

Road Strategy

2015 -2019

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Introduction

Council maintains an extensive road network of sealed and unsealed roads. In order to provide a safe and efficient network Council must review its strategies regularly to ensure it continues to manage the network effectively.

Council provides a road network of 1,810kms, which consists of 956kms of sealed roads, 847kms of unsealed roads and a small amount of unpaved roads. Through a variety of policies, plans, and strategies this infrastructure is managed to ensure maximum life, of the various components of the road, is achieved, at minimal cost to the community.

This Strategy is to provide guiding principles and key strategic areas which influence all other plans, policies and strategies associated with the efficient and sustainable management of the road network within the Scenic Rim Region.

Strategy Context

This Strategy has been developed with consideration to the linkages with a range of strategic documents, legislation, guidelines and standards relating to Council's provision of road network.

The below figure shows the interconnection of the Road Strategy with other existing documents of Council.

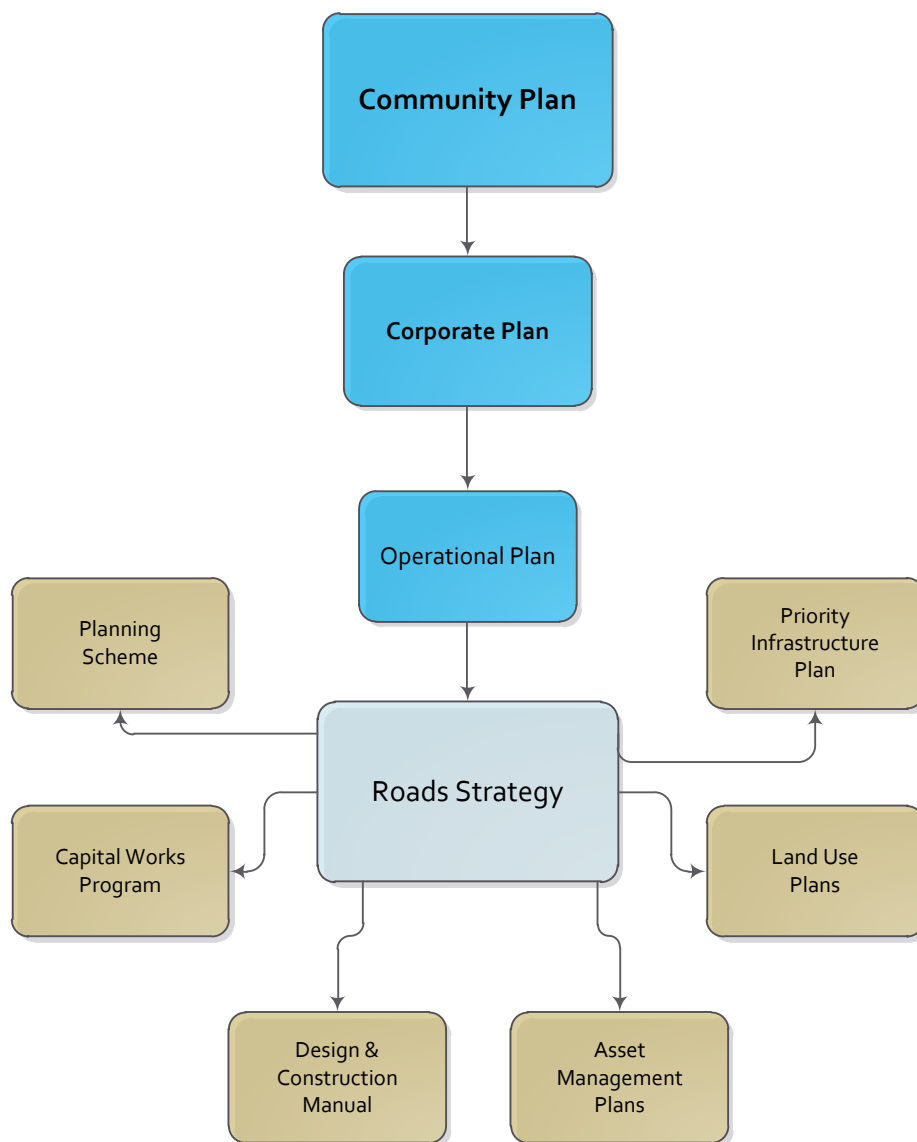


Figure 1. Strategy Plan linkages

Corporate Strategy Documents

The Scenic Rim Community Plan 2011 – 2026 has been prepared following extensive consultation with the community. It is the overarching Plan for the future of the Scenic Rim Region in that it “provides a shared vision and plan for the region’s future and will guide Council, other levels of government and community action on issues including the environment, economic development, social well being, infrastructure and governance.”

