This Act provides the purpose, objectives, functions and powers of municipal Councils in relation to the management of a municipal sewage network. ▪ It includes provision for councils to require properties to connect to council's Sewage system, for properties that do not meet council requirements for onsite sewage management systems. ▪ The Act also states that it is not permitted to discharge prohibited matter into the road drain. |
| <u>Environmental Planning and Assessment Act 1979</u> | <ul style="list-style-type: none"> ▪ Requirement for Local Environmental Plans and Development Control Plans. |
| <u>Environmental Planning and Assessment Amendment Act 2008</u> | <ul style="list-style-type: none"> ▪ Provides for Council control of development of towns and approval of infrastructure expansion. |
| <u>Roads Act 1993</u> | <ul style="list-style-type: none"> ▪ Provides authority to Council for administration and development of roads and streets |
| <u>Road Transport Act 2005</u> | <ul style="list-style-type: none"> ▪ Provides for Council control of development of towns and approval of infrastructure expansion. |
| <u>Transport Administration Act 1988</u> | <ul style="list-style-type: none"> ▪ Provides authority to Roads and Traffic Authority for management of roads. |
| <u>Road Rules 2008</u> | <ul style="list-style-type: none"> ▪ Sets requirements for vehicles and operators using roads. |
| <u>Work Health and Safety Act 2011</u> | <ul style="list-style-type: none"> ▪ Impacts all operations in relation to safety of workers and the public. ▪ Council's responsibility to ensure health, safety and welfare of employees and others at places of work. |
| <u>Catchment Management Authorities Act 2003</u> | <ul style="list-style-type: none"> ▪ Requirement for ongoing management plan. ▪ Promotes the coordination of activities within catchment areas. ▪ Under the provision of this Act, Local Catchment Management Authorities oversee this process in the region. |
| <u>Soil Conservation Act 1938</u> | <ul style="list-style-type: none"> ▪ Preservation of water course environment. |
| <u>Local Government Code of Accounting Practice and Financial Reporting</u> | <ul style="list-style-type: none"> ▪ NSW Division of Local Government code that documents fair value legislation introduced in 2007 in accordance with <u>Australian Accounting Standard 116</u> for property, plant and equipment. |

Table 4 - Legislative Requirements

5.3 Current Levels of Service

There are two defined levels of service.

5.3.1 Community Levels of Service

Relate to the service outcomes that the community expects in terms of safety, quality, quantity, reliability, responsiveness, cost effectiveness and legislative compliance.

Community levels of service measures used in the transport asset management plan are:

| | |
|-----------------|----------------------------|
| Quality | How good is the service? |
| Function | Does it meet users' needs? |
| Safety | Is the service safe? |

5.3.2 Technical Levels of Service

Supporting the community service levels are technical measures of performance. These technical measures relate to the allocation of resources to service activities that the council undertakes to best achieve the desired community outcomes.

Technical service measures are linked to annual budgets covering:

Maintenance – the activities necessary to retain an assets as near as practicable to its original condition (eg road patching, unsealed road grading, maintenance of signs and guideposts, renewal of linemarking and footpath and kerb and gutter patching or replacement),

Renewal – the activities that return the service capability of an asset up to that which it had originally (eg frequency and cost of road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),

Upgrade – the activities to provide a higher level of service (eg widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (eg a new bridge replacing an existing causeway).

5.3.3 Desired Scheduled Maintenance Levels

Council is developing a formal method for the determination of appropriate service levels. This process will include the revision of a road hierarchy, community consultation, staff consultation, negotiation of service levels and finally the establishment of agreed service levels for the Council area.

Table 5 shows the desired levels of service for routine maintenance work.

| | Grades per year | Pothole Patching per year | Shoulder Grading per year | Weed Spraying per year |
|----------------------------------|-----------------|-------------------------------|---------------------------|------------------------|
| Regional Sealed | | As per Reflect defects | 0.25 | 1 |
| Regional Unsealed | 2 | | | |
| Local Primary Collector Sealed | | | 0.25 | 1 |
| Local Primary Collector Unsealed | 2 | | | |
| Local Collector | 1 | | | As required |
| Local Access | 0.50 | | | As required |
| Urban Sealed | | | As required | As required |
| Urban Unsealed | 0.50 | | | As required |

