

# Road Management Strategy



Adopted by Council: 8 May 2024

Resolution Number: 2024/087

**Narromine Shire Council**

## Document Control

Rev	Description	Created by	Date
1.0	Document Created	EMC	June 2013
2.0	Document updated following community consultation	EMC	
3.0	Document updated following restructure		
4.0	Document reviewed, formatted and updated based on current guidelines and information – DRAFT Document issued for public exhibition.	AP	July 2022
5.0	Document updated and modified after community consultation and streamlining document. Some content was relocated in appendices.	MS	May 2024

## Contents

1	Introduction .....	4
2	Roads Classifications in NSW .....	6
3	Legislative Requirements .....	7
4	Roles and Responsibilities .....	8
5	Stakeholders.....	11
6	Asset Planning And Asset Lifecycle .....	13
7	Narromine Shire Council's Town Streets.....	16
8	School Bus Routes.....	18
9	Narromine Heavy Vehicle Route.....	70
10	Road Hierarchy Definitions.....	71
11	Temporary Closure Of Public Roads .....	73
12	Road Maintenance.....	73
13	Identifying And Prioritising Road Works.....	74
14	Operations .....	79
15	Levels Of Service .....	85
16	Implementation .....	97

Appendix A - Road Hierarchy

## 1 Introduction

This Roads Management Strategy (the Strategy) has been developed to ensure the operational functions of Council are in line with:

- The legislative requirements such as the NSW Roads Act 1993, and Roads Regulations 2008;
- Relevant guidelines and standards to ensure a consistent and industry adopted approach in terms of road planning, road design, road construction and road maintenance;
- Strategic directions adopted by Narromine Shire Council Asset Management Strategy, Asset Management Plans and Long-Term Financial Plans;
- Community (Residential, Commercial and Industrial) needs and expectations;
- NSW Government Future transport Strategy 2056; and
- Draft Central West and Orana Regional Transport Plan, October 2021

This Strategy describes how Council manages its road network to ensure that Council has a consistent, clear and sustainable approach to its road management and roads operations.

It principally addresses matters relating to roads and streets which are the responsibility of Council as the Roads Authority, these include:

- Regional Roads;
- Local Rural Roads;
- Local Urban Streets;
- Bridges and culverts; and
- Other ancillary infrastructure (roadside drainage, signs, line marking, traffic islands, pedestrian crossings, guard rails, etc.).

The Strategy provides a transparent sustainable management approach for Narromine Shire Council to construct and maintain roads under its control which reflect the needs of the community as the road network authority, to provide infrastructure that allows safe, convenient and comfortable travel to, from, and within the Region. This involves both maintaining existing roads and planning for future improvements. This Strategy seeks to consolidate and define a number of procedures such as:

- Roles and responsibilities for different departments within Council;
- Road hierarchy descriptions, standards and requirements;
- Customer query, complaint, and request management;
- Frequency based inspection regimes;
- Programmed maintenance and intervention standards;
- Capital works identification and prioritisation;

- Levels of service and response guidelines for defects;
- Reporting guidelines, content and audience; and
- Implementation and quality control of road work.

The Local Government Area will experience significant growth in the future as a result of the construction of Inland Rail (requiring temporary accommodation, haul roads, etc.), various developments within the Local Government Area and expansion of the mine at Tomingley, and development.

Further to this, growing attention to extreme weather events and the long-term impacts of climate change have begun to focus efforts nationally and internationally on the ability of society and infrastructure to adapt to and recover from future changed conditions and associated disasters. The term "*resilience*" has generally come to represent this adaptation/recovery ability. In the last decade, resilience has become a priority consideration in the planning, design, construction, operations, and maintenance of infrastructure.

In the transportation sector, a shift in focus has begun to develop guidance on how scientific climate change predictions can be expected to impact transportation infrastructure and operations. More recently, this guidance has included how resilience can be integrated into infrastructure as a means to address both long-term climate change impacts and short-term extreme events.

It is Council's objective to have all roads with hierarchy 1-3 fully sealed by 2050.

## 2 Roads Classifications in NSW

### State Roads

State Roads have the followings function in NSW:

- Links major commercial, industrial and residential areas and distribution centres and ports within the Sydney, Newcastle, Wollongong and Central Coast urban centres;
- Links major NSW towns (pop. 10,000-100,000) with the Sydney, Newcastle, Central Coast and Wollongong urban centres;
- Link major NSW towns with each other where there is significant interaction; and
- Links major regions throughout the State with each other.

### Regional Roads

Regional Roads have the following functions in NSW:

- Links smaller towns within the State Road network;
- Connects smaller towns with each other;
- Performs a sub-arterial function in major urban centres by:
  - Supplementing the State Road network for significant intra- urban flows; and
  - Providing access for significant flows to other commercial and industrial centres.
- Provides access from the State Road network to major recreation and tourist areas of State significance;
- Provides a town or suburban centre relief route for significant flows of through traffic, especially freight vehicles;
- Provides access for significant flows of freight vehicles to major rural intermodal interchanges and urban distribution areas.

The above list is the broad summary of the criteria and there are additional tests for function that are too numerous to provide in this Strategy.

### Local Roads

Local Roads has the following function:

- Provide for local circulation and access

Local roads are the responsibility of Councils to fund, determine priorities and carry out works.

The State Government provides only limited assistance under special programs (e.g. Urban Bus Routes) for local roads.

The Federal Government has a long-standing role in providing road funds to councils. In 2000, the Federal Government introduced the Roads to Recovery Program to provide additional funding to councils. Councils have discretion to use their Federal funds for works on any category of road. More information about road classification can be found on Transport for NSW's website.

### 3 Legislative Requirements

The following is a summary list of legislation and Acts that are applicable to the Roads Assets at Narromine Shire Council, but not limited to:

- Local Government Act, 1993;
- Roads Act, 1993;
- Roads (General) Regulation 2018;
- Biodiversity Conservation Act, 2016;
- Environmentally Hazardous Chemicals Act 1995;
- Environmentally Hazardous Chemicals Amendment Act 1996;
- Environmental Planning and Assessment Act 1979;
- NSW Work Health and Safety Act 2011;
- Mine Health and Safety Act 2004;
- Dangerous Goods Act 1975; and
- All regulations, awards, codes and/or guidelines pursuant to any of such Acts and any enactments in lieu of such Acts as may be repealed.

## 4 Roles and Responsibilities

A description of inter departmental roles and responsibilities are presented in Table 1.

Table 1 Inter-departmental roles and responsibilities

Description	Role	Responsibility
Councillors	<p>Determine level of service, and needs of the community.</p> <p>Approve and give concurrence to policies, budgets and planned projects.</p>	<p>Review all considerations and make decisions.</p> <p>Actively participate at relevant Section 355 Committees or working groups.</p>
Mayor		<p>Ensure decisions are made by councillor concurrence.</p> <p>Lobby for support at all levels of Government.</p>
General Manager	<p>Ensure Council staff are aware of their roles and responsibilities with regards to roads planning and operations</p>	<p>Implement decisions of council.</p>
Director of Finance and Corporate Strategy	<p>Ensure staff are aware of their responsibility, and have appropriate skills and qualifications.</p>	<p>Advise what funding is available for Capital and Operating budgets</p> <p>Manage funding revenue and expenditure reporting.</p>
Director of Infrastructure and Engineering Services	<p>Ensure staff are aware of their responsibility, and have appropriate skills, competencies and qualifications.</p>	<p>Identify works and operational programs in consultation with various stakeholders and management plans for implementation</p> <p>Ensure relevant documentation and strategies are reviewed and updated to align with best practice, market trends and current technology while satisfying Council's risk appetite.</p> <p>Ensure allocated projects are delivered on time, to specified quality and budget.</p> <p>Communicate priorities to</p>



Description	Role	Responsibility
		<p>Councillors and the general public.</p> <p>Provide scopes and budgets for projects</p>
<p>Director Community &amp; Economic Development</p>	<p>Ensure staff are aware of their responsibility, and have appropriate skills, competencies and qualifications</p>	<p>Assist with grant applications or other funding sources in consultation with the Director of Infrastructure and Engineering.</p> <p>Assist with public consultation</p>
<p>Manager Infrastructure Delivery</p>	<p>Management of the engineering side of road infrastructure operation, maintenance and capital works.</p>	<p>Allocated projects delivered on time, to specified quality and budget.</p> <p>Operations are constantly reviewed in line with current best practice and working environment.</p> <p>Set maintenance programs and address immediate safety concerns</p>
<p>Manager Engineering Services</p>	<p>Responsible for design of capital works, preparation of detailed project plans, monitoring and control of project quality and delivery.</p>	<p>Detailed planning and design, signing off when project milestones are achieved.</p> <p>Investigation and prioritisation of projects. Preliminary planning and costing</p>
<p>Roads Supervisor</p>	<p>Deliver project plans and project scoping</p>	<p>Day to day project management, supervision and leadership of crews and contractors on site.</p>
<p>Civil Designer</p>	<p>Design support</p>	<p>Project investigations, prepare cost estimates, and scope of work from which a detailed plan can be formulated.</p>
<p>Asset Inspector</p>	<p>Conduct inspections and recommend corrective actions.</p>	<p>Planned condition assessment inspections, traffic count, visual inspections.</p> <p>Asset management data capture and recording</p>

## **Engineering Services**

Engineering Services (ES) has a role in the asset management across all categories of Council assets. In the roads space ES is responsible for:

- The strategic planning of the road network;
- Determination and allocation of budgets for capital works (new and renewal) under the guidance of Finance and Corporate Strategy;
- Grant funding applications to relevant State and Federal roads agencies as well as through the assistance of the Economic Development section to other external funding streams;
- Inspection of network to determine asset performance, condition, replacement and maintenance;
- Creation of Capital Works and Maintenance Programs in consultation with the Infrastructure Delivery group;
- Supporting the relevant sections with Asset Revaluations;
- Financial reporting and acquittal of grants with assistance from the Finance Section; and
- Capturing and recording relevant financial and Asset Management Information System (AMIS) for reporting.