A theme in the Community Plan which focuses on Accessible and Served Region is appropriate to this Strategy. One of the outcomes in this theme is “Infrastructure and services keep pace with growth and changing needs and are compatible with our environment”.

The Corporate Plan Statement of Intent for Accessible and Served Region states “Council will provide and advocate for infrastructure and services in accordance with the prioritised needs of our growing community”. This Strategy must respond to assessment of the prioritised needs of the community. A Prioritisation Model is essential to assist in the development of project priorities.

Legislative Requirements

The *Local Government Act 2009* has been developed with the purpose to provide for “the way in which a local government is constituted and the nature and extent of its responsibilities and power; and a system of local government in Queensland that is accountable, effective, efficient and sustainable”

As defined in *Chapter 3 Part 3* of the *Local Government Act 2009*, a road is “an area of land that is dedicated to public use as a road; or an area of land that – is developed for, or has as one of its main uses, the driving or riding of motor vehicles; and is open to, or used by, the public; or a footpath or bicycle path; or a bridge, culvert, ford, tunnel or viaduct.”

The Act outlines the control of roads by Council, the ability to acquire land for a road, closure of roads, how Council may categorise roads, and unauthorised works on roads, amongst other items associated with roads.

In addition to the above State legislation there may be applicable legal or policy requirements under the common law, local government planning schemes, local laws and/or road and transport guidelines and codes.



Council Local Laws and Policies

Local Law No. 4 (Local Government Controlled Areas, Facilities and Roads) 2011, has the purpose to "protect the health and safety of persons using local government controlled land, facilities, infrastructure and roads; and preserve features of the natural and built environment and other aspects of the amenity of local government controlled land, facilities, infrastructure and roads." The Local Law achieves this by regulating access to roads, and prohibiting or restricting certain activities.

Further to *Local Law No. 4*, a number of Subordinate Local Laws are relevant to road use, these include *Subordinate Local Law No. 1.1 (Alteration or Improvement to Local Government Controlled Areas and Roads) 2011*, *Subordinate Local Law No. 1.2 (Commercial Use of Local Government Controlled Areas and Roads) 2011*, *Subordinate Local Law No. 1.7 (Gates and Grids) 2011*, *Subordinate Local Law No. 1.14 (Undertaking Regulated Activities on Local Government Controlled Areas and Roads) 2011*, *Subordinate Local Law No. 1.15 (Carrying Out Works on a Road or Interfering with a Road or its Operation) 2011*, *Subordinate Local Law 4 No. (Local Government Controlled Areas, Facilities and Roads) 2011*.

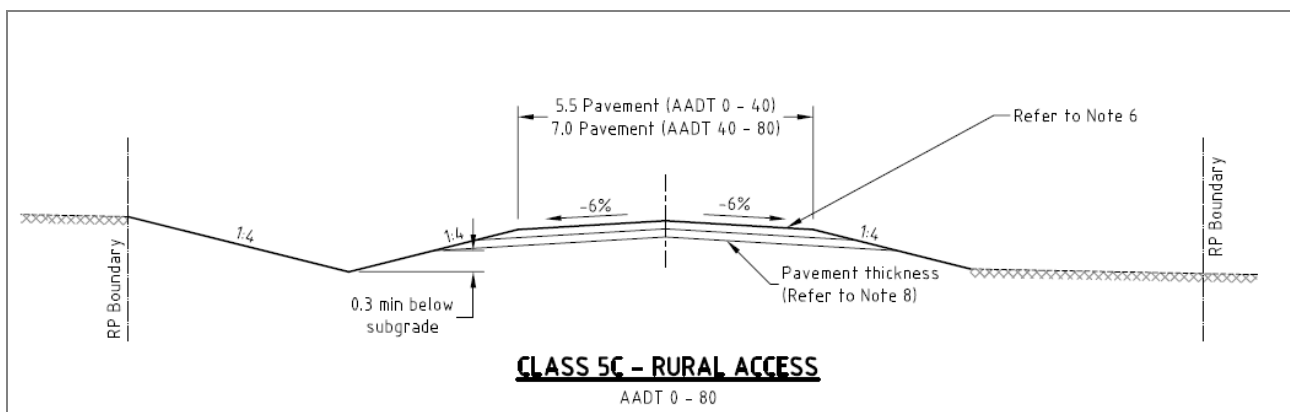
Council has adopted a policy on the Provision of Road Network, which outlines Council's position on a number of areas such as extensions to road network, road and street construction standards, road and street maintenance standards, signage and traffic control devices, stormwater infrastructure in road reserves, vehicles parking within road reserves, vegetation within road reserves, private access entrances, utility services within a road reserve, and works within a road reserve.

Council also has an adopted Road Closure Policy which outlines the Council's position on temporary road closures for special events, temporary or permanent road reserve closures, and road closures by local government (permanent or temporary).

