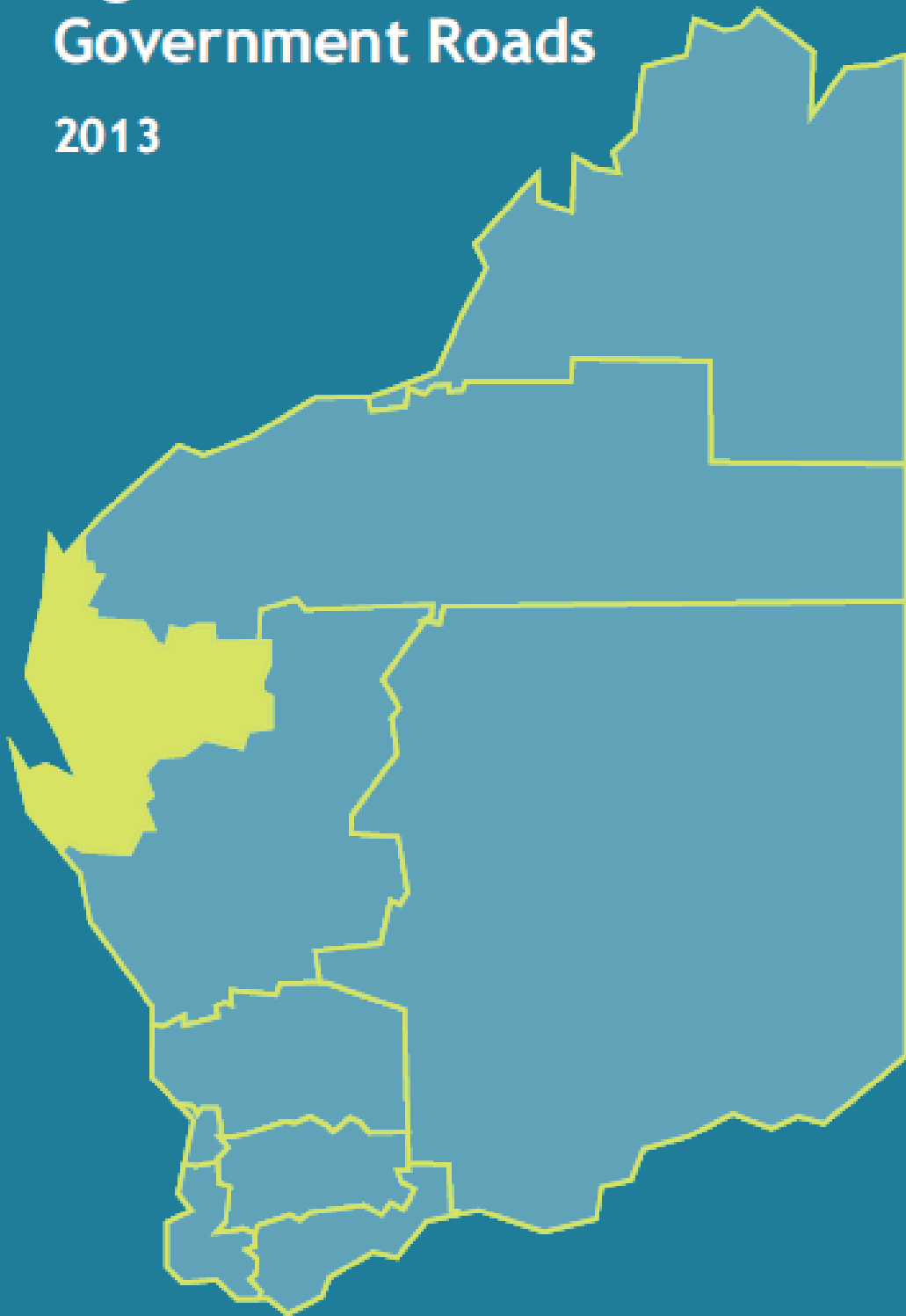


ROADS 2030

Regional Strategies for Significant Local Government Roads

2013



Gascoyne

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ROADS 2030 ROAD DEVELOPMENT STRATEGY

Roads 2030 documents a strategic review of regionally significant Local Government roads and the development strategies for them. This is the second review of regional road development strategies and is intended to respond to the changes in demand on the road network.