## **Infrastructure Delivery**

The Infrastructure Delivery team is responsible for:

- Implementing the asset management plans prepared by the ES;
- Implementation of relevant works programs; and
- Recording of relevant data in the Asset Management Information System

## 5 Stakeholders

The table below shows the relevant stakeholders and key engagement requirements.

Stakeholder	Stakeholder matters	Key messages	Engagement from Council
<b>State and Federal Government</b>	Provide funding Create and uphold legislation	Council's grant applications to meet set criteria and be submitted on time. Equitable distribution of funds between local government areas.	Project updates. Local Traffic Committee Meetings. Road Safety Audits.
<b>Councillors</b>	Have a say in proposed strategy. Endorsement of Strategy and Council's long term program of work. Create awareness and supports the implementation of this Strategy.	This Strategic plan is a communication tool and a pathway to a sustainable network The plan determines what is required and the priority of the work. Regular benchmarking and quality management. KPI's measured ensures Council is getting value for money. There is a strategy, and a fair planning	Council reports Staff engagement, Councillor Workshop Asset Management Plans Long term financial plans
<b>Residents and Commercial Businesses</b>	Provide feedback on current road state and preferred road state. Obey all road rules, including road closures and weight restrictions	Participate in community consultation, including strategy feedback "All weather service" regardless of location. Responsiveness to request for service.	Community consultation.
<b>Council staff</b>	Provide feedback into strategy Provide information to the public as needed. Undertake works to deliver the planned works program	This Strategic plan is a communication tool and a pathway to a sustainable fair network with no extra burden to residents, business, or industry within financial constraints of Council. The system determines what is required and the priority of the work. Regular benchmarking and quality management. KPI's	Engineering and Assets team reviews, Councillor workshop.

## 5.1 Community Needs

Road use purpose can loosely be divided into the following categories.

- **Residents** – Utilise urban roads, desire smooth roads to reduce noise, minimal heavy vehicle movement and are aesthetically pleasing. Additionally local residents desire streets that enhance vehicular, pedestrian and bicycle safety, and maintain mobility and access to critical areas of the town including shopping precincts, food eateries and medical facilities.
- **Commercial / Industrial Sector** - To aid the operation of business in general, the commercial / industrial sector requires roads that are aesthetically pleasing, enable easy and safe access to and from their business, provide sufficient parking to potential customers, and provide safe pedestrian access to their premises.
- **Agriculture** - To aid the operation of business in general, the agriculture sector requires roads that are trafficable in all weather, have pavement that can withstand high heavy vehicle traffic and allow connectivity to agricultural hubs. Agricultural users also require roads to be sufficiently wide and bends appropriately formed to enable long vehicles including road trains to travel safely. Bypasses around towns and away from urban areas are important to this user group.
- **Visitors** - Visitors require safe roads that minimise delays and an aesthetically pleasing township.

## 6 Asset Planning And Asset Lifecycle

### General

Transport for NSW (TfNSW) is the Responsible Road Authority for funding and managing the arterial road network (State Roads) that passes through Narromine Shire which consists of:

- Mitchell Highway (National Route 39) and its corresponding road reserve,
- Newell Highway (National Route 32) and its corresponding road reserve,
- Manildra and Culling Streets and their corresponding road reserve.

Narromine Shire Council would in the future like to transfer the a number of roads to State jurisdiction, these are shown in Table 3.

Table 3 Proposed roads for reclassification

Road Name	Proposed Status	Current Status	Length (km)	Average Annual Daily Traffic (AADT)	% Heavy Vehicles
Peak Hill Rd (MR 89)	State	Regional	37.5	1019	35
Warren Rd	State	Local	0.7	TBA	TBD
Eumungerie (MR 572)	State	Regional	34.77	770	46
Trangie-Dandaloo (MR 347 D)	State	Regional	31.09	423	25
Trangie- Collie (MR 347 C)	State	Regional	44.66	695	25
Tullamore Road (MR 354)	State	Regional	41.18	787	48
Gainsborough <sup>1</sup>	Regional	Local	1.8	Approx. 787	Approx. 48

<sup>1</sup> Gainsborough Road has been identified to be upgraded to convey heavy vehicles from Tullamore Road to Tomingley / Peak Hill Road (MR 89) through Narromine.

Narromine Shire Council is the Responsible Road Authority for managing the remaining road network within the Narromine shire boundaries. Narromine's Road network is classified into 3 categories:

- State Roads managed by Transport for NSW with capital works funded by the State Government;
- Regional Roads managed by Council with capital works majority funded by State Government while maintenance works are funded by Council;
- Local Roads managed by Council and majority funded by Council with some federal assistance.

Generally, Town Streets (Narromine, Trangie, and Tomingley) are managed and funded entirely by Council.

Council's Road Register includes details of public roads for which Council is responsible. Council is generally responsible for the overall management and development of the Council's local road network. Council does not maintain privately owned roads.

Inspections of the road network form the cornerstone of the maintenance or renewals program and are undertaken on a regular basis to ensure that the road assets are being maintained in an appropriate manner and that adopted intervention levels are being met.

## **Sustainability**

Consideration must be given to reduce dependence on non-renewable natural resources such as gravel.

A circular economy that uses a systems-focused approach and involves industrial processes and economic activities that are restorative or regenerative by design, enable resources used in such processes and activities to maintain their highest value for as long as possible, and aim for the elimination of waste through the superior design of materials, products, and systems (including business models) should be adopted. It is a change to the model in which resources are mined, made into products, and then become waste. A circular economy reduces material use, redesigns materials to be less resource intensive, and recaptures "waste" as a resource to manufacture new materials and products.

Council is committed to utilizing sustainable material and products where possible and is constantly reviewing new technologies and procedures to increase operational sustainability.

## Gravel

Council has identified a number of source within the LGA to source gravel for road construction. Council is the owner and operator of the following gravel pits.

*Table 1: NSC owned and operated gravel pits*

<b>Quarry</b>	<b>Comment on status, operation and products</b>	<b>Comment on ability to supply materials</b>	<b>Lot and DP Number</b>
Collyburl	Borrow pit	Medium, used in road renewal/ restoration where appropriate.	Lot 1 DP 117366
Fairview	Quarry	Medium, no recent workings or stockpiles evident	Lot 46 DP 755105
Merrylands	Borrow pit, weathered granite	Limited, further exploration required to define resource	Lot 39 DP 755121
Lot 90	Quarry	High, based on neighbouring Macquarie Manor operation. No workings yet. Recently obtained confirmation regarding land- use.	Lot 90 DP 727134

## 7 Narromine Shire Council's Town Streets

The table below lists all the town streets within the Local Government Area.

Table 16 Town streets within the Narromine LGA

Town	Road Name	Road Number	Town	Road Name	Road Number
Narromine	FIRST AVENUE	301	Narromine	FIFTH AVENUE LANE WAY	361
Narromine	SECOND AVENUE	302	Narromine	THIRD AVENUE LANE WAY	362
Narromine	THIRD AVENUE	303	Narromine	DANDALOO STREETLANE WAY	363
Narromine	FOURTH AVENUE	304	Narromine	MERILBA STREET LANE WAY	364
Narromine	FIFTH AVENUE	305	Narromine	TEMOIN STREET LANE WAY	365
Narromine	SIXTH AVENUE	306	Narromine	MERYULA STREET LANE WAY	366
Narromine	A'BECKETT STREET	307	Narromine	ALAGALAH STREET LANE WAY	367
Narromine	ALGALAH STREET	308	Narromine	MANILDRA STREET LANE WAY	368
Narromine	OLD BACKWATER ROAD	309	Narromine	BOOTH STREET LANE WAY	369
Narromine	BIRCH STREET	310	Narromine	CULLING STREET LANE WAY	370
Narromine	BOOTH STREET	311	Narromine	ELLENGERAH STREET LANE WAY	371
Narromine	BURRAWAY ST	312	Narromine	KINGSFORD SMITH PLACE	372
Narromine	CATHUNDRIL STREET	313	Narromine	NANCY BIRD-WALTON DRIVE	373
Narromine	COMMODORE CRES	314	Narromine	EWEN WAY	378
Narromine	CULLING ST	315	Narromine	POWELL PLACE	379
Narromine	DANDALOO ST	316	Narromine	HAYDEN CIRCUIT	377
Narromine	DAPPO RD	317	Narromine	MURGAH STREET	375
Narromine	DAVIS DRIVE	318	Trangie	ALBERT STREET	401
Narromine	DERRIBONG AVE	319	Trangie	ALLEN STREET	402
Narromine	DERRIBONG ST	320	Trangie	BELGROVE STREET	403
Narromine	DUFFY STREET	321	Trangie	BIMBLE BOX LANE	404
Narromine	ELLENGERAH STREET	322	Trangie	BURRAWAY STREET	405
Narromine	ELM CLOSE	323	Trangie	CAMPBELL STREET	406
Narromine	GARDEN AVENUE	324	Trangie	CROUDACE STREET	407
Narromine	INDUSTRY AVENUE	325	Trangie	DANDALOO STREET	408
Narromine	JERRY SMITH STREET	326	Trangie	DERRIBONG STREET	409
Narromine	KURRAJONG PARADE	327	Trangie	ENMORE STREET	410