Guidelines and Standards

The Austroads Guidelines are the standards used by Council for the design and management of the road network. Complementing the Austroads Guidelines, are ARRB (Australian Road Research Board) Guidelines and Council's Design and Construction Manual.

New roads are required to be designed and constructed in accordance with these standards and guidelines to ensure the community receives a safe and efficient network to current standards.



Notwithstanding the above technical documents, Registered Professional Engineers (Qld) assume full legal responsibility for all designs. This is a State legislative requirement, under the *Professional Engineers Act*.

Disaster Management

Management of stormwater from roads is controlled by stormwater drainage systems, to minimise the impact of runoff to both Council infrastructure and private property. Generally road infrastructure can only be provided to higher frequency events. The road network will not be available for use during lower frequency events such as natural disasters.

Recovery of the road network following natural disasters is prioritised based on community needs and levels of service. At times, due to funding restrictions, some of the road network may function at a lower level of service for a period of time.

The Natural Disaster Relief and Recovery Arrangements (NDRRA) are a joint funding initiative of the Commonwealth and State Governments to provide disaster relief and recovery payments for infrastructure restoration to help communities recover from the effect of natural disasters.

Following a declared disaster event, there is a period of emergent works whereby Council will rectify the priority areas of the infrastructure network to ensure the immediate safety and connectivity of the community. The remainder of the work to restore the road network to its previous level of function is completed in the restoration period, whereby Council assesses the damage, and submits proposals for approval under NDRRA Guidelines. Once approved, Council (or its contractors) complete the restoration of the network.



Town Planning

The preparation of the Region's Planning Scheme is an opportunity to promote the importance of a sustainable road network through land use planning.

Efficient land use planning must consider suitable network connectivity between different land uses, for now and into the future. Natural features such as ridges and gullies should be considered in the development and road network planning.

Development assessment plays a significant part in the process to ensure suitable alignment of roads. Pre-lodgement discussions with applicants (and their consultants) regarding subdivision layouts, are an opportunity to reinforce the road network layout of major and minor networks.

Conditions of development application approvals allow for the designers to achieve efficient development in terms of sustainable road networks.

Priority Infrastructure Plans

In accordance with the *Sustainable Planning Act 2009*, Council has developed Priority Infrastructure Plans (PIPs). A PIP is a plan for local government trunk infrastructure to service urban growth over a 15 year period. It provides a basis to understand upgrades, or potential trunk infrastructure, to support anticipated growth; and when it will be required.

The PIPs identify desired standards of service for the transport network. Infrastructure plans have been developed for some of the urban areas in the region.

This Strategy has the opportunity to inform the revision of the PIPs in regards to road network requirements for new development areas and the capacity of existing networks.



Asset Management Plans

Council has developed Asset Management Plans for all of the major infrastructure classes it manages. The Asset Management Plans underpin Council's approach to managing community assets, with the purpose of providing a strategic view of Council's assets in a way that promotes sustainable service provision. This is achieved by assessing the long term asset related funding requirements (demand) against proposed spending levels (expenditure). An overall funding shortfall in the planning period suggests service provision is not sustainable in the longer term, and appropriate action must be taken to reduce and ultimately close the gap.

The Roads Asset Management Plan (AMP) addresses the assets of sealed road pavements and surfaces, unsealed road pavements, and concrete kerb and channel.

The Roads AMP indicates the existing road asset base is not being renewed at the same rate at which it is degrading. This means that the current funding level does not match the demand in this asset class, and Council will determine through this strategy how to address this issue.

Increased funding of the asset class may be difficult to achieve, due to decreases in available grant money from both a Federal and State level which may have provided adequate funding in the past, as well as limitations on available funds through rate revenue and community affordability.

Council must continue to examine its operations and maintenance practices, as well as explore options to increase the life of the asset, and overall improvements to the whole of life costs.

Additionally, the level of service provided on the different classes of road requires review to further refine the demand for expenditure and renewal on different road classes.

Strategic Priority Areas

Strategic Priority Areas have been developed to address these needs.

The provision of a safe road network provides a link for visitors and residents to commute throughout the Scenic Rim Region.

In order to ensure the ongoing provision of such a network for all road users, it is necessary to manage the road network through a variety of documents, including a Road Strategy which outlines the key Strategic Areas of focus.

This Strategy covers the Strategic Priority Areas of:

Community Service Levels

- Ensure the road network provides a level of service that meets the needs of the community.

Road Network Infrastructure

- Provide a network of roads to service the range of needs of the community throughout the region in a sustainable manner.

Infrastructure Operation and Maintenance

- Ensure the constructed infrastructure operates in an efficient and effective manner to meet the service level expected of the infrastructure over the life of the asset.

