



Banyule
CITY COUNCIL

Road Management Plan



Version 4.00 –17June 2013

Schedule of Changes & Amendments

Version	Date	Changes/Amendments
V1.00	6/12/2004	Adopted by Council at its meeting 6 December, Gazetted 9 December 2004 after public display and consideration of submissions by Council.
V1.00	9/12/2004	Notification of adoption in Government Gazette.
V1.01	25/11/2005	Revision 1 amendments adopted by Council.
V1.01	8/12/2005	Notification of adoption of amended plan in Government Gazette.
V2.00	Adopted by Council 14/11/2007	<p>These changes have been made as a result of review of the Plan during 2006 to establish if specified standards were being achieved with available budget funding. The following changes to service standards are as follows:</p> <ul style="list-style-type: none"> • S2.4.1 – Inclusion of on & off-road bicycle paths • S2.4.3 – Inclusion of reference to non standard road infrastructure assets • S5.1 – Asset Hierarchy, removal of two types of roads from Category 4 roads and addition of Category 4 in Pathway hierarchy. • Section 6.2 – recognising that intervention levels are not relevant with footpaths in industrial areas. • Attach. 3 – Inspection Frequencies, changes. • Attach. 4: - Road Defect Tolerance Intervention Levels, changes. • Attach. 5: - Pathway Defect Tolerance Intervention Levels, changes. • Section 6.7 – insertion of a Force Majeure clause.
V2.00	28/02/2008	Notification of adoption in Government Gazette.
V3.00	Adopted by Council 29/06/2009	<p>Update further refining levels of service to match available budget funding. Also provides more detail on management & maintenance of the bicycle path network.</p> <ul style="list-style-type: none"> • Contents page – insertion of Human Rights Statement. • Sections 2.4.1 & 2.5 – Additional information provided on the maintenance management arrangements for off-road cycle paths that lie within a road reserve. • Section 4.3 – Updated maintenance demarcation arrangements with VicRoads, adjoining councils, utility & service authorities and other government agencies • Section 7.3 – Current levels of funding table has been updated. • Appendix 2: Inspection Requirements – second page added to detail inspection arrangements for on-road cycle lanes and off-road cycle paths. • Appendix 3: Inspection Frequencies – information added to Table on inspections for on-road cycle lanes. • Appendices 4 & 5: Roadway & Pathway Defect Tolerance Intervention Level Schedules – several changes as follows: <ul style="list-style-type: none"> (a) Column in Table that was labelled 'Work Practice' has been renamed 'Defect Type'; (b) An additional column added called 'Defect Description' to improve the description of the defect; (c) A row inserted to recognise the management of Customer Requests; (d) Changes to response times – 7 days to 5 working days and 14 days to 10 working days. • Appendix 6: Schedule of Local Roads & Structures with Maintenance Demarcation Agreements – new appendix added.
V3.00	14/05/2009	Notification of adoption in Government Gazette.
V4.00	Adopted by Council 17/06/2013	<ul style="list-style-type: none"> • Update grammatical and technical references throughout document • S2.6 - Update City Plan Framework • S4.1.1 – Revise Road Hierarchy • S4.1.2 – Revise Pedestrian Pathway Hierarchy • S4.4.2 – Revise Maintenance Responsiveness & Performance Targets • S5.7 – Revise Force Majeure Clauses • App 1 – Update Reactive Customer Request/ Inspection Process Flowchart • App 3 – Revise Road Asset Inspection Frequencies • App 4 – Revise Roadway and On-Road Bicycle Lanes Defect Intervention Levels • App 5 – Revise Pathway and off-Road Bicycle Shared Pathways within the Road Reserve Defect6 Intervention Levels • App 6 – Revise Local Boundary Roads & Structures Maintenance Agreements with Adjoining Councils
V4.00	27/06/2013	Notification of adoption in Victorian Government Gazette.

NB: 1. Primary number changes to Versions (eg V1.00 to V2.00) will be made when the document undergoes its regular review and when significant changes are made to standards and guidelines for inspections, intervention levels or work

2. Secondary number changes (eg V1.00 to V1.01) will apply to minor amendments that do not materially impact the document and are intended only to clarify or update issues.

"I hereby certify that the Amended Road Management Plan Version 3.0 and Road Register adopted by Banyule Council on 29 June 2009 and notice given in the Government Gazette on 14 May 2009 have been updated to Version 4.0 in accordance with the Road Management Regulations 2005.

Adoption of Version 4.00 by Council will be on 17 June 2013 and will take affect from the 17 June 2013 as detailed in the Victorian Government Gazette 27 June 2013.

Signed for and on behalf of Banyule City Council by
Simon McMillan Chief Executive Officer
Under Instrument of Delegation 1 August 2011

Road Management Plan

Human Rights Statement

In accordance with section 28 of the Charter of Human Rights, the Road Management Plan has been assessed as being compatible with the human rights protected by the charter.

The Road Management Plan meets the legislative responsibilities of the Road Management Act and defines how Council will manage and maintain infrastructure assets within road reserves. This assessment is based on a Statement of Compatibility of the Human Rights protected by the Charter that are relevant to the Policy.

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1. Executive Summary

Banyule City Council is located between 7 and 21 kilometres north-east of central Melbourne and is made up of 21 suburbs. The City covers an area of approximately 63 square kilometres and is bounded in the south by the Yarra River and in the west by the Darebin Creek. Council is responsible for an extensive network of physical assets including approximately 550 kilometres of roads and 1,100 kilometres of pathways.

The Road Management Act 2004 outlines that Road Authorities are required to act 'reasonably' by inspecting and maintaining assets to protect the travelling public.

The purpose of the Road Management Plan is to establish a management system for Council to inspect, maintain and repair public roads for which it is responsible. Council's Road Management Plan is based on policy and operational objectives and considers the affordability, available resources and management of risks. The Plan utilises documents that set the relevant standard in relation to discharge of duties in the performance of Council's road management functions. In particular, maintenance of the road network through "levels of service" that meets the community's expectations and the definition of "reasonable" as defined in the Road Management Act.

The key elements of the Plan include:

- The Register of Public Local Roads for which Council is responsible
- The systems and procedures that Council uses to manage maintenance and renewals of its public road network
- Schedules of maintenance standards used by Council.

Included are details and schedules for:

- **Hierarchy classification of all roads, streets and pathways** - based on their specific function, types of users and user numbers
- **Levels of service** (acceptable or tolerable condition of the asset) - determined by the hierarchy classification and the available funding
- **Inspection regimes** – the types and frequency of inspections in order to detect defects when they reach the stage of requiring maintenance intervention
- **Maintenance activities** - outlining the various types of routine maintenance and the performance standard of each activity
- **Defect intervention levels** - relating to the defect type, indicating the point at which remedial action is required
- **Response times** - the target response times for completing remedial work once the defect has been detected.

The hierarchy classifications, levels of service, inspection regimes, defect intervention levels and response times are primarily determined by the risk associated with each of the elements. Risk management principles are utilised to prioritise maintenance and capital works programs.

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

The Road Management Plan is to be read in conjunction with Banyule's Asset Management Policy and Strategy, which is also available at Council Offices and Service Centres and on Council's website.

2. Background

2.1. Legislative Basis for the Plan

This Municipal Road Management 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.

In addition the following Codes of Practice have been developed under the Road Management Act 2004:

- Road Management Plans
- Operational Responsibility for Public Roads
- Clearways on Declared Arterial Roads
- Management of Road & Utility Infrastructure in Road Reserves
- Worksite Safety - Traffic Management.

Banyule City Council is the 'Co-ordinating Road Authority' for municipal roads within its boundaries and is responsible for their care and management.

Council must ensure that if a road is required for public traffic, it is kept open for public use, and Council may carry out work on the road. The Council is not obliged to do any specific work on the road and in particular is not obliged to carry out any surface or drainage work on an unmade road.

2.2. Purpose of the Plan

The purpose of the Road Management Plan is to establish a management system for Council to inspect, maintain and repair its public roads based on policy and operational objectives having regard to available resources.

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

The key elements of the Road Management Plan include:

- Register of Public Roads for which Council is responsible
- Asset management systems and processes that Council uses to manage maintenance and renewals of its public road network
- Road and Infrastructure Maintenance Quality and Cost Standards and Levels of Service that details maintenance and practices used by Council.

To complement the Road Management Plan, Roads and Pathways Asset Management Plans have been developed that outline the key elements involved in managing road based assets for those who need to understand the detail. It combines management, financial, engineering and technical practices to ensure that the level of service required by the community is provided at the appropriate long term cost within the limits of any fiscal constraints that may be imposed by Council.

2.3. 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, 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 & reserves, and roads on private property. The municipal council is not responsible for the care and maintenance of these.

2.4. Assets in the Road Reserve

The Road Management Plan concentrates on Council’s assets and responsibilities within the road reserve. Those assets or components not included in this plan will be subject to a separate asset management category plan to be developed as required.

The following lists the assets located within the road reserve covered by the Road Management Plan. The list broadly outlines maintenance and management responsibilities. The demarcation issues between Road Authorities and Service Utilities who use the road reserve are incorporated in the Banyule Road Register.

2.4.1. Local Road Network – Council Responsibility

- Road Pavement
- Road Surface
- Footpaths and Pathways within the road reserve
- On-road Bicycle Lanes
- Off-road Bicycle Shared Paths within the road reserve
- Surface Drainage
- Traffic Management devices
- Bridges and Culverts
- Street Trees, Roadside Vegetation
- Nature Strips (see section 2.8.4)

2.4.2. Arterial Roads

Responsibilities for Arterial Roads are divided between VicRoads and Council.

The VicRoads Code of Practice, “**Operational Responsibilities for Public Roads**”, Gazetted on 17 December 2004, has the following purpose:

- To provide practical guidance by clarifying or determining how the operational responsibility for different parts or elements of a road reserve is to be allocated between road authorities
- To establish principles giving practical guidance for determining the boundary between a ‘roadway’, ‘pathway’ or ‘shoulder’ in any

particular case, and for determining which road authority is responsible for road-related infrastructure.