Town	Road Name	Road Number	Town	Road Name	Road Number
Narromine	MACQUARIE DRIVE	328	Trangie	GEORGE STREET	411
Narromine	MANILDRA STREET	329	Trangie	GOAN STREET	412
Narromine	MAPLE CRESCENT	330	Trangie	HARRIS STREET	413
Narromine	MERILBA STREET	331	Trangie	JOHN STREET	414
Narromine	MERINGO STREET	332	Trangie	MCLEAN STREET	415
Narromine	MERYULA STREET	333	Trangie	MULLAH STREET	416
Narromine	MINGELO STREET	334	Trangie	MUNGERY STREET	417
Narromine	MINORE STREET	335	Trangie	NICHOLAS STREET	419
Narromine	MOSS AVENUE	337	Trangie	POINCAIRE STREET	420
Narromine	MURGAH STREET	338	Trangie	SWIFT STREET	421
Narromine	NELLIE VALE	339	Trangie	VICTOR STREET	423
Narromine	NYMAGEE STREET	340	Trangie	WEEMABAH STREET	424
Narromine	OAK CRESCENT	341	Trangie	ENMORE STREET LANE WAY	425
Narromine	PAYTON CLOSE	342	Trangie	MULLAH STREET	426
Narromine	PEGALE PLACE	343	Trangie	SWIFT STREET	427
Narromine	SCOTT COURT	344	Trangie	WEEMABAH STREET LANE WAY	428
Narromine	SHORT STREET	345	Trangie	MACLEAN DRIVE LANE WAY	429
Narromine	SUNGIFT AVENUE	346	Trangie	GOAN STREET LANE WAY	430
Narromine	TANCRED STREET	347	Trangie	DANDALOO STREET LANE WAY	432
Narromine	TEMOIN STREET	348	Trangie	VICTOR STREET LANE WAY	433
Narromine	TERANGION STREET	349	Trangie	NARROMINE STREET LANE WAY	434
Narromine	TRANGIE ROAD	350	Tomingley	BIRIDOO STREET	441
Narromine	WATTLE CRESCENT	351	Tomingley	BUDGERIE STREET	442
Narromine	WARREN RD	352	Tomingley	BURRELL STREET	443
Narromine	WRIGHT ROAD	353	Tomingley	GENANAGIE STREET	444
Narromine	CROSSLEY DRIVE	355	Tomingley	GUNDONG STREET	447
Narromine	BOWDEN FLETCHER	356	Tomingley	MERILBA STREET	445
Narromine	TOM PERRY	357	Tomingley	MYALL STREET	446
Narromine	SIXTH AVENUE LANE WAY	360	Tomingley	YAROBIL STREET	448

## 8 School Bus Routes

School bus routes will be confirmed every 4 years, with new routes added and routes no longer in service removed. The map below shows current school bus routes.

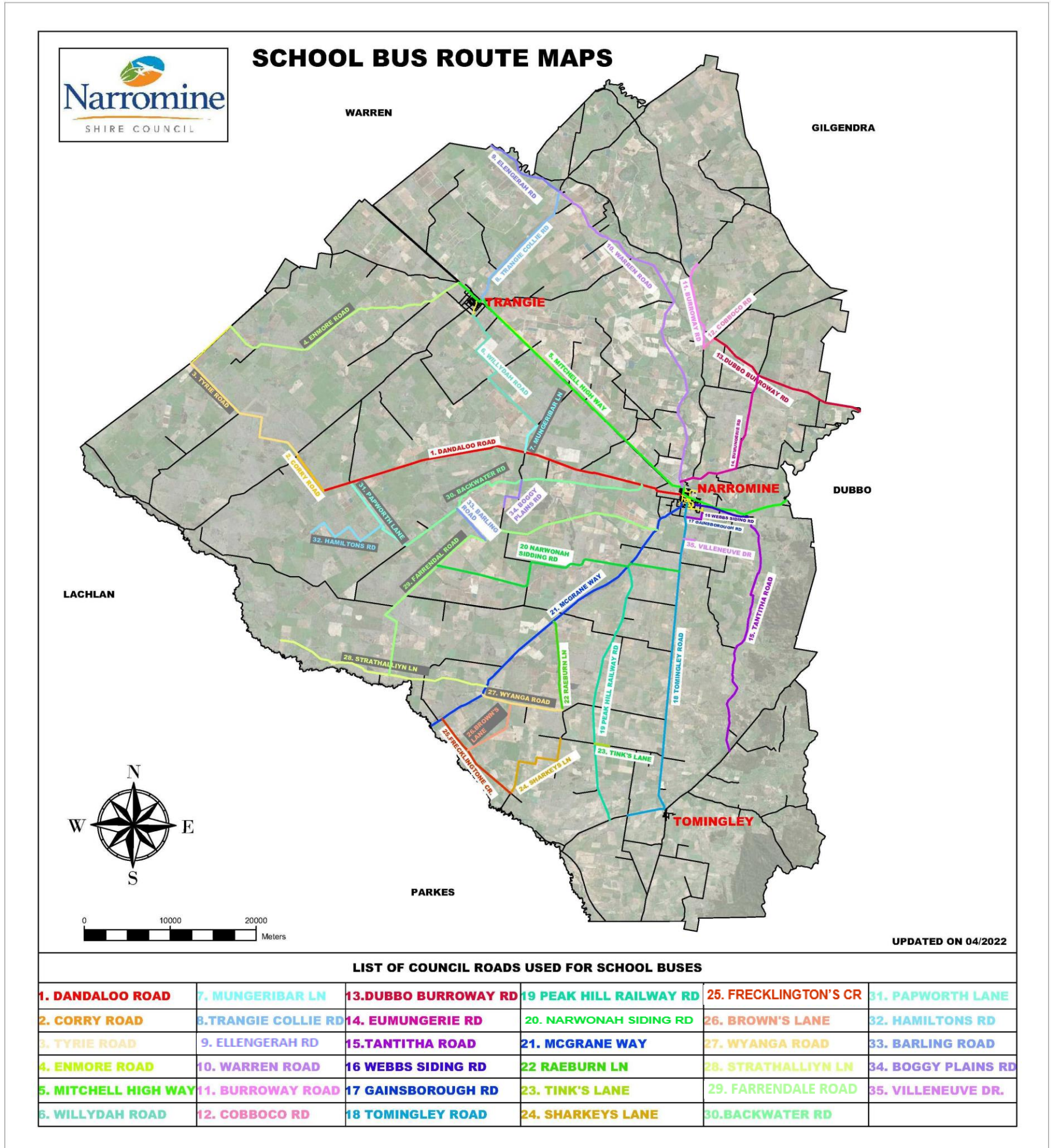


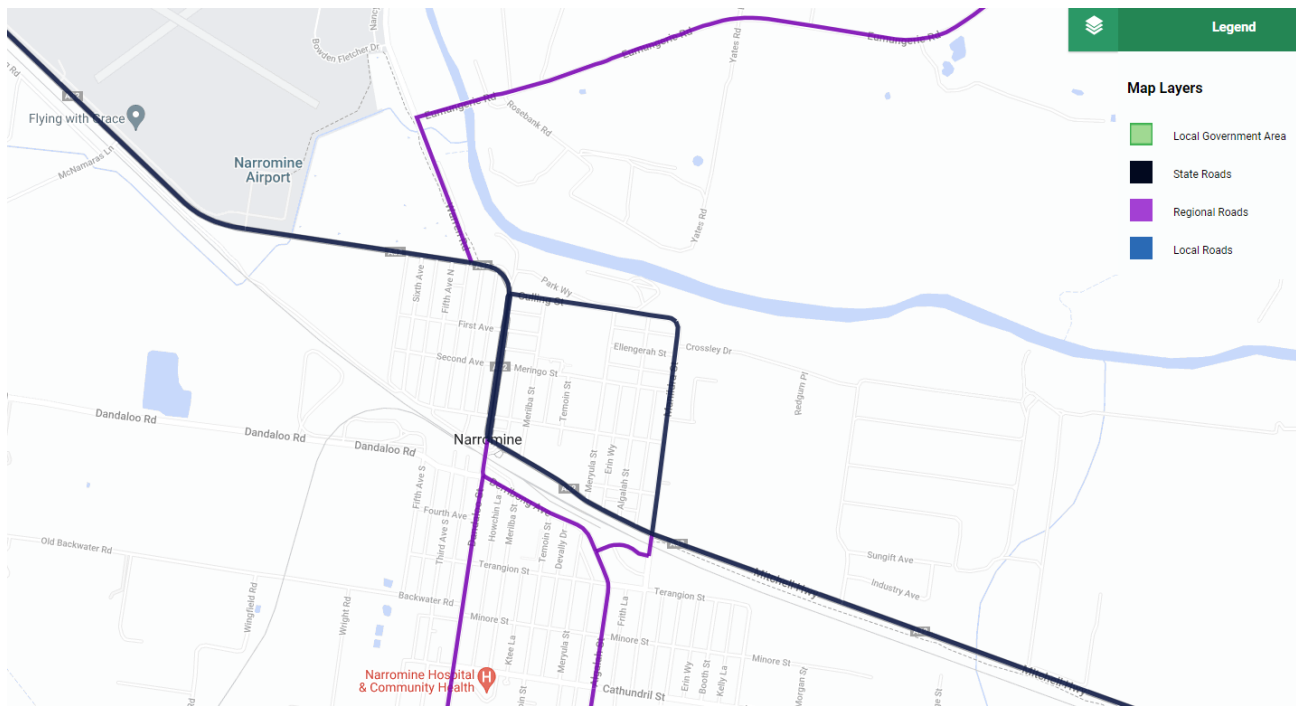
Figure 15 School bus routes as at 29 April 2022

## 9 Narromine Heavy Vehicle Route

Tomingley (MR 89) and Eumungerie Roads (MR 572) is the preferred alternative heavy vehicle route to the Newell Highway bypassing Dubbo.

Therefore, Narromine Shire Council in the medium term and in conjunction with all relevant stakeholders should develop a long-term heavy vehicle bypass strategy for Narromine. Future versions of this document should reflect the preferred long-term options and a corresponding funding mechanism to ensure it is delivered.