Land Use Planning

- Ensure land use planning delivers development that has a focus on sustainable and efficient road networks.

Project Prioritisation

- Ensure renewal, upgrades and new road infrastructure projects are prioritised according to a risk mitigation approach.

Private and Utility Infrastructure in Road Reserve

- Ensure the installation of private and utility infrastructure in road reserves does not compromise the function and safety of the road.

Installation of Kerb and Channel

Strategic Priority Area 1: Community Service Levels

Ensure the road network provides a level of service that meets the needs of the community.

Community service levels must be established through defining the objectives which the road infrastructure must achieve and to link the design standards to these service levels.

Austrorads and ARRB provide guidelines on the assessment of the road infrastructure; and the Design and Construction Manual quantifies the design criteria, basis on the industry risk levels.

Strategies

- 1.1 Align levels of service with the road hierarchy to identify minimum acceptable service standards and desired service standards, for roads across the region.
- 1.2 Roads which meet the minimum acceptable service standard, and have a low crash history, are to be rehabilitated on current alignment and with the same seal width.
- 1.3 Roads which are required to meet the desired service standard are to be reconstructed to current standards based on their hierarchy.
- 1.4 New and reconstructed roads are designed and constructed in accordance with current industry and Council standards, as outlined in Council's Design and Construction Manual and Standard Drawings.

Strategic Priority Area 2: Road Network Infrastructure

Provide a network of roads to service the range of needs of the community throughout the region in a sustainable manner.

The provision of roads to service the demand of the road users is essential to ensure the sustainability of the road network. Whilst there may be a desire to bitumen seal every road within the region, this is not a sustainable option for a responsible asset owner to maintain and renew, given the funding levels and the communities ability to pay.

As such, roads are classified according to their use, and the associated functional class within a hierarchical approach. Each hierarchy class has a level of service to which Council aims to maintain the road. The class is based on the road function, while the level of service is determined by the design parameters such as pavement surface, width of road and ongoing life cycle needs.



New roads donated to Council through private development are required to be constructed to the relevant hierarchical class, which is determined based on the assessed function of the road.

There are a number of gazetted road reserves in the region which do not currently have Council maintained infrastructure within them. Council will not build roads in these road reserves; however will consider a request for the extension of the road network, and the subsequent construction of the road by the applicant, to Council standards. The road would then be added to Councils' Asset Register, and maintained by Council. Roads within road reserve that are not on the Register are not considered Council assets, and will not be maintained by Council.

Due to natural topography, some roads have in the past been constructed outside of the road reserve, or 'off alignment'. When Council becomes aware of these roads, consideration is given to realign the road, or to apply for a road closure and opening to ensure the infrastructure is within the reserve.

From time to time, when designing for renewal of a road, it may become apparent that to ensure a safe road network, the alignment of the road is required to change. This may be required to improve the safety of a corner, to realign an approach to a bridge, or for other safety reasons. In these cases, Council engages with the property owner to acquire the required section of land for road reserve.

Council is committed to working towards the best appropriate practice in asset management. An Asset Management Plan has been developed for the road network, which identifies a significant gap between the renewal requirements and the available funding for this asset class. One of the principles Council aims to achieve is to

determine and document the intervention point in the condition of a road where it is most beneficial to renew the asset. Intervening too early may result in the asset being renewed before it is required, and intervening too late may result in a higher expense to renew the asset. This is the result of the asset generally remaining in an acceptable condition for much of its life, but quickly deteriorating once it reaches a certain point, as demonstrated in Figure 2.

Generally, this intervention point can be associated with a condition rating of the road. Condition ratings are from zero to ten, with zero being a new road, and ten being an unusable road. Council currently aims to renew the road once it has reached condition rating number eight, with the aim of keeping the majority of assets within the range of four to eight when maintaining the roads (Figure 3). Renewal of a road pavement and seal will usually bring the condition back to zero.

The consumption of road is recognised financially through the use of depreciation expense which is based on condition rating. In acknowledgment of this process, it is important that the road conditions do not deteriorate beyond a reasonable condition level. If this is allowed to occur, the amount of depreciation expense significantly increases, and ultimately affects the operating surplus and therefore financial sustainability.