The first editions, Roads 2020 Regional Road Development Strategies, were released during 1997 and 1998, as an initiative of the 1992 Memorandum of Understanding between the State Government and the Western Australian Local Government Association (then known as the Western Australian Municipal Association). The Memorandum of Understanding requires that the road development strategies be reviewed at five yearly intervals to incorporate the impact of changing circumstances. This document updates and supersedes Roads 2025.

Local Governments (via Regional Road Groups) have worked collaboratively to review and update Roads 2025 to produce this latest strategy, Roads 2030. This provides an agreed, strategic approach to allocation of limited funding across the extensive road network in the Gascoyne. Only projects on local roads included in Roads 2030 will be eligible for *Road Project Grant* funding under the *State Road Funds to Local Government Agreement 2011/12 – 2015/16*. The Guidelines for the development of Roads 2030 are included in the Annexure.

CHANGES AND AMENDMENTS

The five yearly reviews balance the need for a strategic approach to funding allocation with changes in demand on the road network within the region.

Should a Regional Road Group agree to seek an amendment to the endorsed road development strategy this should be documented and endorsed by the *State Road Funds to Local Government Advisory Committee*. If an affected road crosses into another Region, agreement should be reached with the adjoining Regional Road Group on the proposed change.

A separate Main Roads WA process is required to amend the Functional Road Hierarchy category to reflect proposed changes to Roads 2030.

THE GASCOYNE REGION

The Gascoyne Region is comprised of the Shires of Carnarvon, Exmouth, Shark Bay and Upper Gascoyne. The resident population is concentrated in the key centres of Carnarvon, Exmouth, Denham, Gascoyne Junction, Burringurrah and Coral Bay. While many economic opportunities exist, attracting capital investment for infrastructure and business development remains one of the main challenges facing the Region.

The Gascoyne has a diverse economy with the major industries being tourism, retail trade, mining, fishing, manufacturing, pastoralism and horticulture. In recent years, the tourism industry has grown rapidly and is now one of the largest contributors to the Region's economy. The Department of Local Government and Regional Development estimated the Gascoyne's Gross Regional Product was \$824 million in 2010-11. Carnarvon is the Region's major commercial and administrative centre and has a broad range of service industries.

The Region's average annual growth rate was 0.2% per annum between 1995 and 2005. The 2009 estimated resident population of 9 865, the Shire of Carnarvon held the largest population of 6166 people in 2008 (62.5% of the Region's total population).

Several significant land development projects are currently underway in the Region. In Carnarvon, Landcorp construction of stage Three A of the North Water residential development is underway and stage Three B is expected to commence in 2014-15.