The map below shows the current short-term strategy in terms of heavy vehicle movements through Narromine. Council is in the process of creating a Heavy Access Strategy to outline current and planned heavy vehicle routes and associated projects in more detail.



Map 1 Heavy vehicle route through Narromine

## 10 Road Hierarchy Definitions

Council's road hierarchy endeavours to match the class of road to its function and to the needs of the community.

The objective of the road hierarchy is to seek a fair and sustainable system based on the variables listed below. Consideration should be given to the road's intended purpose and traffic behaviour i.e. constant or seasonal (intensity-frequency-duration).

The Road Hierarchy is presented in Table 17 below. The desired design standard is achieved by using current guidelines (Austroads, ARRB, IPWEA, research papers, etc.) and is based on environmental, geotechnical and other relevant technical criteria for a particular segment of road.

Maintenance frequency as well as affordability must be considered to ensure level of services are met. Road users should be informed regarding maintenance frequencies, especially to obtain "buy in" or ownership of a particular road as well as to manage expectations of those particular road users. This is to ensure that all roads receive the required maintenance as per the agreed standards and intervals therefore ensuring an equitable allocation.

The Register of Public Roads establishes a Council road classifications or "hierarchy" which is based on the function that each road performs. The road hierarchy adopted by Council reflects the perceived risk associated with the vehicle usage of each road type and is used to differentiate service levels and maintenance standards. Local circumstances such as the influence of schools, hospitals, community facilities or particular concentrations of older, disabled or other potentially vulnerable users are also considered.

### Primarily Variables







The Average Annual Daily Traffic (AADT) which is an international standard measurement based on vehicles per day (VPD) / Average Daily Traffic (ADT) converted to a standard two axle vehicle.

### Secondary Variables

Secondary variables for roads on the cusp of meeting the AADT requirements for a higher classing include:

- Percentage of heavy vehicles as a function of the AADT (i.e. high ratio heavy/light vehicles);
- Horizontal and vertical alignment of the road (i.e. hilly or curved);
- Used heavily by harvest traffic / livestock transport;
- No alternate routes that could be taken;
- Having no gates / grids on the road;
- Proximity to School Bus runs; and
- Roadside drainage and proximity / location of floodways

Table 2: Road Hierarchy

Class	Description	Image	Function	Desired Design Standard	~Km's of Network
1	Arterial Road		<p><b>Primary:</b></p> <ul style="list-style-type: none"> <li>• AADT &gt; 500</li> </ul> <p><b>Secondary:</b></p> <ul style="list-style-type: none"> <li>• Traffic movement between regions and service centres.</li> <li>• Permanent School Bus Route</li> <li>• Important heavy vehicle route</li> </ul>	<ul style="list-style-type: none"> <li>• 11m wide pavement and appropriate formation width</li> <li>• Bitumen sealed surface, minimum 9m wide</li> <li>• Two lane carriageways minimum 3.5m each</li> <li>• Minimum 1m stabilised and sealed shoulder</li> <li>• Pavement designed by specialist</li> <li>• Longitudinal and cross drainage.</li> <li>• Line marked centre and edges</li> <li>• Guideposts and other traffic facilities</li> <li>• Guardrail where applicable</li> </ul>	<p>190.1km Sealed</p> <p>0km Unsealed</p>
2	Sub-Arterial Roads		<p><b>Primary:</b></p> <ul style="list-style-type: none"> <li>• 150 &lt; AADT &lt; 499</li> </ul> <p><b>Secondary:</b></p> <ul style="list-style-type: none"> <li>• Traffic movement between collector or access road and arterial road.</li> <li>• Permanent School Bus route</li> <li>• Important heavy vehicle route</li> </ul>	<ul style="list-style-type: none"> <li>• 10m wide pavement and appropriate formation width</li> <li>• Bitumen sealed surface, minimum 8m wide</li> <li>• Two lane carriageways minimum 3.5m each</li> <li>• 0.5m/0.5 Sealed/ unsealed shoulder - stabilised</li> <li>• Pavement designed by specialist</li> <li>• Longitudinal and cross drainage.</li> <li>• Line marked centre</li> <li>• Guideposts and other traffic facilities</li> <li>• Guardrail where applicable</li> </ul>	<p>178.21km Sealed</p> <p>0km Unsealed</p>
3	Collector Road		<p><b>Primary:</b></p> <ul style="list-style-type: none"> <li>• 70 &lt; AADT &lt; 149</li> </ul> <p><b>Secondary:</b></p> <ul style="list-style-type: none"> <li>• Traffic movement between access road and arterial or sub-arterial road.</li> <li>• Permanent School Bus route</li> <li>• Collects from a limited number of local access roads to distribute to an arterial or collector road</li> </ul>	<p>Council identifies the following as the bench mark standard for a hierarchy 3 road*:</p> <ul style="list-style-type: none"> <li>• 8m formation</li> <li>• Sealed with a width of at least 7m</li> <li>• Dual carriageway</li> <li>• Two lane carriage way</li> <li>• Pavement based on design ESA for Heavy Vehicles with CBR of 3</li> <li>• Longitudinal and cross drainage.</li> <li>• No line marking</li> <li>• Guardrails and other safety devices</li> </ul>	<p>316.7km Sealed</p> <p>172km Unsealed</p>
4	Access Road		<p><b>Primary:</b></p> <ul style="list-style-type: none"> <li>• 20 &lt; AADT &lt; 69</li> </ul> <p><b>Secondary:</b></p> <ul style="list-style-type: none"> <li>• Road to access limited properties where people actually reside (rural: ≥ 4 houses).</li> <li>• Permanent School Bus OR Route used to access permanent school bus</li> </ul>	<ul style="list-style-type: none"> <li>• 8m wide formation where appropriate</li> <li>• Unsealed surface, minimum 7m wide gravel</li> <li>• Pavement based on design ESA for Heavy Vehicles with CBR of 3</li> <li>• Longitudinal and cross drainage</li> <li>• Guideposts and other traffic facilities</li> </ul>	<p>67.92km Sealed,</p> <p>302.59km Unsealed</p>
5	Convenience Links		<p><b>Primary:</b></p> <ul style="list-style-type: none"> <li>• AADT &lt; 19</li> </ul> <p><b>Secondary:</b></p> <ul style="list-style-type: none"> <li>• Road to access limited properties where people actually reside (rural: ≤ 3 houses)</li> <li>• Route used to access a permanent school bus</li> </ul>	<ul style="list-style-type: none"> <li>• 8m wide formation where possible</li> <li>• Unsealed surface, minor gravelled sections by exception</li> <li>• Longitudinal and cross drainage</li> <li>• Guideposts and other traffic facilities</li> <li>• Pavement based on design ESA for Heavy Vehicles with CBR of 3</li> </ul>	<p>5.2km Sealed,</p> <p>272km Unsealed</p>
6	Service Track		<p><b>Primary:</b></p> <ul style="list-style-type: none"> <li>• AADT &lt; 5</li> </ul> <p><b>Secondary:</b></p> <ul style="list-style-type: none"> <li>• Access to Private or single property</li> </ul>	<ul style="list-style-type: none"> <li>• Not maintained by Council</li> <li>• Unformed</li> <li>• No Longitudinal and cross drainage</li> <li>• User pays for any grading/maintenance</li> </ul>	<p>1.94km Sealed</p> <p>76.7km Unsealed</p>

\*Council notes that currently there are a number of hierarchy 3 roads that do not meet this standard. Council is working towards upgrading and improving these roads as part of the long-term strategy.

Council's Road Hierarchy is included in Appendix A.

## **11 Temporary Closure of Public Roads**

### **General**

Council may close sealed or unsealed roads at any time for various purposes, the most urgent being safety hazards. Council's Temporary Closure of Roads Procedure details the process behind road closures.

### **Liability for Damage to a Public Road**

A person who causes damage to a public road, or to any road work on a public road or any traffic control facility on a road or road related area within the meaning could be liable to pay to the roads authority the cost incurred by that authority in making good the damage. If the damage referred was caused by a motor vehicle or vessel, the owner and the driver of the motor vehicle or, as the case may be, the owner and the master of the vessel are jointly and severally liable for the damage.

Ordinary wear and tear caused by reasonable use of a public road is excluded, except where the road was closed.

## **12 Road Maintenance**

Council's road network continues to increase as new roads are created and previously unsealed roads become sealed. As a result Council's maintenance activities continue to increase. Other factors including aging infrastructure, increasing vehicle weights and increased customer expectation has also increased the required maintenance frequency and required performance of Council roads.

Council has a number of roads that have a narrow seal, this is a seal of 3m, a single carriageway. These roads do not meet current Transport Standards, are a safety risk and are nearing their end of life. Council intends to undertake full reconstruction of these roads to increase seal width to at least 7 metres, however, this is a significant investment both in time and money.

## 13 Identifying And Prioritising Road Works

Council prioritises its work program by using a points-based system to evaluate risk. This system considers: road hierarchy, location, hazard type and road condition.

Calculated Road Risk Ranking Scores used to prioritise roadworks with the highest score having the highest priority.

The formula used to determine the Risk Ranking of a road is:

**Road Risk Ranking (/75) = Hierarchy (/25) + Generic Event Risk (/25) + Condition Assessment (/25)**

The process in determining the Risk Rating of a particular Road is given below

**Step 1:** Determine Hierarchy Rating (Allocated Points /25)

Table 3: Risk Rating - Road Hierarchy

Hierarchy	Description	Allocated Points
<b>Class 1</b>	Arterial Road	25
<b>Class 2</b>	Major collector Road	20
<b>Class 3</b>	Minor collector Road	15
<b>Class 4</b>	Local Access Road	10
<b>Class 5</b>	Convenience link	5
<b>Class 6</b>	Not Maintained by Council	0

**Step 2:** Determine the Likelihood and Consequence of the event occurring (**Score/25**)

- **PART A:** Worst case event – Assess the worst that can happen in each category as a result of the asset in its current condition. The worst Assessment becomes the “Consequence”, in the risk matrix in PART B.