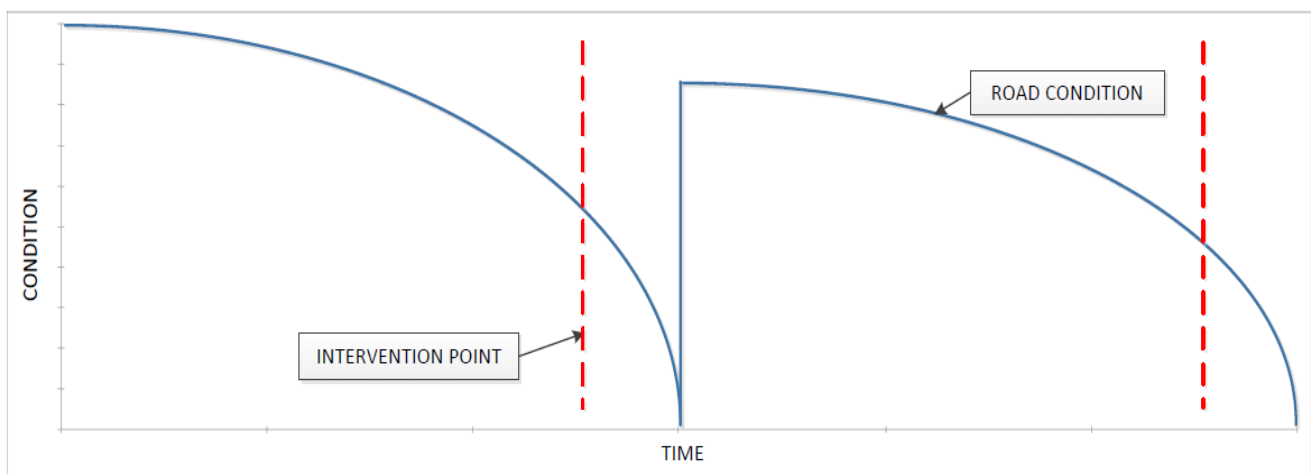


Figure 2. Road Asset Renewal / Rehabilitation Optimisation on the Condition Degradation Curve

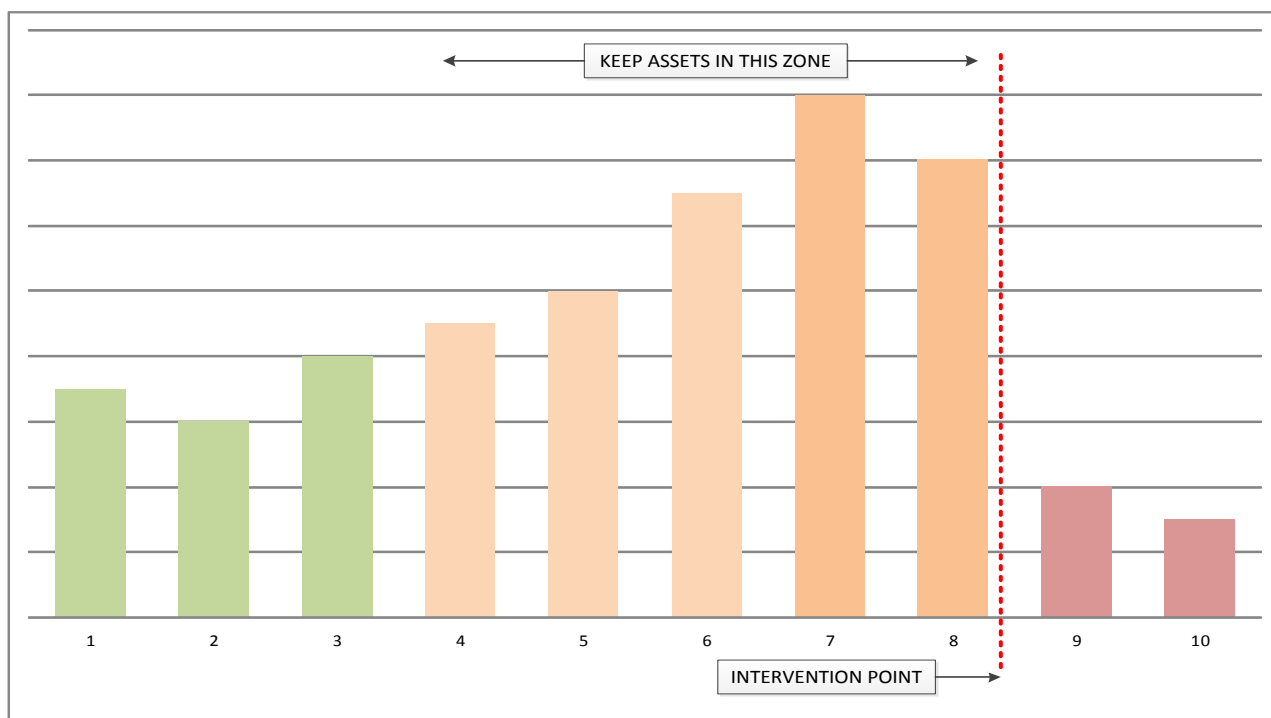


Figure 3: Preferred asset condition zone and intervention point for road assets.

Note: not actual data, see Roads Asset Management Plan for actual condition ratings.