Table 5 - Service Levels - Routine Maintenance. Minimum levels

5.3.4 Maintenance Performance Objectives

| Description | Performance Objectives |
|--------------------------|--|
| Asset Inspections | <ul style="list-style-type: none"> (a) Monitor the condition of assets and determine when routine maintenance intervention is likely to be required. (b) Implement systems and processes that promote consistency in the identification and rectification of defects across the Road Network. (c) Establish a process that will effectively manage the identification and rectification of hazards. |
| Pavement | <ul style="list-style-type: none"> (a) Rectify defects in a timely fashion so as to minimise the rate of pavement deterioration and to provide safe, consistent driving conditions. (b) Ensure that the road remains open to traffic by providing safe conditions under the prevailing weather conditions, traffic volume, and speed zone. (c) Protect the structural integrity of road pavements. |
| Corridor | <ul style="list-style-type: none"> (a) Provide safe travel by removing obstructions. (b) Preserve and maintain roadside assets to ensure they are fit for purpose. (c) Protect and sustain the natural environment (d) Protect and preserve heritage such as indigenous artefacts and significant sites, post-European settlement historic structures and significant sites. |
| Drainage | <ul style="list-style-type: none"> (a) Maintain surface drains to ensure free and unrestricted flow of road water away from the pavement. (b) Maintain drainage structures such as pipes and culverts to ensure the free and unrestricted flow of water. (c) Protect the natural environment by maintaining gross pollutant traps and sedimentation basins. (d) Maintain subsoil drains to ensure the free and unrestricted flow of water as required. (e) Maintain stormwater devices to ensure the free flow of surface water into the drainage system and conveyance to the designated point of discharge. |

| Description | Performance Objectives |
|---------------------------|--|
| Traffic Facilities | <ul style="list-style-type: none"> (a) Support the enforceability of road traffic regulations, warn or alert motorists of road conditions, and to provide clear information to motorists on travel destinations in day and night conditions and thereby assist in the efficient operation of the road network. (b) Maintain delineation of the road formation by way of guideposts, raised pavement markers and line marking. (c) Pedestrian fencing is maintained to ensure fencing is effective in controlling pedestrian movements and to stop pedestrians crossing at dangerous locations |
| Bridges | <ul style="list-style-type: none"> (a) Rectify minor bridge defects and drainage obstructions to ensure minimum service levels including safety of pedestrians and vehicular traffic. (b) The provision of safety and amenity on bridges through maintaining signs. |
| Incident Response | <ul style="list-style-type: none"> (a) Ensure all emergencies and incidents which are hazardous are actioned immediately. Provide timely emergency response to assist the public and minimise disruption caused by temporary loss of use of the asset. Support the Police and Fire Brigades to control hazardous materials. |

Table 6 - Maintenance Performance Objectives

6. Maintenance of Defects

6.1 Asset Inspection Requirements

Defects are identified during scheduled and unscheduled visual inspections of the Road Network. The following inspections must be carried out using trained and competent personnel:

Prompted inspection - These inspections are usually triggered by a specific event like a storm or emergency incident, a public complaint or an informal or ad hoc inspection by council staff. They can also be prompted by the need to carry out inspections on-foot away from the roadway such as inspecting culverts, noise walls, drainage structures and the like. Or used to carry out detailed inspections of pavements and road corridors to develop forward works programs.

Routine inspection – Routine inspections involve both daytime and night-time asset inspections. Daytime inspections involve driving each road carriageway, generally in one direction only, to evaluate and record defects and the condition of assets. The direction of travel generally will alternate for each subsequent inspection. Identify accident damage or deformation in superstructures of tunnels and bridges and ancillary elements such as barriers, deck scuppers and waterways. Inspections at night involve driving each road in both directions to observe, evaluate and record defects and the condition of delineators and traffic signs.

Frequency for inspections are as set out in Table 7 below

The asset inspection system operates to:

- Record all defects and incidents including those reported by the public.
- Identify hazards.
- The inspection and intervention requirements are managed by 'Reflect' and Council's maintenance and management system (MMS)

Isolated defects are individually recorded and where a large number of defects exist in close proximity those may be treated as a group rather than individual. In all cases, the location reference is to be suitably detailed to enable defects to be easily located. Maintenance Defects Register (MDR) of defects that do not need immediate action and defects that are likely to be scheduled for repair within the next two years are recorded in Reflect, Council's MMS.