Assessment	Public Safety & Danger	Political	Environmental	Financial	Customers	Public Health
<b>Catastrophic</b>						
Very High impact with very significant Consequences	Fatality or other life threatening incidents.	Sustained adverse media, Loss of confidence in Council. State / Federal MP's involved.	Large scale adverse impact to Environment. Prosecution for negligent act.	>\$1M Rehab Costs / lost revenue	Affects > 10% Shire, Widespread complaints	Widespread Properties unable to access medical facilities / services
<b>Severe</b>						
High impact with major Consequences	Hospitalisation with multiple serious injuries	Considerable community concern, adverse local media, Mayor / GM Involved.	Significant adverse impact to Environment. Prosecution.	\$200k Rehab Costs	Affects 2%-10% Shire. Multiple complaints	Multiple properties unable to access medical facilities
<b>Moderate</b>						
Noticeable Impact with visible Consequences	Injury requiring 1 or more day/s off work	Some public concern, multiple letters / Calls received, multiple Councillors involved	Localised adverse impact to Environment. Compliance breach	>\$50k Rehab Costs / lost revenue	Affects less than 2% (100 people). Some complaints	Few properties unable to access medical facilities / services
<b>Minor</b>						
Minor impact with some Consequences	Injury requiring medical treatment (e.g. cut require stiches)	Minor public concern, Isolated letters / Calls received. Single Councillor involved	Short term reversible impact to Environment.	>\$20k Rehab Costs/ lost revenue	Affects less than 1% (50 people). Isolated complaints	Single property unable to access medical facilities / services



<b>Insignificant</b>						
Very Minor impact with Insignificant Consequences	Injury requiring first aid (e.g. Abrasions)	Minimal public concern, single letter / Call received	Temporary Environmental degradation and immediately restored	Minor rehab costs/ lost revenue	Affects less than 10 people. A single complaint	Time to access medical facilities / services is increased

- **PART B:** Decide likelihood of the event occurring and therefore calculate the “Event Risk” score

RISK	Very Likely	Likely	Could Happen	Unlikely	Very Unlikely
	>90% chance in next 12 months	>50% chance in next 12 months	Less than 50% chance in next 12 months	Less than 50% chance ever	Less than 10% chance ever
<b>Catastrophic</b>	25	20	15	10	5
Very High impact with very significant Consequences					
<b>Severe</b>	20	16	12	8	4
High impact with major Consequences					
<b>Moderate</b>	15	12	9	6	3
Noticeable Impact with visible Consequences					
<b>Minor</b>	10	8	6	4	2
Minor impact with some Consequences					
<b>Insignificant</b>	5	4	3	2	1
Very Minor impact with Insignificant Consequences					

**Step 3: Condition Assessment Criteria (Score/25)**

Condition Assessment		Catastrophic (25)	Severe (20)	Moderate (15)	Minor (10)	Insignificant (5)
Issue	Description	Very High impact with very significant Consequences	High impact with major Consequences	Noticeable Impact with visible Consequences	Minor impact with some Consequences	Very Minor impact with Insignificant Consequences
Structural	Drainage	Unshaped or non- existent	poorly shaped, significant erosion	unevenness, some erosion	minor erosion, works ok	formed drains minimal erosion
	Cross Section Shape / Road Profile	Severe Irregularities impeding drainage causing localised ponding. Water flows to the centre on the road.	Obvious development of irregularities that will impede drainage and form depressions	Some unevenness with Camber (Less than 2%)	Good Camber (2%-4%)	Well formed Camber (>4%)
Serviceability	Ride quality Roughness Corrugations	IRI* Sealed <2 , unsealed <4	IRI Sealed <4 , unsealed <8	IRI Sealed <6 , unsealed <12	IRI Sealed <8 , unsealed <14	IRI Sealed >8 , unsealed >14
	Local Road Surface Defects	>10% area trafficable area affected. >100mm deep	>10% area trafficable area affected. >50mm deep	5%-10% area trafficable area affected. <15mm deep	1%- 5% area trafficable area affected. <15mm deep	< 1% area trafficable area affected. <15mm deep
	Signage and Furniture, Line marking	Dangerous condition / location, Road signs & many guide posts missing	Too close to road, Signs / posts in poor conditions, lines need marking	Fair condition, though some appropriately placed	Reasonable condition and appropriately placed	In good condition and appropriately placed
Safety	Rutting	Extreme Rutting > 4m long, >100mm Deep	Heavy patches > 4m long, >50mm Deep	Moderate patches > 4m long, <50mm Deep	Moderate patches > 4m long, <15mm Deep	Small Localised, < 4m long, <15mm deep
	Edge drop off / Edge Break	Extreme Edge Break > 300mm, drop, >75mm	Heavy Edge Break > 300mm, drop, <75mm	Moderate Edge Break > 300mm, drop, <50mm	Minor Edge Break > 200mm, drop, <30mm	Good Edge Break <100mm, drop, >10mm

## 14 Operations

### General

When managing a road network there are two areas where funds need to be injected. They are:

- **Asset Preservation:** Maintenance of the road network, including Reactive Maintenance (i.e., pothole patching), Programmed Maintenance (i.e. Grading), and Renewals (i.e. Resealing and Resheeting); and
- **Asset Enhancement:** Improvements to the road network, including improvements to geometry, pavement strengthening, road widening and sealing of unsealed roads (ie, road reconstruction)

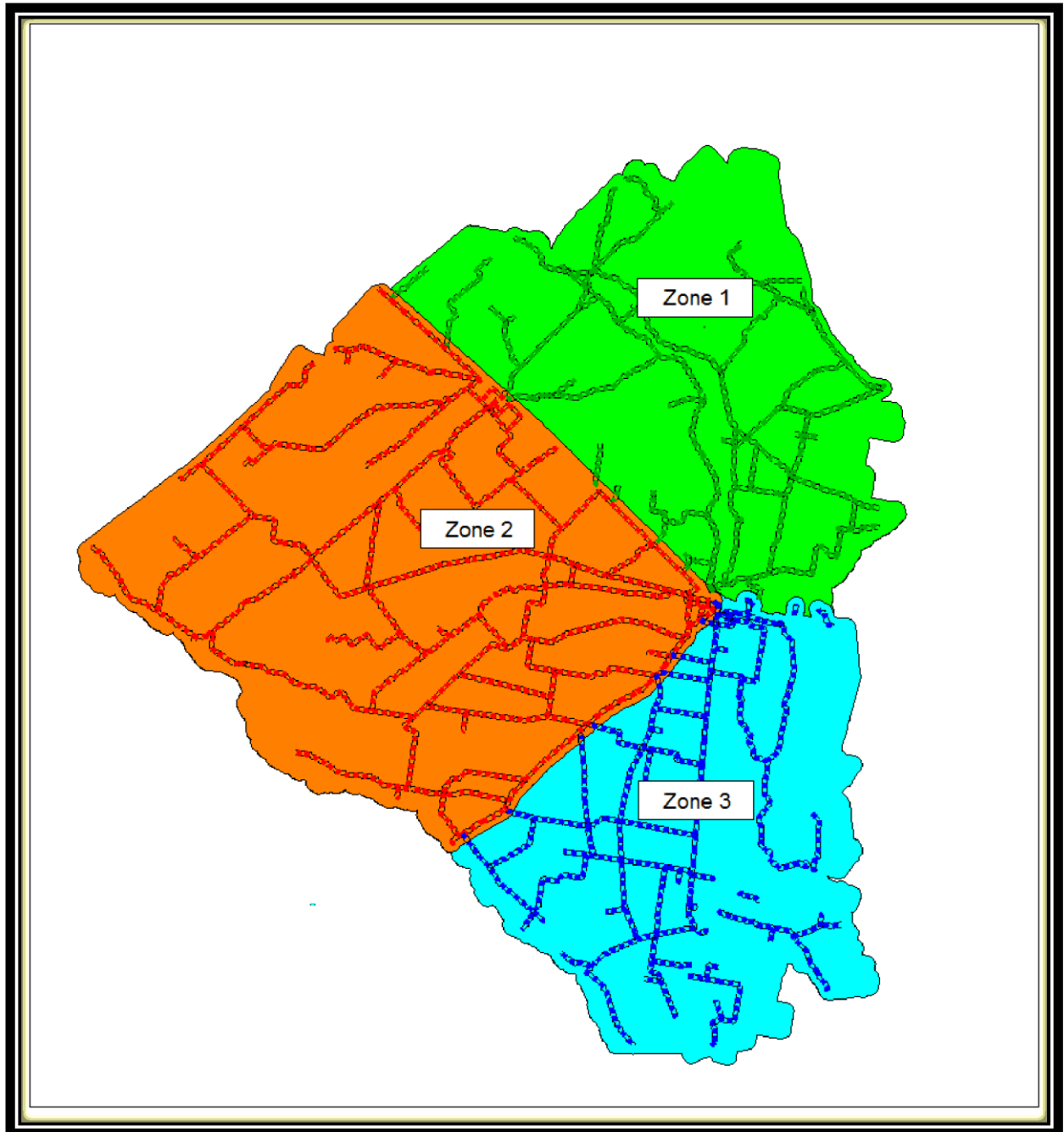
Strategies that are currently adopted by Council for the road network include:

- An annual roads inspection program to identify and assess the condition, quality, function and safety of the roads surface as well as drainage, signage, and to log and report any defects.
- Ongoing vehicle count program to keep up to date information on road usage and heavy vehicle monitoring.
- An unsealed road maintenance grading program which seeks to achieve each road in the shire graded either every year, every second year or every third year with an average return frequency of 18 months but no longer than three (3) years.
- Road maintenance grading for unsealed roads to commence after harvest season (based on road hierarchy), in preparation for the following maintenance grade or harvest season. This ensures that the longevity of the road asset is maintained. Council may consider the frequency and duration of harvests and adjust its maintenance program accordingly.
- A shoulder maintenance grading programme which is integrated with the bitumen resealing programme where possible to achieve the serviceability benefits of a wider seal.
- Capital works road construction program to widen existing sealing to the correct standards, and lay new seal on identified unsealed roads.
- Laser profiling program to get an independent, accurate gauge of the roads roughness that can be used to compare roads, prioritise work and aid in grant applications.
- Grid removal program to remove cattle grids that are no longer required and/or are not up to standard and/or a safety hazard.
- Road side verge slashing program funded by the RFS to reduce fire hazards.