Strategies

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| <p>2.1 Redefine the road hierarchy, to determine more suitably functional classes. Review the road hierarchy annually.</p> <p>2.2 Road classes and types within the network are upgraded to relevant functional classes on a prioritised basis.</p> <p>2.3 Council retains an Asset Register which lists all Council controlled roads.</p> <p>2.4</p> | <p>Revise Roads Asset Management Plans as appropriate to ensure the strategies are reflected in the investment plans.</p> <p>2.5 Recognise the current funding gap between the demand for renewal of roads and available funds, and determine delivery options for long term sustainability of the road network.</p> <p>2.6 Roads that are not within the road reserve are rectified through the realignment of either the road pavement or the road reserve.</p> <p>2.7 Requests for extensions to the road network are considered by Council and are to be constructed to appropriate standards.</p> |
|---|--|

Strategic Priority Area 3: Infrastructure Operation and Maintenance

Ensure the constructed infrastructure operates in an efficient and effective manner to meet the service level expected of the infrastructure over the life of the asset.

Road networks require regular operational and maintenance activities to maximise the life of the asset and reduce the whole of life costs.

The funding, required to maintain the service level, should be provided based on the condition level of the asset. Inadequate funding for maintenance and operations may result in the condition of the asset worsening beyond an acceptable service level, and consequently an increased renewal cost for the asset.

A Roads Maintenance Management Manual (MMS) has been developed to provide guidance and consistency for the programming and prioritisation of rectification of road defects in the region. It is envisaged that the manual will ultimately result in reducing the number of customer requests as inspections of the network will allow improved identification and programming of works.

Council operates under an accredited Quality Management System for the construction and maintenance of roads. The elements the Quality Management System covers include quality management, environmental management, forms, workplace health and safety management, and an operations manual.

Strategies

- 3.1 The Maintenance Management Manual for road infrastructure is reviewed annually.
- 3.2 Develop and implement an operational delivery plan to ensure road infrastructure conforms to achieve service levels. (e.g. signs visibility/vegetation management)
- 3.3 Develop and implement a maintenance inspection program and delivery plan to ensure defects are logged and rectified on a prioritised basis
- 3.4 The Quality Management System is reviewed and accreditation maintained.



Strategic Priority Area 4: Land Use Planning

Ensure land use planning delivers development that has a focus on sustainable and efficient road networks.

Land Use Planning is an appropriate tool to determine the function of roads within the network, and to provide suitable locations for future linkages between current and future development areas.

Planning for the future growth of the region allows the location of the road corridors to be determined, for both new roads, and any widening of existing roads. This is important to allow Council to secure the road reserves and to ensure the acceptable level of service from the road network is sustained.

The Priority Infrastructure Plans (PIPs) are the tools to determine the future road requirements as the region grows. It is critical that the outcomes of the PIPs are integrated with the Ten Year Capital Works Prioritised Program, the Roads Asset Management Plan, and the Long Term Financial Forecast to assist in the ongoing sustainability of Council.

Strategies

- 4.1 The Scenic Rim Regional Council Planning Scheme is developed with consideration of the principles and key actions of this strategy.
- 4.2 Development in the Scenic Rim region is managed to ensure a sustainable, planned road network is created.
- 4.3 Priority Infrastructure Plans are integrated with other strategic Council documents to ensure the road network is developed to meet community needs.

Strategic Priority Area 5: Project Prioritisation

Ensure renewal, upgrades and new road infrastructure projects are prioritised according to a risk mitigation approach.

As identified in Strategic Priority Area 3: Road Network Infrastructure, there currently a gap exists between the renewal demand of the current road network and the available funding.

The actions in this strategy are intended to mitigate the gap as far as possible; however there remains a need to prioritise the renewal, upgrade, and new works based on risk assessment of the network to determine which roads will remain within the acceptable service level.

A project prioritisation model has been developed which assesses the road based on the hierarchy class, pavement condition, seal width, and road geometry. These categories are ranked, and from these rankings the 10 Year Capital Works Program is developed.

A copy of the current model and the 10 Year Capital Works Program, developed on this model, is included within this Strategy, Appendix 2.

Strategies

- 5.1 Determine criteria for prioritisation of projects in the range of classifications of roads as determined from the road hierarchy.
- 5.2 Review the road infrastructure project prioritisation model on an annual basis.
- 5.3 Undertake an annual reassessment of the 10 Year Capital Works Program based on the revised project prioritisation models.
- 5.4 The Reseals Program methodology is reviewed annually to ensure correct prioritisation of roads for reseal and rehabilitation.