Inspections that arise following a public complaint shall be dealt with in accordance with Council's Customer Request System and the detail contained in Table 7

| Asset | Inspection frequency by Road Category | | | |
|--|---------------------------------------|------------------------------|------------------------------|------------------------------|
| | Regional (TfNSW) | Local Primary Collector | Local Collector | Local Access |
| Routine daytime inspection | 12 per year | 4 per year | 1 per year | Upon request |
| Night time inspection | 1 per Year | 1 per 2 Years | 1 per 4 years | Upon request |
| Asset inspection triggered by an extreme weather event, or natural disasters and accidents (Incident Response) | 2 Business Days or when safe | 3 Business Days or when safe | 3 Business Days or when safe | 3 Business Days or when safe |
| Asset inspection triggered by a public complaint | 7 Day | 10 Day | 10 Day | 15 Day |

Table 7 – Asset Inspection Frequency

6.2 Process for Managing Defects

Defects must be managed to ensure that risks to loss of service and road safety are minimised within available budgets. The general approach for managing defects is outlined below.

Reactive Maintenance – Defects must be rectified in order to comply with the intervention standards specified. The requirements for intervention differ depending on the road hierarchy

Routine Maintenance – Defects are:

- Rectified at the time or intervention frequency nominated. The intervention frequency is a cyclical period within which the identified service must be undertaken.
- Prioritised for repair. Some degree of discretion in determining the need for or timing of defect rectification in order to best meet the Maintenance Performance Objectives.

Incident Response – Council will respond to any incident in accordance with the timelines specified in Table 7 providing it is safe to enter the incident area.

6.3 Work Prioritisation

6.3.1 Hazardous or Potentially Hazardous Defects

Some defects may be hazardous or potentially hazardous and all reasonable steps must be taken to rectify or manage the hazard. If it is not possible to rectify or remove the hazard immediately upon identification, all measures that are reasonably necessary to safeguard road users and others (including the erection of warning signs, barriers and the provision of traffic control, etc.) must be undertaken until such time as repair or removal can be effected. In determining whether a defect is a hazard consider the:

Severity and consequence of the defect.

Extent and nature of the defect (combined effect of multiple occurrences of the defect within localised area).

Potential impact of the defect on the road user (likelihood and consequence).

General road conditions (i.e. geometry, alignment, pavement width, and other relevant road conditions) and prevalent weather conditions.

Location of the defect (e.g. wheel path).

Effect on pedestrians, cyclists and motor cyclists (e.g. consider the location of schools, retirement villages, pedestrian crossings).

Traffic volumes – normal peak flow and other times of special peak flow.

Regardless of any specific intervention standard or guideline nominated, reasonable actions necessary to maintain road user safety must be carried out.

6.3.2 Reactive Maintenance Defects

The intervention standards specified will be endeavoured to be complied with subject to resourcing.

6.3.3 Routine Maintenance Defects

Defects addressed through Routine Maintenance activities are prioritised in order to best meet the general Maintenance Performance Objectives.

6.3.4 Recurring Defects

Recurring defects may indicate an underlying problem and consideration of longer term repair solutions to be considered.

6.3.5 Defects addressed through Periodic and Asset Renewal Works

Defects can provide an input to the development of the Forward Works Program together with other information, such as pavement condition data, to determine a suitable longer term treatment and appropriate timing of the works.

6.3.6 Exceptional Circumstances

It is recognised that exceptional circumstances may be encountered where a timely or immediate response to hazards may not be possible. If exceptional circumstances exist and it is not possible to respond to a defect, hazard or an incident, then the following actions are to be undertaken:

Immediately notify the local Police and request assistance, where appropriate.

Arrange measures or actions (including the erection of warning signs, barriers and the provision of traffic control) within a reasonable time frame to protect persons and property.

Provide notifications to public of conditions outside Council's control.

6.3.7 Required Standard of Work

The standard of work for repair and maintenance will be that typical provided to ensure works carried out are suitable for purpose. Worksites shall be maintained and areas left "clean" and suitable for use by the general public.