- Road side tree lopping/vegetation removal program to proactively remove potential hazards or debris that could fall on the road, or reduce road safety.
- Road side verge spraying program, to kill off, inhibit and prevent growth of grass and weeds on the sides of the road and at intersections. This intends to aid in shoulder grading on sealed roads, protect drainage, reduce the fire risk, increase sight distances and encourage animals to stay away from the road.
- A bitumen resealing programme to ensure the protective bitumen surface course of any road doesn't attain an age of more than 20 years in the local road, 15 years on Regional roads, and 10 years in the more highly trafficked town street areas. This is dependent on the condition of the existing seal.
- An over-arching Council objective of sealing all roads with hierarchy 1-3 fully sealed by 2050.
- A kerb and gutter construction and reconstruction programme to ensure that every residential property in the urban area (excluding rural residential areas) has a kerbed and guttered frontage and that the road contains stormwater runoff to prescribed service level standards.
- Footpath construction and reconstruction programme to ensure that every residential street in the urban area (excluding rural residential areas) has a designated footpath on at least one side of the street to prescribed service level standards.
- Temporary closure of public roads to ensure road user safety and to protect the road asset.

## Road Zones

Narrromine LGA is divided into three road zones which is illustrated in the figure below.



## **Roads Inspection Program**

A planned inspection system is considered essential to:

- Effectively manage the maintenance program;
- Enable Council to be proactive in maintaining the road infrastructure (thereby reducing complaints and enhancing Council's public image); and
- Provide a risk management system in order to reduce public liability claims.

In deciding if a defect is a hazard, the following needs to be considered:

- The road hierarchy and function (condition, geometry, formation / sealed widths, etc);
- The location of the defect (i.e., in wheel path);
- The effect on pedestrians, cyclists and motor cyclists and other road users;
- The position or proximity in relation to schools, hospitals, aged care facilities, businesses, pedestrian and cycle paths etc;
- Traffic volume (AADT);
- Sharp bends or crests i.e. sight distance issues;
- Speed limit; and
- Weather conditions, soil conditions, vegetation and the environment.

Council undertakes the following road inspections:

- Hierarchy 1 roads are inspected monthly
- Hierarchy 2 – 5 roads are inspected every 12 months.
- Hierarchy 6 roads are not inspected

Council staff, particularly members of the Engineering Department regularly travel Council Roads and undertake ad-hoc inspections. Safety concerns of hazards are reported immediately and inspected.

## **Road Count Program**

A rolling program occurs to assist Council to maintain up to date information about usage on Council's road network.

Information gathered includes:

- AADT (Average annual daily traffic) measured as two axle pairs;
- VPD (Vehicles per day) measured as vehicle regardless of axles;
- Speed of vehicles;
- Direction of vehicles;
- % heavy vehicles;
- Vehicle class
- Design Equivalent Single Axis

## **Capital Road Works: New Road Construction or Upgrades**

The 10 Year capital works programs are locked in only for the current and next financial year. Roads identified for capital works from year 2 to year 10 will have to go through an annual re- ranking based on:

- Priority due to safety;
- Condition assessments based on the current year's road inspection data; and
- Future growth or change in traffic behaviour.

The Capital works program is entirely dependent on external grant funding and is susceptible fluctuations outside of Council control.

The program itself is located within the Transport Asset Management Plan which is updated annually.

## **Road Renewals**

### **Resealing**

The aim of the Resealing program is to upgrade /renew the entire sealed network. The renewal program is based on condition assessment of the wearing surface. Where possible the following criteria will apply:

- Once every 20 years for Local roads;
- Once every 15 years for regional roads; and
- Once every 10 years for town streets in Narromine, Trangie, and Tomingley.



## **Resheeting**

The 10-Year resheeting programs are “locked in” only for the current and next financial year. Roads identified for resheeting from year 2 to year 10 will have to go through an annual re- ranking based on priority due to safety and condition assessments based on the current year’s road inspection data.

## **Reactive Road Maintenance**

There is an annual budget set for reactive roads maintenance based on history of previous years. This budget allows for work such as pot hole repair, road patching, removal of debris, and to address imminent safety issues that may present during the year that require immediate attention.

## **Programmed Road Maintenance**

The programmed maintenance program for roads is a rolling 3-year program whereby each road, depending on its hierarchy, will receive appropriate maintenance required to keep it up to the minimum standard, subject to funds being available. “Win rows” and “back cuts” will be levelled to increase road user safety.

### **a) Sealed roads**

Sealed roads will receive shoulder grading and drainage and vegetation clearing in the table drains (on average 6 passes with a grader on each side). It is budgeted that on average a grader crew will complete 2km /day on each side.

### **b) Unsealed roads**

Unsealed roads will receive a full width maintenance grade including the drainage and vegetation clearing in the table drains (on average 9 passes with a grader). It is budgeted that on average grader crew will complete 2km /day for an average 8m wide formation, since most Council's roads require major formation work.

## 15 Levels Of Service

Council is committed to ensuring roads are safe for traveling vehicles at all times and conditions. In addition to the planned inspections listed above, Council will undertake inspections and repairs on road defects and safety hazards reported either internally or externally. This section details the target response times for hazards and defects and presents some examples of potential defects.

Road maintenance can occur in two methods:

- Defects to be repaired under planned maintenance (road or shoulder grading) or within a planned program of work (renewal or capital).
- Defects that require immediate action as they may be hazardous or represent a risk of asset deterioration. These are done as reactive maintenance (patching, filling pot holes).

Where possible, defects that require immediate action are dealt with by repairing or making safe the defect at the time of inspection/identification. If this isn't possible, the ensuing action must involve prompt erection of warning signs (as outlined in Council's standard "Traffic Control Plans) followed by repair as soon as practicable.

When undertaking repairs Council considers the upcoming, scheduled work on the road to determine the appropriate immediate repair option.

While Council will endeavour to meet the response times listed below, if at any time available resources are not sufficient to ensure maintenance works are carried out within the response times then warning signage and/or safety barricading will be installed until such time as the work is completed.

## Target Response Times

The target response times serve as a benchmark and timeline for Council, demonstrating a commitment to the community to promptly complete repair works. These targets represent the maximum timeframe within which Council has committed to addressing any defects.

When a defect is reported to the engineering team, whether through an internal or external party there is a two staged response:

- a. Inspection and assessment of the service fault;
- b. Schedule and repair of defect.

The following table shows the target response time for varying defects. The risk rating is determined in accordance with the Road Prioritization Matrix in Section 13. The response time is working days. Hierarchy is as-per Appendix A.

Hierarchy	Risk Score	Target Response Time (working days)
1	<10	15
1	>10 but <20	10
1	>20	1
2	<10	30
2	>10 but <20	20
2	>20	2
3	<10	60
3	>10 but <20	40
3	>20	10
4	<20	90
4	>20	10
5	<20	90
5	>20	10

Some examples of failures to elicit emergency works are listed below, these would be classified as >20 on the risk rating system.

- Fallen tree or street furniture obstructing traffic path of roadway.
- Hazardous material such as oil, fuel, concrete or dangerous chemicals spilt on road.
- Isolated section of loose stones greater than 10m<sup>2</sup> on a sealed road surface in 100km/h speed zone and in the near vicinity of a bend. Excluding roads sealed/resurfaced in the week prior to defect identification.
- Dead animal located on trafficable path of roadway.
- Significant erosion of road pavement due to culvert failure.

## Defect Examples

The following section provides examples of typical defects that can be found within the road network.

### Sealed Road – Pot-holes



#### Remediation options

Temporary	Permanent
<ul style="list-style-type: none"><li>• Fill with Cold Mix</li><li>• Jet-patcher</li></ul>	<ul style="list-style-type: none"><li>• Reconstruct section of road (excavate and replace seal)</li></ul>

## Sealed Road – Edge Drop



### Remediation options

Temporary	Permanent
<ul style="list-style-type: none"><li>• Shoulder Grading</li><li>• Jet-patcher</li></ul>	<ul style="list-style-type: none"><li>• Reconstruct section of road (excavate and replace seal)</li></ul>

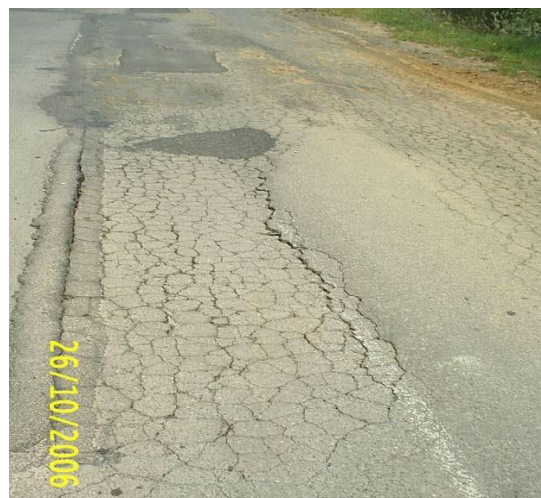
## Sealed Road – Edge Break



### Remediation options

Temporary	Permanent
<ul style="list-style-type: none"><li>• Shoulder Grading</li><li>• Jet-patcher</li></ul>	<ul style="list-style-type: none"><li>• Reconstruct section of road (excavate and replace seal)</li></ul>