Strategic Priority Area 6: Private and Utility Infrastructure in Road Reserve

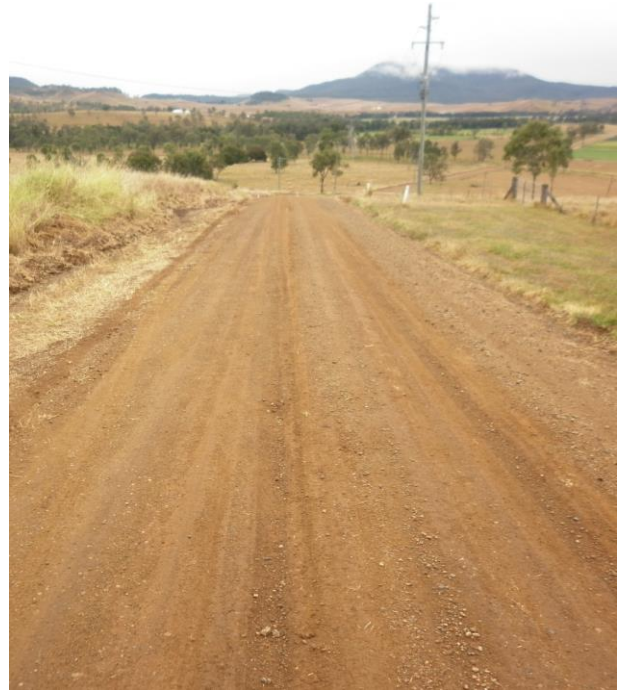
Ensure the installation of private infrastructure in road reserves does not compromise the function and safety of the road.

The installation of private infrastructure within a road reserve has implications for Council. These implications include public safety, liability in the case of an accident, visual impact in terms of the regions image, visual amenity and visibility, as well as potential practical implications on maintenance and access, and strategically in terms of the road network management. A poorly placed structure within the road reserve may restrict Council's ability to provide an adequate level of service from its road network.

Examples of infrastructure in road reserve include:

- Mailboxes
- Roadside memorials
- Gates and grids, fencing
- Property accesses
- Private pipelines and conduits
- Entry statements to residential developments
- Raised structures for outdoor dining
- Shop awnings and fixtures

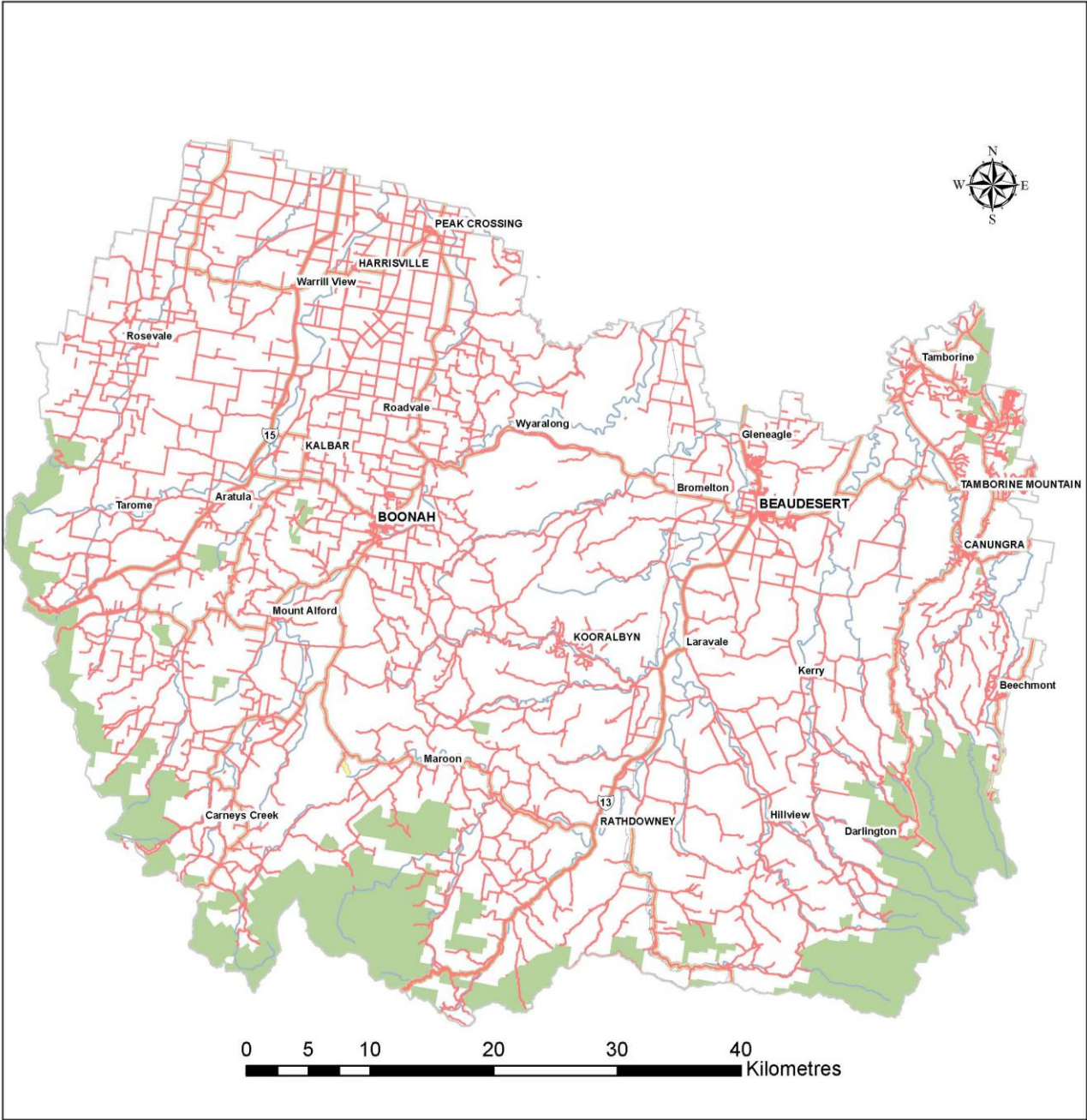
Council regulates infrastructure within road reserves through Local Laws, Subordinate Local Laws, and the subsequent application and approval processes. This ensures appropriate controls and standards for the installation of private infrastructure in road reserves, that private infrastructure does not adversely impact on Council infrastructure within road reserves, protection to the public from damage that may be incurred from the installation of private infrastructure, and protection of the visual amenity and nature of the region.