More information on Maintenance Demarcation arrangements as established in the Code of Practice.

2.4.3. Freeways

VicRoads is the coordinating road authority and the responsible road authority for the whole of the road reserve of a freeway. This includes entry and exit ramps; other roads and pathways; and any road-related infrastructure (eg. fences, noise walls) that are part of the freeway. VicRoads is generally the responsible road authority with respect to all bridges on, over or under freeways.

2.4.4. Non Standard Road Infrastructure

Non-standard and ad hoc infrastructure constructions in existence prior to the introduction of the Road Management Act 2004 are deemed as required assets. Historically, these assets were constructed to service community needs and they are required to maintain the existing level of service.

Examples of these assets include the construction of steps for connectivity where roads have been constructed on different levels due to terrain; steel plates at property entry points (driveways, installed in most cases by residents) where cars are 'bottoming out'. Other non-standard assets may be included as Council is made aware of them through its Customer Request, Reactive Maintenance program or Risk Management process.

2.4.5. Assets Not Included in the Road Management Plan

- Street Furniture
- Street Signs (non traffic management)
- Street Lighting – Non standard light poles and fittings
- Entry roads, paths, facility car parks
- Pathways, walkways, shared paths, furniture and lighting in reserves/parks and associated Council buildings but not within the road reserve
- Underground drainage is considered under a separate Asset Plan
- Car Parks.

In addition to the above there are a number of assets located on the road reserve that are not the responsibility of Council. For more information refer to Section 2.8.4.

2.5. Bicycle Path Network

Under the Road Management Act 2004, where a bicycle path forms part of a road which is on Council's Public Road Register or on the shoulder of the road, or on a footpath adjacent to one of these roads, Council has a statutory duty to inspect and maintain such pursuant to Section 40 of the Road Management Act. This covers On-Road bicycle lanes and also parts of Off-Road Pathways that lie within the road reserve.

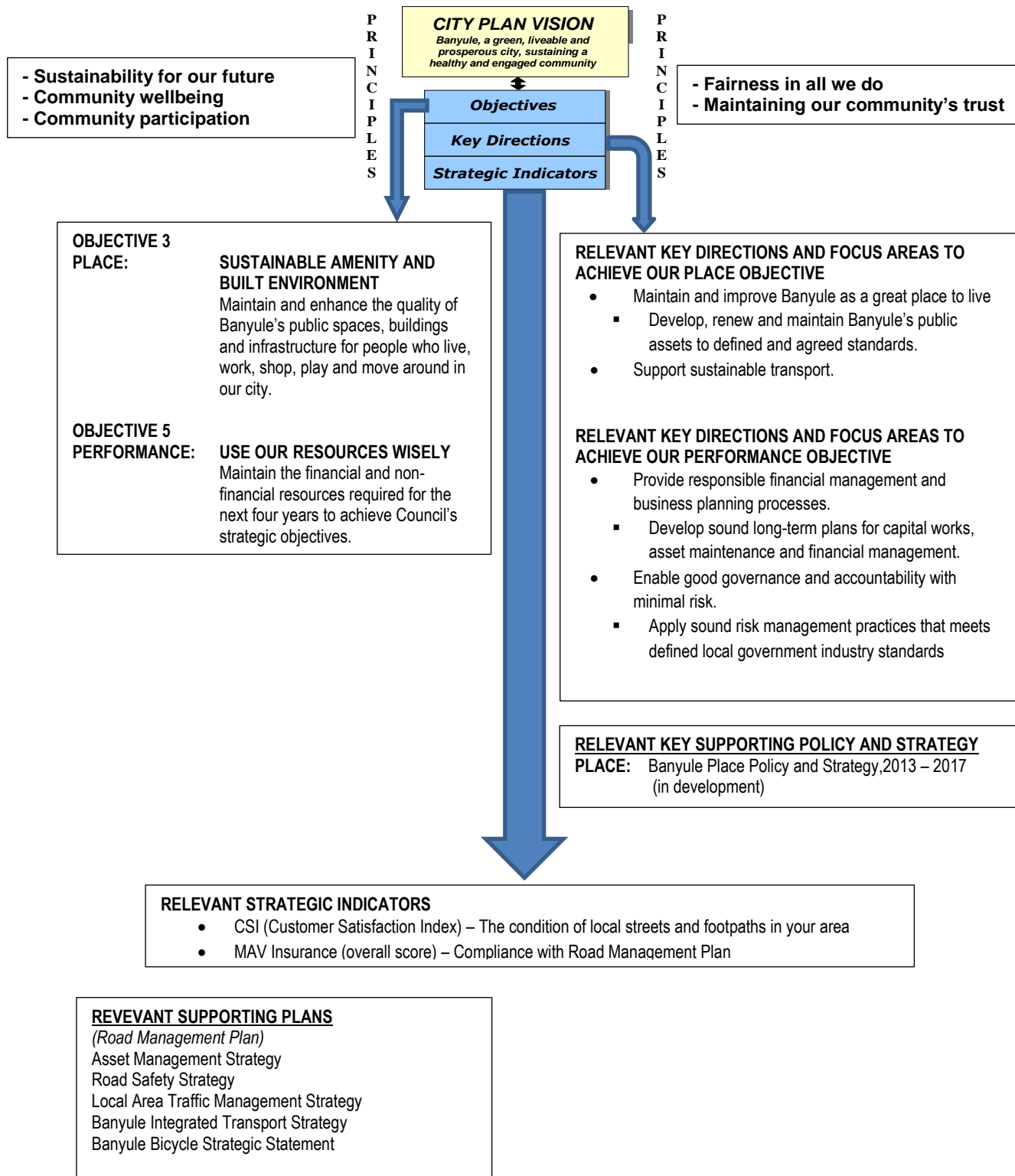
The maintenance management arrangements are outlined within this Road Management Plan and also in Council's ***Services Asset Management Plan Part 'C' - Pathways***. This latter plan describes the current management arrangements for Banyule City's bicycle trail network.

2.6. Council's Strategic Planning Process

The following chart outlines the linkages between the various components involved in Council's strategic planning process.

The Asset Management Strategy provides guidance to Council's Financial Strategy and to the City Plan. The Services Asset Management Plans will in turn provide input to the Road Management Plan, the Annual Business Plan & Budget.

City Plan Framework



2.7. Key Stakeholders

The key stakeholder groups of the community who are both users of the road network and/or are affected by it include:

- The community in general
- Residents & businesses adjoining the road network
- Pedestrians (including the very young, those with disabilities, and the elderly with restricted mobility)
- Users of a range of miscellaneous smaller, lightweight vehicles such as pedal cyclists, motorised buggies, wheel chairs, prams, etc
- Users of trucks, buses, commercial vehicles, cars and motor cyclists
- Tourists & visitors to the area
- Emergency services (Police, Fire, Ambulance, VICSES)
- Traffic & transportation managers
- Managers of the asset that is the road network
- Construction & maintenance personnel who build and maintain asset components
- Utility services that utilise the road reserve for their infrastructure (Water, Sewerage, Gas, Electricity, Telecommunications)
- Council as the responsible Road Authority and the Councillors as the elected Local Government for the Municipality
- State & Federal Governments that periodically provide support funding to assist with the management of the network
- Council's Insurer.

2.8. Obligations of Road Users

2.8.1. General Usage

Section 17A of the Road Safety Act 1986 provides that:

- A person who drives a motor vehicle on a highway 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
 - 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 road infrastructure and non-road infrastructure on the road reserve and take reasonable care to avoid any conduct that may damage road infrastructure and non-road infrastructure on the road reserve

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

2.8.2. Incident Claims

If a person proposes to commence a proceeding in a court based on a claim in relation to an incident arising out of the condition of a public road or infrastructure, the person must give written notice of the incident to the responsible road authority within the prescribed period of the incident occurring [section 115(1) of the Road Management Act].

2.8.3. Memorandum of Consent (MOC)

Council requires to issue an MOC where a member of the public or organisation proposes to undertake activities within the road reserve that may in any way impede access by the public or interfere with road infrastructure.

Codes of Practice and Regulations for access by service utility organisations have been developed by VicRoads.

2.8.4. Assets for which Council is not responsible

- **Vehicle crossovers & driveways** for that portion of a vehicle crossing, other than the footpath, located between the carriageway and the property boundary is the responsibility of the adjoining property owner to maintain
- **Nature strips & infill areas within urban areas** which are those residual areas between the edge of the road or back of the kerb and the property boundary not occupied by the pathway and private road crossings. These are normally sown with grass with responsibility for maintenance of the grass and any depressions generally being left to the adjoining property owner
- **Single property stormwater drains** that are constructed within the reserve from the property boundary to a discharge outlet in the kerb or into the drain. They are there to benefit the property and as such are the responsibility of the owner of the property being served to maintain
- **Private or illegal landscaping works** on the road reserve that are not in accordance with any Council policy on such landscaping or have a potential of causing obstruction or injury/damage to pedestrian or traffic movement
- **Street lighting** (Standard) – timber and concrete power poles
- **Private roads** driveways, laneways and car parks (Common Property) associated with private developments
- **Rail crossings** and associated structures (bridges)
- **Service Authority temporary/permanent reinstatements** to the road and pathways and other road reserve assets organised by the authority directly
- **Service Authorities Assets** - Utility assets such as service pits (communications, water, sewerage, gas, electricity)

- **Crown and Service Authority Land/Easements** – for example, Department of Sustainability and Environment (DSE), Melbourne Water unless specified in a Road Register
- **Other Road Authorities' Assets**
- **Car Parks** – constructed or unconstructed areas that are generally used for car parking purpose that are either close to a building, reserve or on a road.

The Road Asset Management Plan contains more details about the maintenance responsibilities of these assets and asset components.