6.3.8 Defect Response Times

This table will form the basis of the rules that the electronic Maintenance Management System (MMS) Reflect will use to prioritise repair works.

Whilst a rule based system provides us with a defense in court, it also provides us a consistent way to respond equally to customer road requests.

NOTE:

The Reflect score is a score provided from experienced engineering and field staff. The defect's location is an important consideration, if it is in the, road reserve, shoulder, parking lane, traffic lane, or total carriageway

It is assumed that the worst/typical case for the defect is considered in the rating, for example;

- Corrugations to trafficable lane areas, ie total carriageway
- Guardrail to shoulder areas
- Aggregate spilling to trafficable lane/s

Very High and High rated risks should be actioned as soon as reasonable by signage or an action and then final following up.

Efficiency is an important consideration and hence actioning similar defects in the same area rated Very high, High and Medium should be undertaken if practical and budget is available

We have a high level of heavy vehicles and low traffic volumes. Whilst the road hierarchy is a consideration, the defect 'risk' generally drives the response time

Defect Response Times

| REFLECT Rating | Level of Risk | Regional Roads (Times in Business Days) | | | Local Roads (Times in Business Days) | | |
|----------------|---------------|--|------------------------|---------------------|---|------------------------|---------------------|
| | | Initial Response | Safety Remedial Action | Asset Restoration | Initial Response | Safety Remedial Action | Asset Restoration |
| 5 | Very High | 1 | 15 | As Resources Permit | 1 | 20 | As Resources Permit |
| 4 | High | 1 | 30 | As Resources Permit | 1 | 40 | As Resources Permit |
| 3 | Medium | 3 | 45 | As Resources Permit | 5 | 60 | As Resources Permit |
| 2 | Low | Record in Reflect | As Resources Permit | | Record in Reflect | As Resources Permit | |
| 1 | Very Low | Record in Reflect | As Resources Permit | | Record in Reflect | As Resources Permit | |

Definitions

| | |
|-------------------------------|---|
| Initial response | Involves inspection of defect – Recording in Reflect including Photo. Installation of initial signage. Inspector may install initial signs and request works crew to install additional or upgrade signage. Signs to be installed as close as practical to 100m in advance of defect in rural areas and where practical in urban areas. |
| Safety Remedial Action | Involves making the defect safe and ongoing monitoring. As an example, this may involve temporary remedial work such as using plant to remove or smooth out a failed section of pavement and recoating with emulsion, this process may need to be repeated prior to the asset being restored. |
| Asset restoration | Work required to restore functionality of the asset to its original condition |

Table 8 - Defect Response Times

7. References & Associated Documents

Federation Council – 19 3870 Transport Asset Management Plan
IPWEA Roads and Transport Directorate – Road Inspection Manual

8. Document History

| Version | Date | Changes / Amendments |
|---------|--------------|----------------------|
| 1.0 | October 2021 | Draft Document |
| | | |









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9. Appendix 1 Regional and Local Roads by Hierarchy Category











| Regional (TfNSW Declared) | | Local Primary Collector Roads | Local Collector Roads |
|---------------------------|------------------------------|-------------------------------|-----------------------|
| No | Road Name | Road Name | Road Name |
| 59 East | Brookong Creek | Boree Creek | Back Berrigan |
| 59 West | Cocketgedong | | Balldale Coreen |
| 125 | Mahonga | Bridge | Balldale |
| 131 | Federation Way (South Urana) | | Bidgeemia |
| 197 | Sturt St / River Rd Howlong | Bull Plain | Brocklesby Balldale |
| 323 | Corowa | Clear Hills | Bulgandra |
| 331 | Daysdale Walbundrie | Hopefield | Byrnedale |
| 356 | Oaklands Berrigan | Howlong Balldale | Coonong |
| 370 | Howlong Kywong | Howlong Burrumbuttock | Cullivel |
| 385 | Federation Way (North Urana) | Hunters | Ferndale |
| 550 | Tocumwal | Narrow Plains | Five Mile |
| 596 | Yamma | Noorwonga | Four Corners |
| | | Oak Lodge | Greenvale |
| | | Oil Tree Lagoon | Howlong Goombaraganna |
| | | Redlands | Koorngal |
| | | Walbundrie | Mahonga Lane |
| | | | Merton |
| | | | Mulwala |
| | | | Ormes |
| | | | Rennie |
| | | | Sandigo |
| | | | Savernake |
| | | | Strontian |
| | | | Tom Roberts |
| | | | Wandong |
| | | | |
| | | | |