## Sealed Road – Pavement Failure





Remediation options

Temporary	Permanent
<ul style="list-style-type: none"> <li>- Traffic control</li> <li>- Patch as pot hole to make safe</li> <li>- Jet-patcher</li> <li>- Temporary load restriction or road closure</li> </ul>	<ul style="list-style-type: none"> <li>- Reconstruct section of road (excavate and replace seal)</li> </ul>

**Sealed Road – Crocodile cracking**



Remediation options

Temporary	Permanent
<ul style="list-style-type: none"> <li>• Jet-patcher</li> </ul>	<ul style="list-style-type: none"> <li>• Wearing surface renewal</li> <li>• Reconstruct section of road (excavate and replace seal)</li> </ul>

## Sealed Road – Pavement rutting / Shoving



### Remediation options

Temporary	Permanent
<ul style="list-style-type: none"> <li>• Monitor</li> <li>• Jet-patcher</li> </ul>	<ul style="list-style-type: none"> <li>• Review drainage</li> <li>• Reconstruct section of road (excavate and replace seal)</li> </ul>

## Sealed Road – Shoulder Defects



### Remediation options

Temporary	Permanent
<ul style="list-style-type: none"> <li>• Signage</li> </ul>	<ul style="list-style-type: none"> <li>• Shoulder grading</li> <li>• Shoulder resheeting</li> <li>• Reconstruct section of road consider stabilisation</li> </ul>



### Sealed Road – Flushing / Bleeding



#### Remediation options

Temporary	Permanent
<ul style="list-style-type: none"> <li>• Reseal with Jet-patcher</li> </ul>	<ul style="list-style-type: none"> <li>• Reseal</li> <li>• Reconstruct section of road</li> </ul>

### Sealed Road – Loose stone



#### Remediation options

Temporary	Permanent
<ul style="list-style-type: none"> <li>• Street Sweeping</li> </ul>	<ul style="list-style-type: none"> <li>• Reseal section of road</li> <li>• Reconstruct section of road (excavate and replace seal)</li> </ul>

### Sealed Road – Fitting surface levels



Remediation options

Temporary	Permanent
<ul style="list-style-type: none"><li>• Fill with cold mix</li></ul>	<ul style="list-style-type: none"><li>• Reseal or reconstruct section of road around pit</li></ul>

**Road Guide Posts Deficiency**



Remediation options

Replace sign.

**Road Signs Deficiency**



Remediation options

Replace sign.

## Unsealed Road – Pot-hole / Roughness



### Remediation options

Temporary	Permanent
<ul style="list-style-type: none"><li>• Maintenance Grade</li><li>• <b>Gravel patching</b></li></ul>	<ul style="list-style-type: none"><li>• Resheet road</li></ul>

## Unsealed Road – Corrugations



### Remediation options

Temporary	Permanent
<ul style="list-style-type: none"><li>• Maintenance Grade</li><li>• Gravel patching</li></ul>	<ul style="list-style-type: none"><li>• Resheet road</li></ul>

## Unsealed Road – Rutting



### Remediation options

Temporary	Permanent
<ul style="list-style-type: none"><li>• Maintenance Grade</li><li>• Gravel patching</li></ul>	<ul style="list-style-type: none"><li>• Resheet road</li></ul>

## Unsealed Road – Scouring



### Remediation options

Temporary	Permanent
<ul style="list-style-type: none"><li>• Maintenance Grade</li><li>• Gravel patching</li></ul>	<ul style="list-style-type: none"><li>• Resheet road</li></ul>

## Unsealed Road – Water ponding



### Remediation options

Temporary	Permanent
<ul style="list-style-type: none"><li>• Maintenance Grade</li><li>• Gravel patching</li></ul>	<ul style="list-style-type: none"><li>• Resheet road</li></ul>

## 16 Implementation

### General

Implementation of roads operations generally comprise of the following:

- Maintenance Works – Generally from July to December
- Capital Works – December to June

Capital works are conducted in the warmer summer months when the majority of harvest traffic has decreased, and temperatures are high enough for road pavement seals, without the requirement to use excessive additives.

### Grading

Council has grading/resheeting teams as well as a construction/capital works grading team. Additional staff and contractors will be engaged on an as-need basis.

### Contract Plant

Generally long-term contract plant is engaged by Council under a period contract. Other plant may be engaged under a purchase order.

### 16.1 Contract Works

The major contracts for roadwork are:

- Bitumen sealing contract, including supply of sealing aggregates;
- Emulsion supply (for bitumen patching etc);
- Line Marking;
- Tree Lopping;
- Gravel Testing;
- Stabilisation works;
- Traffic Control; and
- Winning, crushing, pushing and supply of gravel.

Some works (typically culverts, kerb and gutter, footpaths, traffic islands, fencing) are undertaken by (generally) local contractors under Council supervision.

# Narromine Shire Council – Road Hierarchy

Road Name	Road No.	School Bus Route	Road Classification Sealed Section	Road Classification Unsealed Section	AADT Used	Year Traffic Data Collected	Freq of Grade (unsealed only)	Freq of Shoulder grade or maintenance
Alison's Road	1	No		4	9	2014	once/2yrs	once/3yrs
Backwater Road	2	Yes	3	3	124	2013	once/yr	once/3yrs
Belmont Road	3	No		4	7	2023	once/yr	once/3yrs
McNamara's Lane	4	No	2				-	once/3yrs
Back Tomingley West Road	5	No		5			once/3yrs	once/3yrs
Belowrie Road	6	No		4	31	2014	once/3yrs	once/3yrs
Bootle's Road	7	No		5	2	2022	once/3yrs	once/3yrs
Brummagen Road	8	No		5	5	2022	once/3yrs	once/3yrs
Boggy Plains Road	9	Yes		4	6	2022	once/yr	once/3yrs
Brennan's Lane	10	No		5	14	2013	once/3yrs	once/3yrs
Brown's Lane	11	No		5	1	2022	once/3yrs	once/3yrs
Bulgandramine Road	12	No	3		8	2014	-	once/3yrs
Bundemar Road	13	No		4	16	2013	once/3yrs	once/3yrs
Burroway Road	14	Yes	2		378	2013	-	once/3yrs
Anglebone Road	15	No		5			once/3yrs	once/3yrs
Buddah Lake Road	16	No		4	16	2014	once/2yrs	once/3yrs
Cathundral Road	17	No		5			once/3yrs	once/3yrs
Cathundral Bogan Road	18	No	3	4	58	2014	once/2yrs	once/3yrs
Ceres Siding Road	19	No		4	77	2014	once/2yrs	once/3yrs
Cobboco Road	20	Yes	3	4	14	2022	once/2yrs	once/3yrs
Ashgrove Road	21	No		6			Slash once/year	Slash once/year

Road Name	Road No.	School Bus Route	Road Classification Sealed Section	Road Classification Unsealed Section	AADT Used	Year Traffic Data Collected	Freq of Grade (unsealed only)	Freq of Shoulder grade or maintenance
Cornucopia Road	22	No		4	46	2014	once/2yrs	once/3yrs
Craigie Lea Lane	23	No		4	6	2022	once/2yrs	once/3yrs
Currington's Road	24	No		5			once/3yrs	once/3yrs
Cannon's Road	25	No		6			Slash once/year	Slash once/year
Dandaloo Road	26	Yes	2		114	2020	-	once/3yrs
Dappo Road	27	No	3	5	25	2013	once/3yrs	once/3yrs
Dilladerry Road	28	No		4	23	2014	once/2yrs	once/3yrs
Dubbo-Burroway Road	29	Yes	2		357	2013	-	once/3yrs
Dubbo Collie Road	30	No	2		122	2014	-	once/3yrs
Dulla Dulla Road	31	No		4	64	2013	once/2yrs	once/3yrs
Drew's Road	32	No		5			once/3yrs	once/3yrs
Derribong Road	33	No		5			once/3yrs	once/3yrs
Castle's Road	34	No		5			once/3yrs	once/3yrs
Davis Road	35	No		5			once/3yrs	once/3yrs
Ellengerah Road	36	Yes	3	4	15	2013	once/2yrs	once/3yrs
Enmore Road	37	Yes	3		55	2014	-	once/3yrs
Euromedah Road	38	No	3	4			once/yr	once/3yrs
Ewenmar Road	39	No		4			once/2yrs	once/3yrs
Edmonstone's Road	40	No		6			Slash once/year	Slash once/year
Fairview Siding Road	41	No		4	3	2023	once/2yrs	once/3yrs
Farrendale Road	42	Yes	3	3	4	2023	once/yr	once/3yrs
Foreman's Lane	43	No		5	49	2013	once/3yrs	once/3yrs



Road Name	Road No.	School Bus Route	Road Classification Sealed Section	Road Classification Unsealed Section	AADT Used	Year Traffic Data Collected	Freq of Grade (unsealed only)	Freq of Shoulder grade or maintenance
Frecklington's Crossing	44	Yes	3	4	16	2013	once/yr	once/3yrs
Gibson's Lane	45	No		4	42	2013	once/yr	once/3yrs
Gordon's Lane	46	No		6			Slash once/year	Slash once/year
Griffith's Road	47	No		6			Slash once/year	Slash once/year
Haberworth Lane	48	No	5	5			once/3yrs	once/3yrs
Herring's Lane	49	No		5	9	2014	once/3yrs	once/3yrs
Kyalite Road	50	No		4	31	2013	once/yr	once/3yrs
Jones Road	51	No		6			Slash once/year	Slash once/year
Lincoln Lane	52	No		4			once/3yrs	once/3yrs
Lovers Lane	53	No		5			once/3yrs	once/3yrs
McLeod's Lane	54	No		5	14	2013	once/3yrs	once/3yrs
Mungery Hall Road	55	No		6			Slash once/year	Slash once/year
McNiven's Road	56	No		5			once/2yrs	once/3yrs
Merritt's Lane	57	No		4	41	2014	once/2yrs	once/3yrs
Merrinong Road	58	No		6			Slash once/year	Slash once/year
Mungeribah Lane	59	Yes	3	3	69	2014	once/yr	once/3yrs
Morris Road	60	No		5	19	2014	once/3yrs	once/3yrs
Mumble Peg Road	61	No		4			once/2yrs	once/3yrs
Montgomery's Road	62	No		5	6	2022	once/3yrs	once/3yrs
Narwonah Road	63	Yes	3	4	14	2022	once/yr	once/3yrs