Regardless of its maintenance obligations, Council has a duty of care and will as far as practicable notify the relevant utility or authority where a defect has been identified. Council may also serve a notice on a property owner to have defects repaired within a given period.

3. Register of Public Roads

3.1. Public Roads Register

Council has a register of public roads to record the details of the public roads, and ancillary areas, for which it is responsible. The register of public roads is available for inspection by the public at each of Council's Customer Service Centres and Council's website, www.banyule.vic.gov.au

3.2. Municipal Road Map

The **Municipal Road Map** is an integral component of the Road Register as it provides the visual location of where the road lies within the municipality. The Road Register has been mapped in the Geographic Information System (GIS) which is Council's core electronic mapping system.

3.3. Maintenance Demarcation Agreements

Where there are maintenance demarcation agreements defining limits of responsibility on municipal roads between the Council and other Road Authorities or private organisations, the schedule of roads affected and details of these agreements will be listed in the Road Register.

Demarcation issues with other Road Authorities and Service Utilities that are specific to Banyule's road network have been identified, and maintenance agreements have been entered into. The Road Register will be updated to reflect these agreements once they have been completed. All Agreements will be subject to continual review.

3.3.1. VicRoads

No formal shared Agreement is required between the Council and VicRoads as the VicRoads Code of Practice, "**Operational Responsibilities for Public Roads**", as mentioned in Section 2.4.2, details the various responsibilities.

The Code of Practice does not identify all demarcation issues between Council and VicRoads, but generally council is responsible for 'back of kerb' maintenance issues. However, there are structural assets associated with a main road ie embankments, retaining walls, sound barriers, cuttings etc that the City of Banyule deems to be the responsibility of VicRoads.

Arrangements between VicRoads and Banyule City Council apply to the following Arterial Roads:

- Fitzsimons Lane (Main Road to Yarra River)
- Main Road/Fitzsimons Lane - Roundabout
- Main Road (Fitzsimons Lane to Bolton Street)
- Sherbourne Road/Bolton Street - Roundabout
- Sherbourne Road (Bolton Street to Karingal Drive)
- Sherbourne Road/Karingal Drive - Roundabout
- Karingal Drive (Sherbourne Road to Weidlich Road)
- Ryans Road (Wattle tree Road to Wind Mill Rise)
- Plenty Road (a Boundary Road between Banyule and the municipalities of Darebin and Whittlesea).

3.3.2. Shared Municipal Boundary Roads and Bridges

The City of Banyule shares boundary roads and bridges with both the Shire of Nillumbik and the City of Darebin. **Appendix 6** is a schedule of the roads and structures which are on the municipal boundaries. It lists the Maintenance Authority for each road or structure, being that Council that by mutual agreement has accepted the responsibility to maintain the asset.

Boundary Road Agreements have been developed for the administrative arrangements between the councils involved. It contains the details of maintenance arrangements for which there has been a mutual agreement.

3.3.3. Utility & Service Authorities

The VicRoads Code of Practice, **“Management of Infrastructure in Road Reserves”** was Gazetted on 6 October 2008. Its purpose is to provide practical guidance and identify benchmarks of good practice for utilities and road authorities, who are expected to work together cooperatively to facilitate the installation, maintenance and operation of road and non-road infrastructure within road reserves.

The objectives of this Code are to provide practical guidance to road authorities and utilities in relation to:

- The manner in which works on roads should be carried out
- Processes for consultation and exchanging information about future works
- Good practice or relevant industry standards in relation to a specified type of infrastructure or works
- Processes to facilitate consultation and co-operation between road authorities and utilities responsible for infrastructure on roads
- The needs of public transport services when works are planned and performed in the road reserve
- The process to provide notification to road authorities and for road authorities to give consent to the installation of new non-road infrastructure or works on existing non-road infrastructure, where the works are not exempt from notification or consent requirements, and
- The interchange and storage of information regarding road and non-road infrastructure located in road reserves.

This Code applies to utilities and road authorities, and their management of road and utility infrastructure on all public roads in Victoria. It has been prepared jointly by road authorities and utilities and is not intended to apply retrospectively, or override the legislative powers of road authorities or utilities.

This Code cannot:

- Impose a duty on any person, or
- Direct how any matter or thing is to be done, or
- Create an enforceable legal right, or
- Impose any liability or penalty.

Banyule City Council has forwarded to these Utility & Service Authorities a specification ("Reinstatement Requirements for Council's Assets – Nov 2011") of which they have been requested to comply.

3.3.4. Crown and Service Authority Land

The VicRoads Code of Practice, "**Management of Infrastructure in Road Reserves**" specifically relates to the installation, maintenance and operation of road and non-road infrastructure within road reserves.

However, with DSE and Melbourne Water, an issue that needs to be the subject of Agreement relates to access of trucks and machinery across Council's assets and structures abutting or on the road reserve.

3.4. Non-Council Assets on the Road Reserve

Other non-council assets on the road reserve (such as rail crossings, telecommunications structures, utility service pits and street lighting) may be identified in the Road Register along with the name of the responsible body as the information becomes available.

Roads that will not be included in the Public Roads Register but will be listed on Council's asset register as information becomes available include:

- Roads which are fully a State or private enterprise responsibility
- Unused roads for which Council has not accepted responsibility.

Roads set out on a plan of subdivision, until such time as the Council accepts responsibility for those roads.

Council has entered into agreements with other road authorities and utilities where that party has an interest or asset/s in a road for which Council is responsible. The following Ministerial Codes of Practices are relevant in this context:

- **Road Management Plans:** The purpose of this Code of Practice is to provide practical guidance to road authorities in the making of road management plans; the exercise of their road management functions to provide a safe and efficient road network for use by all members of the public; and good road asset management practices focussed on delivering optimal outcomes having regard to affordability, available resources, and the policies, priorities and strategies of governments and road authorities
- **Operational Responsibility for Public Roads:** The purpose of this Code is to provide practical guidance by clarifying or determining how the operational responsibility for different parts or elements of a road reserve is to be allocated between road authorities; and to establish principles giving practical guidance for determining the boundary between a roadway, pathway or shoulder in any particular case, and for determining which road authority is responsible for road-related infrastructure
- **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
- **Management of Road & Utility Infrastructure in Road Reserves:** The Code provides practical guidance and identifies benchmarks of good practice for utilities and road authorities, who are expected to work together cooperatively to facilitate the installation, maintenance and operation of road and non-road infrastructure within road reserves
- **Worksite Safety - Traffic Management:** It provides practical guidance to any person conducting, or proposing to conduct, any works on a road in Victoria.

3.5. Updating the Road Register

Updating the Public Road Register will be effected in the following manner:

- The necessary amendment will be made to the asset database from which the Register is derived
- Each hard-copy of the Register available at Customer Service Centres will be updated to include any changes made during the year
- A new hard-copy will be provided annually to each Customer Service Centre.

3.6. Reviewing & Updating the Road Management Plan

The Road Management 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 accord with responsible asset management, changing technology, and in particular, Council and community requirements and expectations.

If the adopted levels of service (i.e. tolerable level of defect and/or rectification response time) is not achievable the level of maintenance effort may need to be varied.

It is proposed to undertake a review of this Plan at least every 4 years, or as required by the Road Management Act or its Regulations, or in conjunction with initiatives such as the Road and Infrastructure Maintenance Unit's Best Value process. Any revised plan would be subject to the consultation and approval processes as detailed in section 54 of the Act.

Any review of the Plan will include:

- 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 the Plan.

4. Management of Municipal Road Assets

4.1. Asset Hierarchies – Road Network

All roads and pathways within the municipal road network are classified according to a hierarchy that takes into account their specific function, types of users, user numbers and potential risk.

Elements that affect driver safety such as pavements, bridges, traffic islands and signs have their hierarchies based on vehicular traffic. Elements that affect pedestrian safety have their hierarchy based on pedestrian traffic.

The hierarchy classification is used to assist in prioritising works programs and also intervention responses to remedy defects.

4.1.1. Road Hierarchy

Category	Function Description
<u>Level 1</u> Sub-Arterial Roads and Industrial Roads	<ul style="list-style-type: none"> Carry 10,000 – 15,000 vehicles/day. These carry heavy volumes of traffic including commercial vehicles and also provide the principal routes for traffic flows in and around the municipality. Supplement the arterial road system within a Local Traffic Area. Connector between arterial roads & lower order streets. Caters for, but may restrain, Service & Heavy Vehicles. Provides access to significant Public Services.
<u>Level 2</u> Collector/Distributor	<ul style="list-style-type: none"> Carry 2,000 – 10,000 vehicles/day. Carry significant volumes of traffic and provide access by linking residential areas to the arterial roads. Carries heavy traffic. Collect traffic from lower order roads. Limited through traffic (not promoted or encouraged).
<u>Level 3</u> Residential Roads, Streets & Courts	<ul style="list-style-type: none"> Carry less than 2,000 vehicles/day Limited through traffic. Carry local traffic. Their primary function is to provide access to private properties.
<u>Level 4</u> Unsealed Roads, Constructed and Unconstructed Right Of Ways (ROWs)	<ul style="list-style-type: none"> Limited or No Through Traffic.
Private Access Roads & Common Property	<ul style="list-style-type: none"> In private ownership therefore they are not a Council responsibility.

4.1.2. Pedestrian Pathway Hierarchy

The Road Register defines the locations of the Pedestrian Hierarchy.

Category	Function Description
Level 1 High Pedestrian Traffic	Shopping centres, hospitals, schools, elderly citizens, activity centres, transport interchanges and any other high pedestrian traffic areas as per the Footpath Register - Highest Usage Category .
Level 2 Low Pedestrian Traffic	Main roads, residential streets and around recreation reserves (within the road reserve).
Level 3 Industrial Areas	Industrial streets.