10. Appendix 2 Illustrated Defects Guide

Pavement






| Asset type | Defect | Defect No | Guide to Intervention Level |
|------------|---|-----------|---|
| Pavement | Pothole | 202 | Pothole or delamination > 300 mm diameter or 50 mm deep. |
| |  | |  |
| Pavement | Edge break | 202 | Depth of edge drop-off > 50 mm or edge break > 150 mm wide and within 0.25 m from the travelled way. |
| |  | |  |
| Pavement | Wearing surface defect | 203 | Localised bleeding or flushing; aggregate stripping or low texture depth. |
| |  | |  |
| Pavement | Pavement defect | 204 | Height/depth of trip hazard in a pedestrian zone > 15 mm. Sudden drop > 40 mm water ponding which could cause aquaplaning. Bump/shove > 50 mm. |
| |  | |  |


| Asset type | Defect | Defect No | Guide to Intervention Level |
|--------------------|---|-----------|--|
| Pavement | Pavement cracking | 211 | Width of transverse, longitudinal and diagonal cracks > 5 mm. Crocodile or block cracks < 100mm. Pumping of fines. |
| |  | |  |
| Concrete pavements | Concrete pavement defects | 213 | Tie bars have failed or are missing and involve non-moving joints. Joint sealant failure or loss of sealant allowing water into pavement. Spalling of joints > 50 mm. Concrete slab subsidence > 50mm. |
| |  | |  |
| Unsealed pavements | Unsealed pavement defects | 221 | Depth of corrugations > 25 mm. Rut or scour depth > 75 mm. Depth of loose gravel > 50 mm. Loss of 20% of gravel. Grading after rainfall that damages gravel pavement. |
| |  | |  |

| Asset type | Defect | Defect No | Guide to Intervention Level |
|-----------------------------|---|--------------|--|
| Unsealed pavements cont. |   | 221 cont. |   |
| Shoulders | <p data-bbox="395 846 571 875">Shoulder defects</p>    | 241 | <p data-bbox="1002 741 1399 996">Potholes, rutting and corrugations in the shoulder. Excess edge break (> 300 mm) and edgedrop off on shoulder. Excess vegetation on shoulder preventing runoff. Poorly formed table drain or poor crossfall affecting drainage. Significant loss of shoulder material.</p>    |

| Asset type | Defect | Defect No | Guide to Intervention Level |
|------------------|---|-----------|---|
| Pavement surface | Loose gravel on pavement surface | 272 | Loose gravel and other detritus particularly around intersections, side roads and cross-overs and/or loose material within drainage lines and kerb and guttering. |
| |  | |  |

Roadside


| Asset type | Defect | Defect No | Guide to Intervention Level |
|------------|---|-----------|---|
| Roadside | Dead animal on road | 301 | Dead animals in the travelled way. |
| Roadside | Distracting/hazardous graffiti | 302 | Graffiti or posters that interfere or distract a driver at a critical time. |
| Vegetation | Hazardous tree branches | 312 | Vegetation reducing sight distance. Overhanging branches and/or broken limbs encroaching onto the road or likely to fall on the travelled way, pedestrian zone, cycleway and/or private property. |
| |  | |  |
| Vegetation | Hazardous trees | 316 | Trees/saplings located within 5 m of the travelled way and where council has determined that tree removal is necessary to reduce road safety risk. |
| |  | |  |
| Vegetation | Poorly maintained landscaping | 319 | Weeds, dead plants, untidy landscaped area. |
| |  | | |









| Asset type | Defect | Defect No | Guide to Intervention Level |
|------------|---|-----------|---|
| Vegetation | Long grass | 321a | Grass growth reduces continuous line of sight to a sign face, non-pavement delineator, bottom of safety barrier or traffic signal, vehicle on side road or turning bay. |
| |  | | |
| Vegetation | Noxious weeds | 321b | Noxious and environmental weeds within the road reserve of freeways. |
| Vegetation | Non-effective fire control measures | 321c | Firebreaks or fire control measures (vegetation control) are not effective. |