Road Name	Road No.	School Bus Route	Road Classification Sealed Section	Road Classification Unsealed Section	AADT Used	Year Traffic Data Collected	Freq of Grade (unsealed only)	Freq of Shoulder grade or maintenance
Newhaven Road	64	No	3	3			once/yr	once/3yrs
Momo Road	65	No		4	23	2014	once/3yrs	once/3yrs
Gundong (Obley) Road	66	No	2		113	2023	-	once/3yrs
O'Leary's Lane	67	No		4			once/yr	once/3yrs
Mandi Road	68	No		6			Slash once/year	Slash once/year
Papworth Lane	69	Yes		3	64	2013	once/yr	once/3yrs
Peak Hill Railway Road	70	Yes	3				-	once/3yrs
Pinedene Road	71	No	3	3			once/yr	once/3yrs
Pineview Road	72	No		4	7	2013	once/2yrs	once/3yrs
Raeburn Lane	73	Yes	3	5	15	2023	once/3yrs	once/3yrs
Richardson's Road	74	No		5			once/3yrs	once/3yrs
Rocky Point Road	75	No		5			once/3yrs	once/3yrs
Sharkey's Lane	76	Yes		5	3	2022	once/2yrs	once/3yrs
Stevenson's Road	77	No		6			Slash once/year	Slash once/year
Swift's Lane	78	No	3	5	30	2014	once/3yrs	once/3yrs
Trangie Cemetery Road	79	No	3	4			once/2yrs	once/3yrs
Tantitha Road	80	Yes	3	3	46	2023	once/yr	once/3yrs
Temoin Road	81	No		5			once/3yrs	once/3yrs
Tink's Lane	82	Yes	3	4	11	2013	once/yr	once/3yrs
Tyrie Road	83	Yes	3	3	41	2014	once/yr	once/3yrs
Tomkin's Road	84	No		5			once/3yrs	once/3yrs
Trangie Showground Road	85	No		3			once/yr	once/3yrs

Road Name	Road No.	School Bus Route	Road Classification Sealed Section	Road Classification Unsealed Section	AADT Used	Year Traffic Data Collected	Freq of Grade (unsealed only)	Freq of Shoulder grade or maintenance
Waikare Road	86	No		5			once/3yrs	once/3yrs
McCarron's Road	87	No		5			once/3yrs	once/3yrs
Warren Road	88	Yes	2		162	2022	-	once/3yrs
Weemabah Road	89	No	3		30	2023	-	once/3yrs
Widgerree Road	90	No	3		70	2014	-	once/3yrs
Willydah Road	91	Yes	3		64	2014	-	once/3yrs
Waterloo Road	92	No		4			once/2yrs	once/3yrs
Westbury Road	93	No		5			once/2yrs	once/3yrs
Webb's Siding Road	94	Yes	2		300	2017		once/3yrs
Wyanga Silo	95	No		6			Slash once/year	Slash once/year
Hando's Road	96	No		6			Slash once/year	Slash once/year
Wambianna Road	97	No	2				-	once/3yrs
Reid's Road	98	No		6			Slash once/year	Slash once/year
Emogandy Road	99	No		5			once/3yrs	once/3yrs
Sydney-Smith Road	100	No		6			Slash once/year	Slash once/year
Howe's Road	101	No		6			Slash once/year	Slash once/year
Woodside Road	102	No		5			once/3yrs	once/3yrs
Old Backwater Road	103	No	2		262	2019	-	once/3yrs
Bywannah Road	104	No		6			Slash once/year	Slash once/year

Road Name	Road No.	School Bus Route	Road Classification Sealed Section	Road Classification Unsealed Section	AADT Used	Year Traffic Data Collected	Freq of Grade (unsealed only)	Freq of Shoulder grade or maintenance
Barden's Road	105	No		6			Slash once/year	Slash once/year
Eureka Road	106	No		4	5	2014	once/3yrs	once/3yrs
Job's Road	107	No		5			once/2yrs	once/3yrs
Lockwood Road	108	No		5			once/3yrs	once/3yrs
Trangie Saleyard Road	109	No	2				-	once/3yrs
Dawe's Crossing	110	No		5			once/3yrs	once/3yrs
Thornycroft Road	111	No		5			once/2yrs	once/3yrs
Jefferies Road	112	No	3		24	2014	-	once/3yrs
Jamea Road	113	No		4	18	2013	once/2yrs	once/3yrs
Tyrie North Road	114	No	3	5	37	2013	once/3yrs	once/3yrs
Day's Road	115	No		6			Slash once/year	Slash once/year
Tomingley West Road	116	No	3		74	2014	-	once/3yrs
Wyanga Road	117	Yes		4	26	2013	once/2yrs	once/3yrs
Wilson's Lane	118	No		5			once/3yrs	once/3yrs
Harrison's Road	119	No		6			Slash once/year	Slash once/year
Hargreaves Road	120	No		5	19	2013	once/3yrs	once/3yrs
Ward's Road	121	No		5			once/2yrs	once/3yrs
Macquarie View Road	122	No		4	58	2014	once/2yrs	once/3yrs
Hamilton's Road	123	Yes		4			once/2yrs	once/3yrs
Bignell's Road	124	No		5			once/3yrs	once/3yrs
Strathallyn Lane	125	Yes	3	4	43	2013	once/2yrs	once/3yrs

Road Name	Road No.	School Bus Route	Road Classification Sealed Section	Road Classification Unsealed Section	AADT Used	Year Traffic Data Collected	Freq of Grade (unsealed only)	Freq of Shoulder grade or maintenance
Heywood's Road	126	No		5			once/3yrs	once/3yrs
Hill's Road	127	No		6			Slash once/year	Slash once/year
Springbank Road	128	No		6			Slash once/year	Slash once/year
Greenvale Road	129	No		6			Slash once/year	Slash once/year
Corry Road	130	Yes	2		211	2014	-	once/3yrs
Elmore Road	131	No		5			once/3yrs	once/3yrs
Gin Gin Weir Road	132	No		5			once/yr	once/3yrs
Woodleigh Road	133	No		5			once/2yrs	once/3yrs
Heckendorf's Access	134	No		6			Slash once/year	Slash once/year
Ningawalla South Road	135	No		6			Slash once/year	Slash once/year
Trangie Rubbish Tip Road	136	No		3	13	2021	once/2yrs	once/3yrs
Wingfield Road	137	No		5			once/3yrs	once/3yrs
Noondoo Road	138	No		6			Slash once/year	Slash once/year
Jones Circuit	139	No	3	3			once/2yrs	once/3yrs
River Drive	140	No	3				-	once/3yrs
Highpark Road	141	No	3		181	2014	-	once/3yrs
Gainsborough Road	142	Yes	1	1	47	2014	once/yr	once/3yrs
Strahorns Access Road	143	No		5			once/3yrs	once/3yrs
Rockbourne Road	144	No		6			Slash once/year	Slash once/year

Road Name	Road No.	School Bus Route	Road Classification Sealed Section	Road Classification Unsealed Section	AADT Used	Year Traffic Data Collected	Freq of Grade (unsealed only)	Freq of Shoulder grade or maintenance
Wynsley Lane	145	No		5			once/3yrs	once/3yrs
Sharah's Access Road	146	No		6			Slash once/year	Slash once/year
Corry Access	147	No		6			Slash once/year	Slash once/year
Rosebank Road	148	No	3				-	once/3yrs
Tomingley Cemetery Road	149	No	4	6			Slash once/year	Slash once/year
Rich's Road	150	No		5			once/2yrs	once/3yrs
Yagobie Road	151	No		6			Slash once/year	Slash once/year
Schroeder's Access	152	No		6			Slash once/year	Slash once/year
Barling's Road	153	Yes		5	1	2021	once/3yrs	once/3yrs
Sahara Road	154	No	3	4	14	2013	once/3yrs	once/3yrs
Sissian Road	155	No		6			Slash once/year	Slash once/year
Wilson's Lane	156	No		3			once/2yrs	once/3yrs
Park Hill Road	157	No		6			Slash once/year	Slash once/year
Ralbi Road	158	No		6			Slash once/year	Slash once/year
Glenroy Road	159	No		5			once/3yrs	once/3yrs
Links Road	160	No		5			once/3yrs	once/3yrs
Young Road	161	No		6			Slash once/year	Slash once/year

Road Name	Road No.	School Bus Route	Road Classification Sealed Section	Road Classification Unsealed Section	AADT Used	Year Traffic Data Collected	Freq of Grade (unsealed only)	Freq of Shoulder grade or maintenance
George Street	162	No		4			once/3yrs	once/3yrs
Morgan Street	163	No		3			once/yr	once/3yrs
Villeneuve Road	164	Yes	3				-	once/3yrs
Wallaby Road	170	No		4			once/2yrs	once/3yrs
Harris Street (Rural section)	413	No		4			once/3yrs	once/3yrs
Regional Roads								
Eumungerie Road (MR572)		Yes		1				
Peak Hill Road (MR89)		Yes		1				
Trangie Dandaloo Road (MR347 D)		No		1				
Trangie - Collie Road (MR347 C)		Yes		1				
Tullamore Road (MR354)		Yes		1				