4.2. Standards for Construction, Upgrading, Renewal & Refurbishment

The standards for construction of new local roads and pathways and for the expansion, upgrading, renewal and refurbishment of existing local roads and pathways will be in accordance with the standards and specifications adopted by Council in any particular instance.

Generally the standards for construction, renewal and refurbishment will be based on the existing built standards taking into account the environmental sensitivities of matters such as established street trees and historical features, road safety and traffic management requirements.

The following are the key reference documents:

- Banyule City Council Guidelines for the Civil Infrastructure Works associated with Residential, Commercial and Industrial Development
- Banyule City Council Standard Drawings – this provides details of kerb profiles, pits, drains, crossings, retaining walls and miscellaneous structures.

4.3. Road Data Information System

The data information systems used for the management of assets involves a combination of processes, data and software. These are applied to provide the essential information outputs for effective asset management of risk and optimum infrastructure maintenance and refurbishments.

Council currently has four main data information systems for recording relevant asset data information. These are the AIM Asset System, Customer Request Management System (CRM); Corporate Accounting System; Geographic Information System (GIS) and the SMEC Pavement Management System. In addition it utilises the Moloney Asset Financial Modelling System.

These systems contribute to the overall management of the long term planning of its infrastructure assets in order to:

- Know what and where the assets are
- Know their condition
- Establish suitable operational, maintenance and renewal regimes to suit the assets and level of services required of them now & into the future
- Establish asset function and asset maintenance to meet the needs of the present and future customers
- Review maintenance practices and optimising operational procedures
- Implement management strategies for resources and work programs

- Improve risk management techniques, and
- Identify the true cost of operations and maintenance and predict future capital investments and maintenance expenditure required to optimise the asset function and lifecycle.

The Services Asset Management Plans provide more details on these systems.

4.4. Customer Service System & Procedures

4.4.1. Customer Request Management System (CRM)

Council uses a customer request tracking system to record customer enquiries for road based infrastructure assets (roads sealed and unsealed, pathways, kerb & channel, line-marking, street and traffic signs, etc). Enquiries from the community are received at Customer Service Centres, in person and by telephone, e-mail, fax or letter.

The system registers details of the enquiry including:

- Request reference number
- Date of request received
- Originator of request – name and address
- Request/repair details – location, type, size, quantity
- Description of the actual maintenance works
- Inspection/assessment date
- Completion/repaired date.

4.4.2. Maintenance Responsiveness & Performance Targets

The Customer Request Management System enables the response times to be monitored for inspections and that appropriate action is undertaken.

It should be noted that ‘actioning’ a request doesn’t necessarily mean that the request has been fulfilled but simply that appropriate action has taken place.

Appropriate action may well mean that an asset defect, such as a damaged pathway has been inspected and:

- Repairs are significant (extreme) and have been temporarily reinstated until such time as repairs are undertaken - the appropriate action is when the “Temporary Reinstatement” has been noted as done. It is then listed on the works program to be completed, or
- Repairs are straight-forward (major) and have been programmed and will be implemented as soon as a work crew is available - the appropriate action in this case is when the repair work has been completed, or
- The defect was found not to warrant any remedial action at that stage as it was within or below specified intervention levels - the appropriate action in this case is when the decision is made that no repair work is warranted.

Whatever the response, it is noted against the original request.

Note: Response and action times identified in the attached tables reflect normal working days and standard working hours.

4.5. Community Consultation

Community consultation plays a strategic role in the development and success of all asset plans. Banyule's consultation direction will be one of education and information leading to long term understanding of the issues that drive asset management, particularly roads.

Consultation with the community will be carried out as required under the Act. The Best Value charter plays an important role in community consultation and will be adopted where appropriate, to achieve the effective stakeholder input.

There are already a number of mechanisms in place to measure community satisfaction with assets and services provided to the community. These will be employed, and expanded, to facilitate community input:

- Current position - based on Council's existing maintenance levels and funding regime the Office of Local Government Community Survey indicated a high level of acceptance for the condition of the road network
- Public submissions were invited as part of the Road Management Plan formulation process and as a result the current levels of service have been defined and adopted in this Road Management Plan
- The Road Management Plan and Road Register are available for public scrutiny at any time
- Review the Plan & levels of service based on community responses & amend, where necessary, in accordance with Council's capacity to fund any suggested changes
- Put the Plan to Council for adoption and Gazettal
- Any service changes not able to be funded by the current budget, to be considered with the subsequent Annual Budget process.

4.6. Best Value & Performance Measures

Best Value legislation was introduced in 2000 by the State Government. It requires all services to go through a review process to ensure they meet the following six principles:

- Meet quality & cost standards set by Council having regard to community expectations, affordability, accessibility, value for money and best practice
- Be responsive to the needs of the community
- Be accessible to those for whom they are intended
- Achieve continuous improvement
- Have a program of regular community consultation
- Be reported on regularly to the community, at least once a year, on achievements against the first five Principles.

Best Value enables Council to determine the most effective means of providing services to the community. It also provides an excellent opportunity to enhance community involvement and ensure that Council continues to provide services that are responsive to community needs and values.

4.7. Auditing of Processes

To ensure that Council's services are performing consistently and that Service Units' internal processes remain current, Banyule's Management System requires ongoing internal auditing for compliance issues and external auditing for legislative purposes.

The Audit review process is outlined in Council's **Asset Management Strategy** document.

4.8. Reviewing Maintenance Management Performance

The annual performance reviews of maintenance programs and strategies to be undertaken by management are outlined in Council's **Asset Management Strategy** document.

The Banyule Management System is reviewed annually. Elements discussed as part of the Area Manager's weekly/fortnightly meetings include:

- Audit reports – Quality, Environmental, Safety
- Customer feedback
- Occupational Health and Safety Reports and Trends
- Recommendations for continuous improvement activities
- Legislative, Industry & authority changes
- Advances in technology, plant and equipment
- Management program performance (eg reviewing KPI's for Best Value Reviews).

In addition, the technical content in Asset Management Plans will be reviewed annually to ensure it is sound and applied correctly in developing AM plan outputs (eg appropriate economic lives, lifecycle strategies).

5. Road Maintenance Management

As a road authority, Council has a duty of care to road users and the community to maintain all public roads for which it is responsible in a safe condition and to specified maintenance standards. Council must also meet community expectations having regard to relevant government transport and other policies, and available funds.

The Maintenance Management System for the municipal road network infrastructure within the City of Banyule is a combination of standards, codes, guidelines and data management systems.

5.1. Services Asset Management Plans – Roads, Pathways and Bridges

The Services Asset Management Plans outline the key elements involved in managing the road network asset to those people who need to understand the detail. 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 fiscal constraints that may be imposed by Council.

The Services Asset Management Plans are a key element of Council's strategic road management planning and complements the statutory Road Management Plan.

Its specific purpose is to:

- Demonstrate responsible stewardship by the Council
- Define and articulate how the infrastructure is and will be managed to achieve the organisation's objectives
- Provide a basis for customer consultation to determine the appropriate levels of service
- Manage risk of asset failure
- Achieve savings by optimising whole of life costs
- Support long term financial planning.

5.2. Maintenance Levels of Service

Levels of service for maintenance of the road network take into account:

- Community views and values through the Road Management Plan advertising and gazettal process
- Industry standards
- The need to provide a road network that is safe for all users
- Ability of Council to fund maintenance activities.

The following matters have also been taken into account with development of the maintenance standards:

- **Routine maintenance standards** – routine maintenance, repair functions and standards, intervention levels and actions are based on risk assessment for a particular asset element (eg. road, pathway, bridge) and road type. Standards vary across the road network in line with relevant risk factors such as traffic volumes, composition of traffic, operating speed, the susceptibility of assets to deterioration, the cost effectiveness of repairs, and competing priorities for funding
- **Repair and maintenance works** – routine maintenance and repair works are undertaken within a specified reasonable period of time having regard to intervention action priorities, and to specified standards
- **Temporary measures** – temporary works to be undertaken to reduce the risk of an incident until such time as maintenance or repair works can be

completed. Response times and measures (eg. warning signs, safety barriers, asphalt wedging) are determined based on the risk to safety and the type, volume and nature of road usage

- **Emergency works** – works required to be undertaken immediately outside routine works programs to ensure the safety of road users and the public as a result of emergency incidents. Emergency works include traffic incident management, responses to fires, floods, storms and spillages, and assistance under the Victorian State Emergency Response Plan & Municipal Emergency Management Plan.

The Road Management Plan, having regard to matters (a) to (d) above, establish schedules of maintenance for different categories of public roads & pathways for which Council has operational and/or maintenance responsibility. The specific intervention levels and maintenance standards for roads and pathways are outlined in **Appendices 4 and 5**.

The hierarchy of roads and pathways is used as the basis for determining the various standards across the road network in line with relevant risk factors, while having regard to the type, volume and nature of road usage.

Banyule carries out routine maintenance programs for the road and footpath networks by Maintenance Areas to enable efficient work practices and to maximise resources. There are 16 Maintenance Areas and using this approach concentrates plant and equipment in one area rather than using the ad hoc approach of moving resources to fixing one off defects that are spread across the municipality (see Levels of Service for Reactive Maintenance).

5.3. Asset Renewals

Long term renewal and replacement programs assist Council to better understand its strategic financial requirements.

The Services Asset Management Plans will establish the requirements for developing long term asset renewal programs, including funding and prioritisation of renewal works.

An annual review through Council's Capital Works process provides for the development of a capital renewal/replacement works program for consideration in the annual budget.

5.4. Inspection Process

Survey and inspection processes are required for competent management of the road network assets. A four-tier inspection regime covering safety, incidents, defects and condition has been implemented.

The Services Asset Management Plans outline each of these inspections in more detail.

Appendix 1 is a flow chart that outlines the Inspection process upon receiving a customer request about a potential defect.

Appendices 2 and 3 list the detailed inspection requirements and their frequencies. These have been developed taking into account, among other things:

- The type of road infrastructure, and the volume and nature of road usage
- The scope of inspection
- Community expectations
- Any relevant risk factors
- Resource availability and the competing demands for those resources.