Rest areas and toilets

| Asset type | Defect | Defect No | Guide to Intervention Level |
|------------|--|-----------|--|
| Rest area | Toilet/washroom unsafe, dirty or unpleasant or damaged | 421 | Roadside toilets unsafe, dirty or aesthetically unpleasant. Servicing includes: <ul style="list-style-type: none"> i General cleaning including graffiti removal. ii Refilling paper and washing liquid soap. iii Emptying of sharps containers and bins. iv Pest and vermin control. v. Damaged toilet/sink. |
| Rest area | Rest area defect | 428 | Other rest area damage such as damage to seats, tables, BBQ's and covered areas. |


Drainage

| Asset type | Defect | Defect No | Guide to Intervention Level |
|------------|---|-----------|--|
| Drainage | Damaged drainage structure | 521 | Missing lintel, lid, grate or grids. Damaged culvert or pipe. |
| |  | | |



| Asset type | Defect | Defect No | Guide to Intervention Level |
|------------|---|-----------|---|
| Drainage | Damaged surface drain | 522 | Damaged kerb and gutter or concretetable drains, scour and table drain. |
| |  | |  |
| Drainage | Damaged subsurface drain | 523 | Drain outlets obstructed or blocked causing adjacent pavement failure. |
| |  | |  |
| Drainage | Blocked drainage structure | 525 | Partially blocked bridge scuppers affecting effectiveness of deck drainage or blockage to other drainage structure. |
| |  | |  |
| Drainage | Noxious weeds | 526 | Noxious and environmental weeds within the road reserve. |
| |  | |  |

Traffic facilities




| Asset type | Defect | Defect No | Guide to Intervention Level |
|------------------|---|-----------|--|
| Guidepost | Guidepost broken missing or not reflective  | 611 | Broken or obscured post or reflector (including vegetation /moss /grime /mildew).  |
| Pedestrian fence | Damaged pedestrian fence  | 612 | Pedestrian fence damaged by vehicle impact or vandalism. |
| Road sign | Warning, speed or regulatory sign missing, damaged, dirty or obscured | 614a | Missing or illegible warning, speed advisory or regulatory signs. |
| Road sign | Guide sign missing, damaged, dirty or obscured  | 614b | Missing or illegible information or guide signs.  |
| Safety barrier | Damaged wire safety rope barrier  | 621 | Damaged or loose wire rope safety barrier. |
| Safety barrier | Damaged steel safety barrier  | 622 | Damaged, deflected or misaligned steelsafety barrier. |

| Asset type | Defect | Defect No | Guide to Intervention Level |
|----------------|---|-----------|---|
| Safety barrier | Damaged concrete barrier | 623 | Damaged, deflected or misaligned or barrier de-bonded from the base. |
| Lines | Longitudinal linemarking is misleading, faded or missing | 625 | Painted centreline, edgeline or lane line markings are not visible, missing or misleading when observed at normal driving speed either in the day or at night. |
| |  | | |
| Lines | Transverse linemarking is misleading, faded or missing | 626 | Painted stop or giveaway lines, painted road arrows, chevrons or speed numerals are not visible, missing or misleading when observed at normal driving speed either in the day or at night. |

Incident response

| Asset type | Defect | Defect No | Guide to Intervention Level |
|-------------------|---|-----------|--|
| Incident response | Safety hazard | 801 | Flooding, storm damage, fires, ice on road. Traffic accident requiring asset damage repair or environmental cleanup. Blocked drains, bridge scuppers causing ponding. Asset damaged by vandalism resulting in hazard. Stray animals on road. Potential hazard on road such as abandoned vehicle, litter, object, debris, dead animal. |
| |  | |  |

Footpath

| Asset type | Defect | Defect No | Guide to Intervention Level |
|------------|--|-----------|---|
| Footpath | Footpath slip and trip defects | 900 | Where observed lip is greater than 20 mm in height variation for concrete or paved footpaths or where rut is greater than 50 mm in depth if asphalt or gravel footpath. Slippery footpath surface. |
| |  | |  |
| Footpath | Footpath surface defects | 901 | Footpath is cracked, broken or raveling. Cracks > 10mm in horizontal width to a depth >50mm |
| |  | | |