Strategies

- 6.1 Ensure road and transport assets maintain their service levels by monitoring the current and potential impact of private infrastructure in road reserves through the use of standards for private infrastructure and the permit process.
- 6.2 Ensure safe passage by users of the road network through standards and permits, to allow only safe structures within the road reserve.
- 6.3 Develop a monitoring and inspection process, based on self-assessment of private infrastructure, in road reserves on a risk management approach.

Appendix 1 – Roads Map



Appendix 2 – Road Prioritisation Models and 10 Year Capital Works Program

Sealed Road Prioritisation Model

The Sealed Road Prioritisation Model is based a set of weighted criteria. These criteria include:

- Road Function and Class
- Pavement Condition
- Service Level
- Road Geometry (Safety)

Projects are assessed against these criteria (category) according to ranking, and given a Category Score (Ranking x Weighting = Category Score). An aggregate of the weighted category score is then given an overall project score. Projects are then ranked based upon the overall project score.

Category	Ranking	Description	Weighting
Road Function and Class	4	4a Collector	1
	3	4b Connector	
	2	5a Access	
	1	5b and less Access	
Pavement Condition	6	Pavement Condition rating 9 or higher	1
	5	Pavement Condition rating 8 to < 9	
	4	Pavement Condition rating 7 to < 8	
	3	Pavement Condition rating 6 to < 7	
	2	Pavement Condition rating 5 to < 6	
	1	Pavement Condition rating 5 or less	
Service Standard	4	Does not meet minimum acceptable road cross section (by more than 1 metre)	1.5
	3	Does not meet minimum acceptable road cross section (by 1 metre or less)	
	2	Meets minimum acceptable road cross section	
	1	Meets desirable road cross section	
Road Geometry (Safety)	5	Road Geometry rating > 5	1
	4	Road Geometry rating 4 < 5	
	3	Road Geometry rating 3 < 4	
	2	Road Geometry rating 2 < 3	
	1	Road Geometry rating 1 < 2	
	0	Road Geometry rating 0 < 1	

Unsealed Pavement Capital Works Program (Resheeting)

Category	Ranking	Description	Weighting
Pavement Condition (Visual Assessment)	4	Requires gravel minimal to no gravel present	NA
	3	Requires gravel minimal gravel present	
	2	Monitor may need gravel within 12 to 24 months	
	1	Near new no gravel required	

Note gravel roads classes 5e, 5f and 5g generally would only receive spot gravelling under Road Maintenance Budget.

Seals Capital Works Program (Reseals)

All Capital Projects that have not received a final coat seal are included on the program.

Then a list of potential seal sites is compiled using the following criteria:

1. Seals Condition Rated 6 to 8 are complied.
2. Pavement condition > 8.5 are not considered for reseals.
3. Road sections consisting of greater than 30% pavement failure will be excluded.

The list will be generated for each road class with those seals on higher classes of roads placed on the program first.

A visual assessment is undertaken to confirm the reseal need and provide preliminary reseal preparation estimates.

Note: Asphalt surfacing will be considered in urban areas where pavements in very good condition exist.