5.5. Risk Assessment & Prioritisation of Remedial Works

The inspection process for roads and pathways detects those defects that have reached the point at which they are no longer “tolerable” and require intervention. The remedial works required is prioritised based on risk and asset condition and is programmed in the annual capital renewal budget process.

Council's Services Asset Management Plan – General Information, Section 5 – Risk Management, outlines how risk is to be managed. The basis of the risk process is the Australian & New Zealand Risk Management Standard AS/NZS 4360:2004.

5.6. Condition Standards

The Services Asset Management Plans detail the requirements for determining and recording structural integrity condition of each of the road asset components.

This includes the following:

- Physical description of the actual data being recorded
- Background and/or qualification, where relevant to the data
- Differentiating between maintenance and capital renewals
- Backlog of works where under-funding has occurred in recent years
- Development of the annual works replacement program.

The annual review of the strategic asset renewal/replacement needs utilising this condition information on the various asset components, undertaken through the Services Asset Management Plans, will provide the input for the development of the annual capital renewal/replacement works program for consideration with the annual budget.

5.7. Force Majeure

Council has an obligation to manage the municipal road network in accordance with its Road Management Plan (RMP).

Council also has responsibilities under the Emergency Management Act 1986 that include a requirement to have a Municipal Emergency Management Plan. Through this Plan, it has responsibilities to plan for and provide assistance to emergency services and the community during an emergency or natural disaster. In the event of natural disasters and other events including, but not limited to, fires, floods, droughts and the like, together with human factors, such as a lack of Council staff or suitably qualified Contractors, in reliance upon Section 83 of the Victorian Wrongs Act, 1958, as amended, Council reserves the right to suspend compliance with its Road Management Plan.

In the event that the Chief Executive officer of Council has to, pursuant to section 83 of the Wrongs Act, consider the limited financial and other resources of Council and its other conflicting priorities, meaning Banyule's plan cannot be met (upon advice from, for example, the Business Continuity Manager, Risk Manager, MERO, or Manager in charge of the Road Management Plan), he/she will write to the officer in charge of the Plan and inform him/her that some, or all of the timeframes and responses in Council's Plan, are to be suspended.

Once the events beyond the control of Council have abated, or partly abated, the Chief Executive Officer will write to the officer responsible for Banyule's Plan and inform him/her which parts of the Plan are to be reactivated and when.

5.8. Risk Management Implications

Council has a responsibility to keep its road assets in a safe condition. Risk Management has become a significant driver of Asset Management, and the Road Management Plan, due to Council's exposure to liability since the nonfeasance rule was abolished. Council has defined the framework for managing risk and has adopted a model in the Services Asset Management Strategy. The Road Management Plan has been developed in conjunction with the Risk Management Unit to ensure risk to the travelling public is minimized.

Council's Risk Management processes and procedures have been under continuous improvement and development by meeting the standards and requirements outlined by its insurer. The liability assessment process examines the ability of Council to better verify actions in compliance with the elements of the assessment – that is, improved records and documents, and proof that the system in place and standards are being adhered to and/or implemented within current legislation.

Council's Risk Management approach is outlined in the Services Asset Management Strategy. The Risk Model provides a generic framework for risk identification and analysis and identifies areas of risk and potential impact both human and financial.

It is important to minimise exposure to risk, Council will endeavour to ensure that maintenance funding and performance is adequate to achieve the prescribed levels of service, including inspection regimes, intervention levels and response times. The Banyule community through Customer surveys has indicated an in-principle agreement to the existing level of service. The levels of service have been developed to match available budget funding levels.

5.9. Asset Growth

The Banyule local road network has been increasing at approximately one kilometre per year.

Traffic volumes on local roads is increasing with the lack of a main road linking the end of Western Ring Road at Greensborough and the Eastern Freeway to the eastern and north eastern suburbs. Council has canvassed the State Government and VicRoads to assist in providing a solution to increasing traffic volumes.

The North Eastern Integrated Transport Study (NEITS) group chaired by the Department of Transport (DOT) and the AUSLINK /Roads to Recovery 'Metro North' Technical Committee will also play a role in developing long term plans for Banyule's road network.

The Federal Government has recognised the difficulty faced by councils in meeting their road maintenance obligations by introducing the Roads to Recovery Programs.

5.10. Relationship with Budget Process

The background for the budgetary framework is outlined in the Council Services Asset Management Strategy document.

The City of Banyule has adopted the process in the following Table to provide for better ability to fund the management of Council's infrastructure asset base into the future, which is the basis of strategic financial planning.

This process utilises four rather than the traditional two key funding areas. The first two "Non-Discretionary" areas are in recurrent and capital. The capital commitment is to fund the ongoing asset refurbishment and renewal requirements to ensure longevity of council's assets.

Table 7.3 – Asset Management Budget Process

Recurrent Funding	Asset Management	Capital	Consequential Recurrent Costs
Maintenance & Operations	Refurbishment and Renewal	New/Upgrade	Upgrade and New
<ul style="list-style-type: none"> • Potholes, grading of roads, line-marking • Footpath repairs • Bridge repairs • Cost of street lighting 	<ul style="list-style-type: none"> • Road reconstruction • K&C/footpath replacement • Bridge replacement 	<ul style="list-style-type: none"> • Road pavement widening • New footpaths • Bridge upgrade 	<p>New assets</p> <ul style="list-style-type: none"> • Additional maintenance load <p>Upgrades</p> <ul style="list-style-type: none"> • More or less maintenance
"Non-Discretionary" Recurrent	"Non-Discretionary" Capital	"Discretionary" Capital	"Non-Discretionary" Recurrent

What is essential, when Council considers its discretionary capital expenditures for new and upgraded assets is the consequential imposition of recurring operational and maintenance costs that will occur once the new or upgraded asset becomes operational. For instance new urban streets may well require immediate costs for street sweeping. A row of new street lights will incur ongoing electricity costs for operations immediately they are brought into use. This consequential additional cost is "non-discretionary" as it will be incurred if the new asset is provided.

Council has a formal capital evaluation process for allocation of funding across all Council's services where all projects can be evaluated against a set of standard criteria.

As new and upgraded projects are brought forward for consideration with the annual budget, they will also have an assessment of these ongoing operational (recurrent) costs presented to Council as part of the overall project cost projections.

A Capital Works expenditure program has been developed and is reviewed annually. Priority consideration is given to roads by classification, traffic type and volume, road condition and associated risk.

5.11. Future Funding Strategy

5.11.1. Maintenance

It is difficult to be precise in determining actual asset maintenance needs as it is subject to many variables including soil types, extremes of weather and unpredictable loadings, especially during adverse weather.

Current funding levels will be taken as the base requirement until such time as a business case is presented to Council that demonstrates the need for a specific change. A business case may arise from assessed needs or input from any community consultation under the Infrastructure Maintenance Best Value Review. The Business Case process is part of the annual Works Capital budget development.

5.11.2. Renewals – Road Works & Pathways

Road renewals and reconstructions will continue at the current funding levels and will be reviewed annually.

5.12. Renewal Works Program

A renewal program has been prepared for the key road asset components and links to Council's overall budget preparation process. The following factors are taken into account:

- Priority for inclusion of the renewal program is primarily determined by an assessment of the physical condition of the asset
- A key factor in determining asset 'need' is risk management. The likelihood of liability accruing to Council as a result of personal injury or accident as a result of the existing condition of the asset is considered
- Priority consideration is also given to volume of usage, in other words the position of the asset in the hierarchy of that asset group
- The work programs also take advantage of economies of scale that can be achieved through undertaking multiple works in close proximity in order to give savings in site establishment costs, provision of warning signs, etc
- In addition, the selection of works has been co-ordinated with other related infrastructure projects (ie reconstruction of pathway works and kerb and channel). Where possible the work programs of other Service Authorities (such as Telstra) have been considered. These factors minimise the disruption to the community and maximise savings through site establishment costs, etc.

5.13. Reporting Process

Council's Annual Report is the vehicle that will be used to report to the community the status of its road infrastructure assets.

Annual financial audits (AAS27), Capital Works reports, and statistical information given through the Department of Planning and Community Development (DPCD) and its Statewide Government Services Report all act as reporting mechanisms.

Other information sources that can be used are Council's Banyule Banner and Council's website.

6. Technical References

- Risk Management Standard – Principles and Guidelines, AS/NZS ISO 31000:2009
- MAV Asset Management Improvement STEP Program – Road Asset Management Plan Framework 2003
- International Infrastructure Management Manual (IIMM) 2011, IPWEA
- VicRoads Risk Management Guidelines
- VicRoads Standard Specification Section 750 – Routine Maintenance
- Code of Practice – Road Management Plans, September 2004.

7. Banyule Road Register

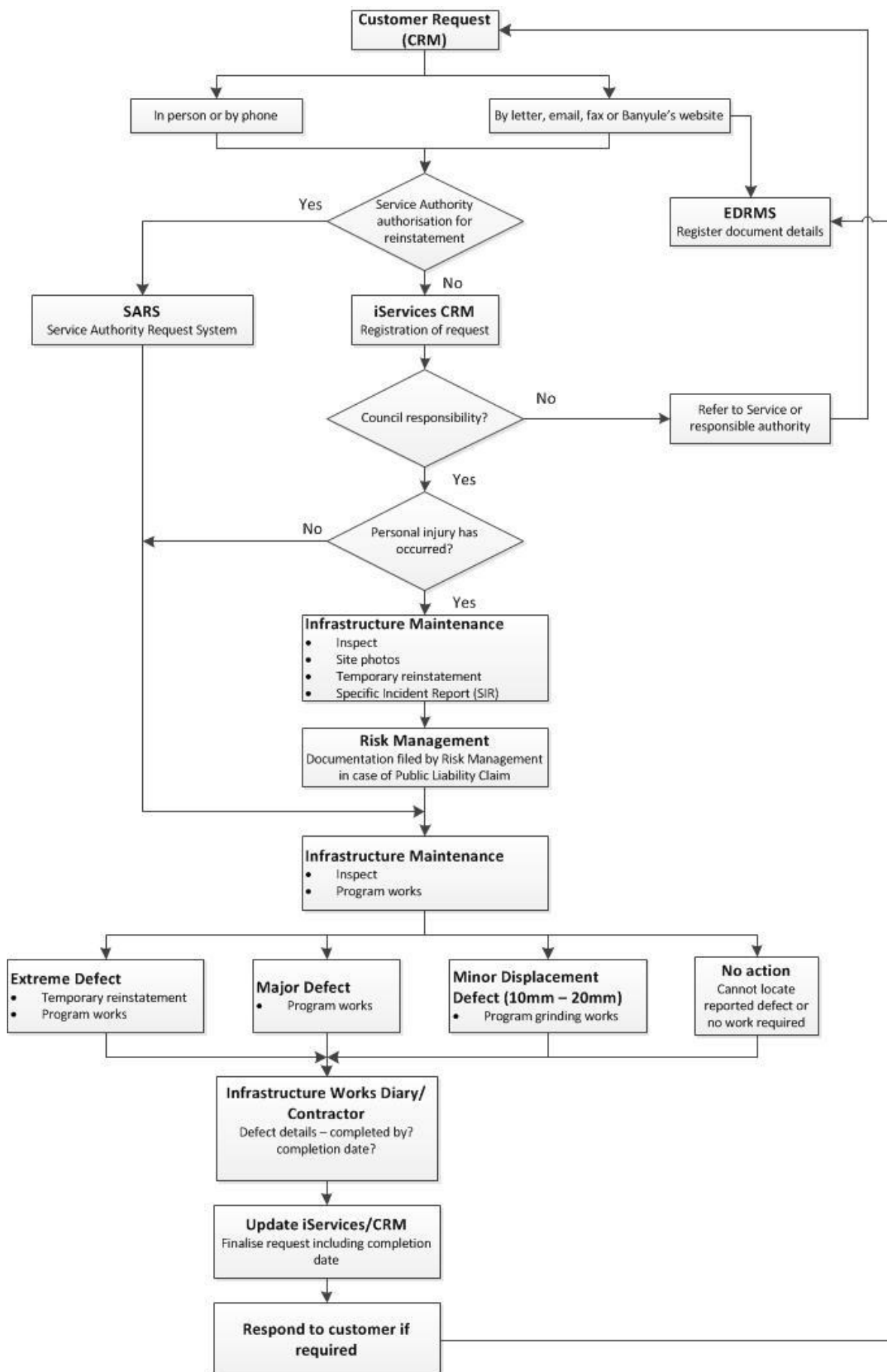
The Road Register will be updated with the following as information becomes available:

- Date a road ceased to be a public road
- Plans and other reference documents
- Identification of ancillary areas
- Ministerial directions/designated road projects.

8. Appendices

1. Reactive Customer Request/Inspection Process Flowchart
2. Inspection Requirements
3. Road Asset Inspection Frequencies
4. Roadway Defect Intervention Levels including On-Road Bicycle Lanes
5. Pathway Defect Intervention Levels including Off-Road Bicycle Shared Pathways within the Road Reserve
6. Schedule of Local Roads & Structures with Maintenance Demarcation Agreements as at June 17 2013
7. Definitions.

Appendix 1:- Flowchart – Reactive Customer Request/Inspection Process



Appendix 2: - Inspection Requirements

Inspection Type	Purpose	Inspection Performed by & Reporting Requirements
Reactive Inspection	<ul style="list-style-type: none"> Reactive Inspections respond to Customer enquiries or notifications - inspect all reported defects. Inspections follow notification to council by members of the community or council employees, undertaking their normal work duties, who may observe an asset defect that may impact the safety of the community. 	<ul style="list-style-type: none"> Council representative with an appropriate level of knowledge of road maintenance techniques. Recording to identify specific safety defect, date first reported, date inspected & by whom, subsequent action & date of completion.
Incident Inspection	<ul style="list-style-type: none"> An inspection carried out to comply with the requirements the Road Management Act [Division 5, Part 6 – Claims Procedure, section 116] and Civic Mutual Plus (CMP) risk management practices. This inspection enables an incident condition report to be prepared for use in legal proceedings and to gather of information to analyse the cause of accidents or incidents and the planning of road management and safety measures. 	<ul style="list-style-type: none"> Council representative with an appropriate level of knowledge of road maintenance knowledge and experience in road construction. Recording to identify specific safety defect, date first reported, date inspected & by whom, subsequent action & date of completion. Specific Incident Report (SIR) required.
Programmed Defect Inspection	<ul style="list-style-type: none"> Inspection undertaken in accordance with a formal programmed inspection schedule to determine if the road asset complies with the levels of service as specified in the Road Management Plan. It is intended that Programmed Defect Inspections will identify significant defects that may be deemed as a hazard to the public. Programmed Defect inspections will address those defects that may not be reported through customer notification process (Reactive Inspections), and occur 'between' Condition Inspections. It is intended that Programmed Defect inspections will be carried out to identify any repair works to be undertaken. A record of each street/road is to be completed detailing the name of the inspector, the inspection date and a description of any defects found that are at the specified intervention levels defined in the Road Management Plan. In addition, a notation must be recorded of any street/road inspected where no defect was apparent under the specific rigour of the inspection. 	<ul style="list-style-type: none"> Council representative with an appropriate level of knowledge of road maintenance techniques. A record of the inspection is to be placed on Council's routine maintenance work program for action and on to one of Council's Information Systems (for example, an Asset Management System or GIS) (NB: this may include insurance or litigation requirements).
Condition Inspection	<ul style="list-style-type: none"> 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 the condition of the road network. The deficiencies may well impact short-term serviceability as well as the ability of the component to continue to perform for the duration of its intended life span. The condition inspection process must also meet the requirements for accounting regulations and asset management. 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. 	<ul style="list-style-type: none"> Inspection undertaken under the direction of a qualified engineer or experienced technical officer with knowledge and experience in road construction and maintenance practices. Specific data to be recorded is determined by requirements of the Services Asset Management Plan and the Pavement Management System to assess asset component maintenance requirements.

Appendix 2: – Inspection Requirements (Continued)

In addition to the road inspection requirements there is a specific inspection requirement for off-road bicycle paths within road reserves.

Management of shared bicycle and pedestrian paths is detailed in the Services Asset Management Plans - Roads and Pathways

Inspection Type	Purpose	Inspection Performed by & Reporting Requirements
Off-Road Bicycle Shared Pathway Defect Inspections within Road Reserve	<ul style="list-style-type: none">• Off-Road Bicycle Shared Pathways<ul style="list-style-type: none">▪ Defect Inspections will identify significant defects that may be deemed as a hazard to the public.▪ A record of each length inspected is to be completed detailing the name of the inspector, the inspection date and a description of any defects found.	<ul style="list-style-type: none">▪ Council representative with an appropriate level of knowledge of safety requirements for cyclists.▪ Recording to identify specific safety defect, date first reported, date inspected & by whom, subsequent action & date of completion.

Appendix 3: - Road Asset Inspection Frequencies

Asset Group Category		Programmed Defect Inspection Interval
Hierarchy	Sub-Category	
Roads, Kerb & Channel (pit lids, frames and lintels only) and On-Road Bicycle Lanes		
Level 1.	Sub-Arterial Roads and Industrial Roads.	Twice a year.
Level 2.	Collector/Distributor.	Once a year.
Level 3.	Residential Streets & Courts.	Once in 2 years.
Level 4.	Unsealed Roads only.	No inspections conducted. Only by Customer Request (CRM).
Pedestrian Pathways and Off-Road Bicycle Shared Pathways within the Road Reserve		
Level 1.	High Pedestrian Traffic.	Twice a year.
Level 2.	Low Pedestrian Traffic.	Once in 4 years.
Level 3.	Industrial Areas.	No inspections conducted. Only by Customer Request (CRM).

Appendix 3: – Road Asset Inspection Frequencies (Continued)

Asset Group Category		Programmed Defect Inspection Interval
Hierarchy	Sub-Category	
Line marking - In conjunction with Roads		
Level 1.	Sub-Arterial Roads and Industrial Roads.	Twice a year.
Level 2.	Collector/Distributor.	Once a year.
Level 3.	Residential Streets & Courts.	Once in 2 years.
Regulatory Signs - In conjunction with Roads		
Level 1.	Sub-Arterial Roads and Industrial Roads.	Once in 2 years – Night inspection only.
Level 2.	Collector/Distributor.	
Level 3.	Residential Streets & Courts.	
Level 4.	Unsealed Roads only.	
Right Of Ways (ROWs)		
Level 4.	Constructed and Unconstructed ROWs.	No inspections conducted. Only by Customer Request (CRM).
Bridges/Major Culverts (within road reserves)		
All.	All.	Alternate every year between Level 1 Type Inspection (In-house) to Level 2 Type Inspection (Consultant).

Appendix 4: - Roadway Defect Intervention Levels including On-Road Bicycle Lanes

Activity	Defect Type	Description of Work	Intervention Levels	Programmed Defect Inspection	Road Cat.	Target Rectification Response Time
Customer Requests	Safety issues.	Responding to requests for action.	Intervention requirement is an inspection to assess the extent of the request and determine 'appropriate' action. Necessary remedial action is referred to the relevant works program.	Not Applicable	All	Inspect within 48 hours.
	Specific Incidents.			Not Applicable	All	Inspect within 5 working days.
	All other requests.			Not Applicable	All	Inspect within 15 working days.
Emergency Repairs	All Defect types.	As described in Pavement Defects below.	Instigated by Customer Request (CRM). Repairs programmed by Inspecting Officer.	Not Applicable	All	Temporary repair within 48 hours. Permanent repair to be programmed as part of major patching/re-sheet program.
Pavement Defects	Potholes.	Patch surface in roadway using bituminous material for sealed surfaces or suitable gravel for unsealed roads to restore the riding surface.	Repair when they exceed 35 mm in depth and 300mm in diameter.	Yes	Levels 1,2 & 3	Temporary repair within 10 working days. Permanent repair to be programmed as part of routine maintenance or major patching/re-sheet program.
	Edge Breaks, Edge Drop Offs and Sealed Shoulder repairs.	Patch or repair road pavement surface and edge using bituminous material for sealed surfaces or suitable gravel for unsealed roads to restore the riding surface.	<ul style="list-style-type: none"> Undertake edge break repairs when edges have broken back in excess of 150mm laterally and greater than 5.0m in length. Undertake edge drop-off repairs – typically involving adding crushed rock to the unsealed shoulder when drop off is 50mm over a 10m length. 	Not Applicable	Levels 1,2 & 3	Temporary repair within 10 working days if initiated by a Customer Request (CRM). Permanent repair to be programmed as part of routine maintenance or Major Patching Capital Works/Re-sheet programs and is subject to funding allocation.

Note: All works are dependent on annual budget allocations.

Appendix 4: - Roadway Defect Intervention Levels including On-Road Bicycle Lanes (Continued)

Activity	Defect Type	Description of Work	Intervention Levels	Programmed Defect Inspection	Road Cat.	Target Rectification Response Time
Surface Defects	Cracking - Longitudinal & Transverse.	Crack seal as required.	10 mm or wider.	Not Applicable	Levels 1,2 & 3	Refer to annual crack sealing program.
	Cracking - Block and Crocodile combined with pavement failure. Stripping and Delamination.	Repair surface defects. Routine Patching up to 5 sqm in area. Major Patching 5 to 25 sqm in area. Greater than 25 sqm in area referred to Major Patching Capital Works/Re-sheet programs.	Greater than 10mm crack width, and 35 mm depression.	Not Applicable	Levels 1,2 & 3	All Patching will be programmed and actioned in routine maintenance or referred to annual Major Patching Capital Works/Re-sheet programs and is subject to funding allocations.

Note: All works are dependent on annual budget allocations.

Appendix 4: - Roadway Defect Intervention Levels including On-Road Bicycle Lanes (Continued)

Activity	Defect Type	Description of Work	Intervention Levels	Programmed Defect Inspection	Road Cat.	Target Rectification Response Time
Line Marking	Poor line marking visibility.	Repair/restore effectiveness of line marking and raised pavement reflectors.	<ul style="list-style-type: none"> Severity 1: Broken & solid lines, parking lanes, road humps, directional arrows and chevron markings with less than 50% of original visibility. Severity 2: Statcon markings with less than 50% of original visibility. Severity 3: School crossing and pedestrian crossing with less than 50% or original visibility. 	Yes	Levels 1 & 2	Completed within the line marking program.
					Level 3	Programmed and completed as funding allows.
Deformation	Wheel Ruts, Depressions, Corrugations and Shoving.	<p>Repair ruts, depressions, corrugations and shoving.</p> <p>Routine Maintenance Patching 0 to 25 sqm in area.</p> <p>Greater than 25 sqm in area referred to Capital funding allocations.</p>	<ul style="list-style-type: none"> When defect is 35mm in depth 750mm wide and/or greater than 6m long. 	Not Applicable	Levels 1, 2 & 3	All Patching will be programmed and actioned in routine maintenance or referred to annual Capital funding allocations.

Note: All works are dependent on annual budget allocations.

Appendix 4: - Roadway Defect Intervention Levels including On-Road Bicycle Lanes (Continued)

Activity	Defect Type	Description of Work	Intervention Levels	Programmed Defect Inspection	Road Cat.	Target Rectification Response Time
Unsealed Pavements	Poor condition.	Works as deemed necessary by Works Supervisor.	Inspect upon receiving a Customer Request (CRM); schedule remedial works as necessary.	Not Applicable	Level 4	Programmed by Works Supervisor & dependent on available budget.
Pavement Surface Drainage	Kerb and Channel blockage.	Unblock channel to enable free flow of water.	Where water flow along kerb and channel is impeded.	Not Applicable	All	Routine street sweeping.
	Kerb and Channel ponding.	Restore channel to enable free flow of water.	Schedule works where channel defect exceeds 10 linear metres or where 3 or more bays are broken and cannot perform drainage operation or water does not drain away within 24 hours.	Not Applicable		Programmed with road reconstruction or re-sheet programs depending on available funding.
	Table drains and cross over culverts blockages.	Unblock drains to enable free flow of water.	Inspect upon receiving a Customer Request (CRM); schedule remedial works as necessary.	Not Applicable		Programmed by Works Supervisor dependent on available budget.
	Pit blockages.	Clean pit to enable free flow of water.	When water flow to the pit is impeded.	Not Applicable		Cleaned as per drainage works program.
	Pit lids, frames and lintels broken.	Replace if missing, collapsed or broken.	When missing, collapsed or broken.	Yes		Repair as required dependent on available budget.
Right of Ways (ROWs)	Defects in Constructed ROWs.	Works as deemed necessary by Works Supervisor.	By Customer Request (CRM).	Not Applicable	Level 4	Inspect within 20 working days. Necessary works programmed & dependent on budget availability.
	Defects in Unconstructed ROWs.	Works as deemed necessary by Works Supervisor.	By Customer Request (CRM) or annual fire hazard clearance works.	Not Applicable		

Note: All works are dependent on annual budget allocations.

Appendix 4: - Roadway Defect Intervention Levels including On-Road Bicycle Lanes (Continued)

Activity	Defect Type	Description of Work	Intervention Levels	Programmed Defect Inspection	Road Cat.	Target Rectification Response Time
Vegetation Management Includes traffic treatments, medians, islands and roundabouts where vegetation occurs.	Road reserve trees obstructing road, shared bicycle paths and pathway users.	Tree Management.	All street trees - Inspection and/or trimming program.	Not Applicable	All	Every 2 years.
	Private trees obstructing road and pathway users.	Private Trees.	Not a Council responsibility. Notifications to residents by Local Laws Unit.	Not Applicable		Notify as required.
Roadside Street Furniture	Damaged or defective roadside furniture.	Repair or replace as necessary.	Inspect and rectify as necessary when notified through Customer Request (CRM).	Not Applicable	All	Inspect within 10 working days. Program repair depending on funding availability.

Note: All works are dependent on annual budget allocations.

Appendix 4: - Roadway Defect Intervention Levels including On-Road Bicycle Lanes (Continued)

Activity	Defect Type	Description of Work	Intervention Levels	Programmed Defect Inspection	Road Cat.	Target Rectification Response Time
Signage and Traffic Management Devices	Poor signage visibility, damaged, graffitied or missing signs.	Cleaning and/or replacement of signs.	Traffic Management Signage identified by risk inspection or by Customer Request (CRM). Others signs by Customer Request (CRM).	Yes – only for all Traffic Management Signage defects only.	All.	For Defect Inspection, repair within 40 working days. For Customer Request (CRM), inspect within 5 working days. Repair within 10 working days.
			Traffic Management Signage identified by Customer Request. Other signs by Customer Request.	Not Applicable	All.	For Customer Request (CRM), inspect within 5 working days. Repair within 10 working days.
	Guard Rail; Safety Fencing.	Replacement of damaged guard rails and safety fencing.	Inspect and rectify as necessary when identified by Customer Request (CRM).	Not Applicable	All	For Customer Request (CRM), inspect within 5 working days. Program repair depending on funding availability.
Road Bridges and Major Culverts	Bridge structural hazard.	The repair and maintenance of decks, joints, footings, abutments, wing walls and safety rails.	Works to be programmed in line with Level 1 & 2 VicRoads Bridge inspection.	Yes	All	Make safe within 5 working days. Rectify within 90 days of inspection depending upon funding availability.
Utility Reinstatement, where Council undertakes the works on behalf of the Utility	Utility's temporary reinstatement works if it requires permanent completion by Council to ensure that the road asset integrity is restored.	Final reinstatement of pavement to match surrounding works and retain the pavement's structural integrity.	Rectification works to be programmed after receiving notification from the relevant Utility.	Notification by Utility.	All	Inspect within 40 working days. Program repairs.

Note: All works are dependent on annual budget allocations.

Appendix 5: - Pathway Defect Intervention Levels including Off-Road Bicycle Shared Pathways within the Road Reserve

Activity	Defect Type	Description of Work	Intervention Levels	Programmed Defect Inspection	Path Cat.	Target Rectification Response Time
Customer Requests	Safety issues	Responding to requests for action	Intervention requirement is an inspection to assess the extent of the request and determine 'appropriate' action. Necessary remedial action is referred to the relevant works program.	Not Applicable	All	Inspect within 48 hours
	Specific Incidents			Not Applicable	All	Inspect within 5 working days
	All other requests			Not Applicable	All	Inspect within 15 working days
Concrete/Paved/ Asphalt Pathway Replacement & Repairs	<u>Extreme Defect</u> Pathways that have cracks (greater than 10mm), displaced (greater than 30mm), collapsed, heaved, missing or sinking.	Patch/wedge with asphalt for temporary repair. Remove or replace bays/paving/asphalt section and match existing pathway surface level. Refer to annual program for funding.	Pathway has loose, missing or dislodged components. <ul style="list-style-type: none"> Displacements of greater than 30mm. Section is cracked/crazed when lips are greater than 10 mm apart. Heaved or sunken sections greater than 40mm. 	Yes	All	Extreme Defects to be temporarily repaired within 30 working days. Then program temporarily repaired works and undertake these repairs in conjunction with Major Defect types depending on available funding.
	<u>Major Defect</u> Pathways that have cracks (between 5mm to 10mm) and displaced (between 20mm to 30mm).	Remove or replace bays/paving/asphalt section and match existing pathway surface level. Refer to annual program for funding.	<ul style="list-style-type: none"> Section is cracked/crazed, when lips are between 5mm and 10 mm apart. Displacements between 20mm and 30mm. 	Yes	All	Program repair works and undertake Major Defect repairs in conjunction with temporarily repaired works depending on available funding.

Concrete/Paved/ Asphalt Pathway Replacement & Repairs (cont.)	<p><u>Minor Defects</u></p> <p><u>Grinding Defect</u></p> <p>Pathways that have displaced (between 10mm to 20mm).</p>	<p>Grind concrete bays to match existing pathway surface level.</p> <p>NOTE:- If concrete has been grinded before, program for removal/replacement.</p> <p>Remove and reinstate paving/asphalt section to match existing pathway surface level.</p> <p>Refer to annual program for funding.</p>	<ul style="list-style-type: none"> Displacements between 10mm and 20mm. 	Yes	All	<p>Program repair works and undertake repairs depending on available funding.</p> <p><u>Note:</u> Council will not grind asphalt or paved pathways.</p>
	<p><u>Minor Defect</u></p> <p>Pathways that have cracks (less than 5 mm) and displaced (less than 10 mm).</p>	<p>Minor Defects only picked up in conjunction with Services Asset Management Plan – “Pathways” Condition Inspection (Once every four [4] years).</p>	<ul style="list-style-type: none"> When lips are less than 5mm apart. Displacements less than 10mm. 	<p>Not Applicable</p> <p>(Minor Defects are only picked up in conjunction with Services Asset Management Plan – “Pathways” Condition Inspection.)</p>	All	<p>As these defects are below intervention levels, Council will take no action to repair.</p>

Note: All works are dependent on annual budget allocations.

Appendix 5: - Pathway Defect Intervention Levels including Off-Road Bicycle Shared Pathways within the Road Reserve (Continued)

Activity	Defect Type	Description of Work	Intervention Levels	Programmed Defect Inspection	Path Cat.	Target Rectification Response Time
Utility Reinstatement, where Council undertakes the works	Utility's temporary reinstatement works requires permanent reinstatement by Council.	Permanent reinstatement of pavement to match surrounding works and retain the pathway's structural integrity.	Rectification works to be actioned after receiving notification from the relevant Utility.	Notification by Utility.	All	Inspect within 40 working days. Program repairs.
Utility Assets	Damaged utility assets.	Notification to Utility Service Authority.	<ul style="list-style-type: none"> Council will notify the responsible Service Authority of a damaged utility asset within pathways if the owner of the asset can be identified. 	Yes	All	<p>For Defect Inspection. Notify Service Authority within 10 days after completion of inspection.</p> <p>For Customer Request (CRM). Notify the Utility within 5 working days.</p>
Unsealed Pathway Maintenance	Defective unsealed pathway Gravel pathway.	Remedial work to address hazard evident.	<ul style="list-style-type: none"> Subject to Customer Request (CRM), site determination by Council's Supervisor. Wherever practicable, use materials that match existing. 	Not Applicable	Not Applicable	Within 40 days of requests.
	Unformed 'track'.	No maintenance required.	Not Applicable	Not Applicable	Not Applicable	Not Applicable.

Note: All works are dependent on annual budget allocations.

Appendix 6: - Local Boundary Roads & Structures Maintenance Agreements with Adjoining Councils June 2013

Local Roads	Structure	Adjoining Council	Banyule Hierarchy Classification	Length (m)	Pavement Width (m)	Pavement Type	Maintenance Authority	Agreement Type
Weidlich Road (Karingal Drive to Progress Road)	Local Road	Nillumbik	Distributor	299	10.9	Sealed from kerb to kerb	Banyule	Type 'A'
Progress Road (Weidlich Road to Ryans Road)	Local Road	Nillumbik	Distributor	1159	12.3	Sealed from kerb to kerb	Banyule	Type 'A'
Ryans Road (Progress Road to Wattletree Road)	Local Road	Nillumbik	Distributor	1350	Nom 7.6	Sealed from kerb to kerb or kerb to shoulder and/or table drain.	Banyule	Type 'A'
Cherry Street (Waioara Road to Wungan Street)	Local Road	Darebin	Distributor	530	7.0	Sealed from kerb to kerb	Banyule	Type 'A'
Waioara Road (Ruthven Street to Cherry Street)	Local Road	Darebin	Distributor	618	9.5	Sealed from kerb to kerb	Banyule	Type 'A'
Plenty River Drive (Under Greensborough Bypass)	Local Road	Nillumbik	Sub-Arterial			Sealed from kerb to kerb	Banyule/Nillumbik	Type 'B'
Beales Lane (Across Proposed VicRoads Road)	Local Road	Nillumbik	Distributor			Sealed from kerb to kerb	Banyule/Nillumbik	Type 'B'
Aqueduct Road (Across Proposed VicRoads Road)	Local Road	Nillumbik	Distributor			Sealed from kerb to kerb or kerb to shoulder and/or table drain	Banyule/Nillumbik	Type 'B'
Bolton Street (Main Road to Sherbourne Road)	Local Road	Nillumbik	Sub-Arterial	1571	Nom 7.0	Sealed from kerb to kerb or kerb to shoulder and/or table drain	Nillumbik	Type 'C'
Bridges	Structure	Adjoining Council	Melways Location	Length (m)	Pathway Width (m)	Deck Type	Maintenance Authority	Agreement Type
**Dougharty Road – Tyler Street	Pedestrian Bridge	Darebin	19 E10	18.75	2.2	Concrete	Darebin	Type 'D'
**Olympic Park – Wood Street	Pedestrian Bridge	Darebin	19 C11	24.7	2.2	Timber	Darebin	Type 'D'
**Banksia Street – Dundas Street	Pedestrian Bridge	Darebin	31 C4	24	2.2	Timber	Darebin	Type 'D'
**Abercorn Avenue – Smith Street	Pedestrian Bridge	Darebin	31 C8	31	2.5	Concrete	Darebin	Type 'D'
**Rockbeare Park – Darebin Parklands	Pedestrian Bridge	Darebin	31 D9	5.0	1.0	Concrete	Darebin	Type 'D'
**Heidelberg Road – Darebin Parklands	Pedestrian Bridge	Darebin	31 D10	19	3.2	Timber	Darebin	Type 'D'

**These bridges are located within Parks Reserves and are the responsibility of the Darebin City Council to inspect and maintain.

Appendix 6: - Local Boundary Roads & Structures Maintenance Agreements with Adjoining Councils June 2013 (Continued)

Agreement Type:

'A'	Maintenance Authority: Routine maintenance activities of pavement between both kerb backs or shoulder and/or table drains (not all lengths have kerb both sides).
	Road Authority: Maintenance activities to road reserve/property boundary from back of kerb or shoulder and/or table drains is the responsibility of that Council on whose side it adjoins.
	Both Councils: Equal share of costs for significant maintenance costs as well as any capital works after consultation and mutual agreement to the proposed works.
'B'	Maintenance Authority: Routine maintenance activities from road reserve/property boundary to road reserve/property boundary up to the centre of the VicRoads Freeway Reserves for the adjoining Council.
	Both Councils: Equal share of costs for significant maintenance costs as well as any capital works after consultation and mutual agreement to the proposed works.
'C'	As for Type 'A' but arrangement is for cost sharing for specific works between the two councils. Maintenance activities behind back of kerb or equivalent by that Council on whose side it adjoins.
'D'	Maintenance Authority: Routine maintenance activities of the pedestrian bridge structures including inspections on behalf of the other council.
	Both Councils: Equal share of costs for significant maintenance costs as well as any capital works after consultation and mutual agreement to the proposed works.

Appendix 7: - Definitions

Asset - Is an item owned and/or managed by Council.

AAS27 - Asset Accounting Standard - Is financial accounting as it relates to assets.

Hierarchy - A framework for segmenting an asset base into appropriate classifications.

Asset Management - The combination of financial, economic, engineering management and other practices provided to maintain an asset at the required level of service.

Benchmarking - Measuring performance or practices against recognised industry standards.

Capital Evaluation Process - A process in Council's Capital Works Program where projects are evaluated according to certain criteria and prioritised for implementation.

Capital Expenditure – Creation of new assets or to increase the capacity of existing assets.

Components – Individual parts of an asset.

Continuous Improvement - A program of review of service delivery, procedures, practices and plans to assess and implement improvement opportunities.

Replacement - The cost of replacing the service potential of an existing asset, by reference to some measure of capacity, with an appropriate modern equivalent asset.

Geographic Information System (GIS) - A computer based mapping system used to manipulate, analyse and present information that is tied to a ground location.

Level of Service - Service level is standard to which an asset is maintained and relates to the quality, quantity, reliability, responsiveness, environmental acceptability and costs of related activities.

Maintenance - Activities necessary to retain an asset as near as practical to its original condition for it to reach its expected life.

- Periodic - sustains the design life of an asset.
- Routine/Programmed – condition monitoring activities used to predict failure.
- Preventive –reactive maintenance through notification of defects.

Pavement Management System (PMS) - An asset management (AM) system designed to model road condition data and provide the outputs for managing annual and long term maintenance activities.

Performance - A measure of a service or activity used to compare actual performance against a standard.

Rehabilitation - Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, (ie heavy patching of roads) without significant upgrading or renewal.

Renewal - Works to refurbish or replace existing facilities of equivalent capacity or performance quality.

Repair - Action to restore an item to its previous condition after failure or damage.

Replacement - Replacement of an asset that has reached the end of its life to an agreed level of service.

Risk Assessment - The process used to determine the level of risk against predetermined standards.

Risk Management - A management technique used to identify and analyse potential risks and responses.

Road Register - A detailed listing of roads for which Council (the Responsible Authority) is responsible for maintaining.

Strategy - A plan containing the long-term goals and strategies of an organization or function.