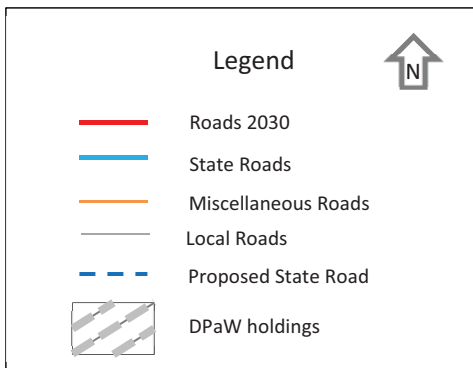
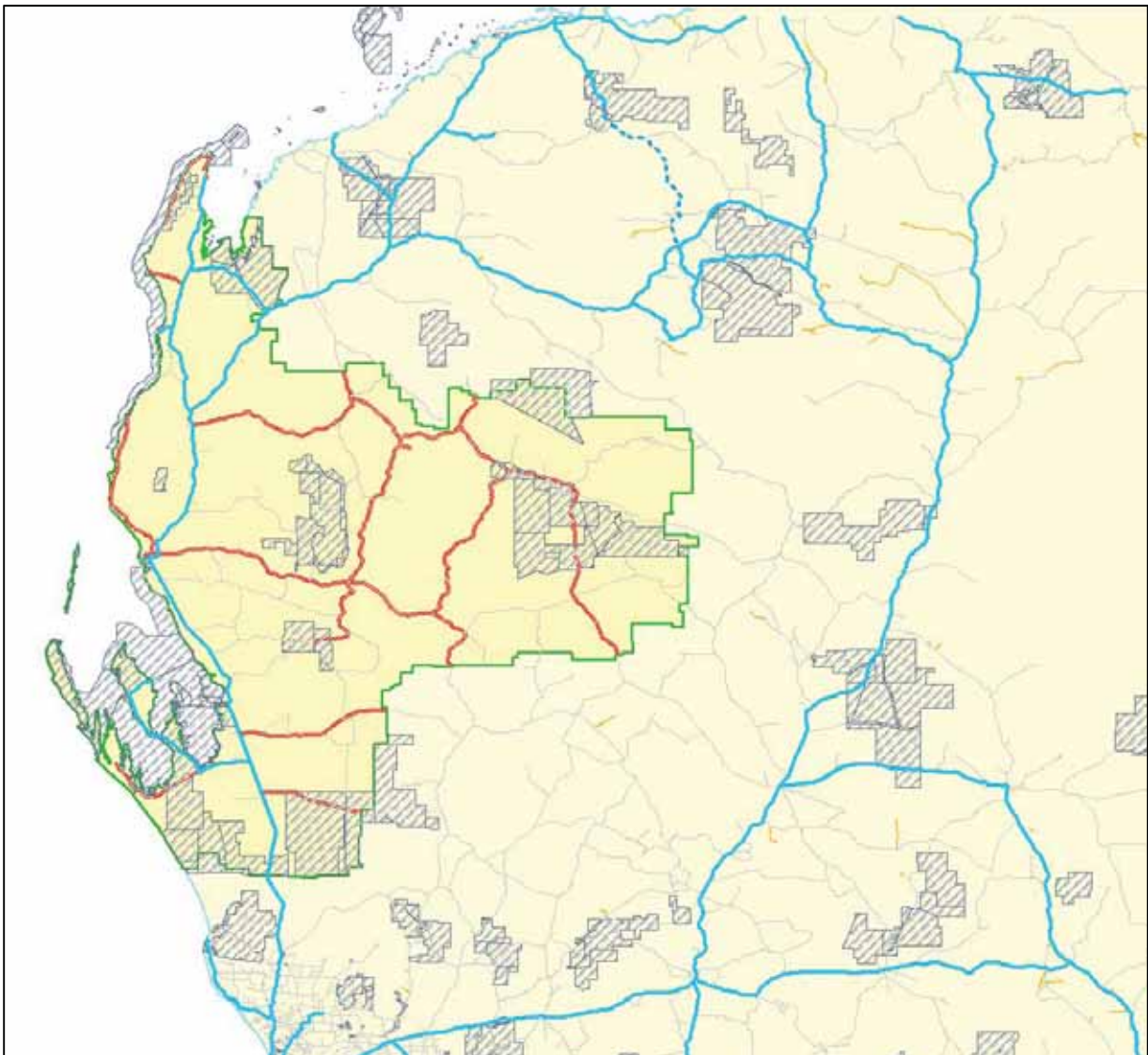
Development of the Exmouth Marina Village Site is ongoing. Landcorp has entered into contracts for the sale of the canal-front residential precinct and a number of mixed-use lots. Construction of the four star tourist resort's accommodation facilities has seen an increase in tourist interest in the Marina.

A shortage of residential land has been identified in Denham. Landcorp is working with the Shire of Shark Bay and stakeholders to alleviate the shortage by rezoning and developing a parcel of Crown land into appropriate single lots.

The Ningaloo Coast Regional Strategy, from Carnarvon to Exmouth that was released in August 2004. The strategy provides a framework for future land management, tourism and recreation development, to ensure an integrated and sustainable future for the Ningaloo coast, including important nodes such as Coral Bay and the Blowholes.

The aim of the Roads 2030 Regional Road Development Strategy is to identify and develop a significant road network to support and facilitate the development of the Gascoyne Region. Tourism, centred on the Shark Bay World Heritage Area, Monkey Mia and the Ningaloo Marine Park continues to play a major role in driving the Region's road infrastructure requirements.

The establishment of a natural gas processing plant for BHP Billiton at Onslow will have a significant impact on road infrastructure in that vicinity. Development of on-shore support facilities for the Oil and Gas industry at Exmouth will also have a significant impact on the road infrastructure of North West Cape. Other important developments in the Region include the Carnarvon Flood Mitigation project and the associated road works on North West Coastal Highway.



GASCOYNE REGION

SIGNIFICANT LOCAL GOVERNMENT ROADS

BUTCHERS TRACK

Road No. 8040038
Local Distributor

Shark Bay Shire

Last Reviewed: January 2013

FUNCTION

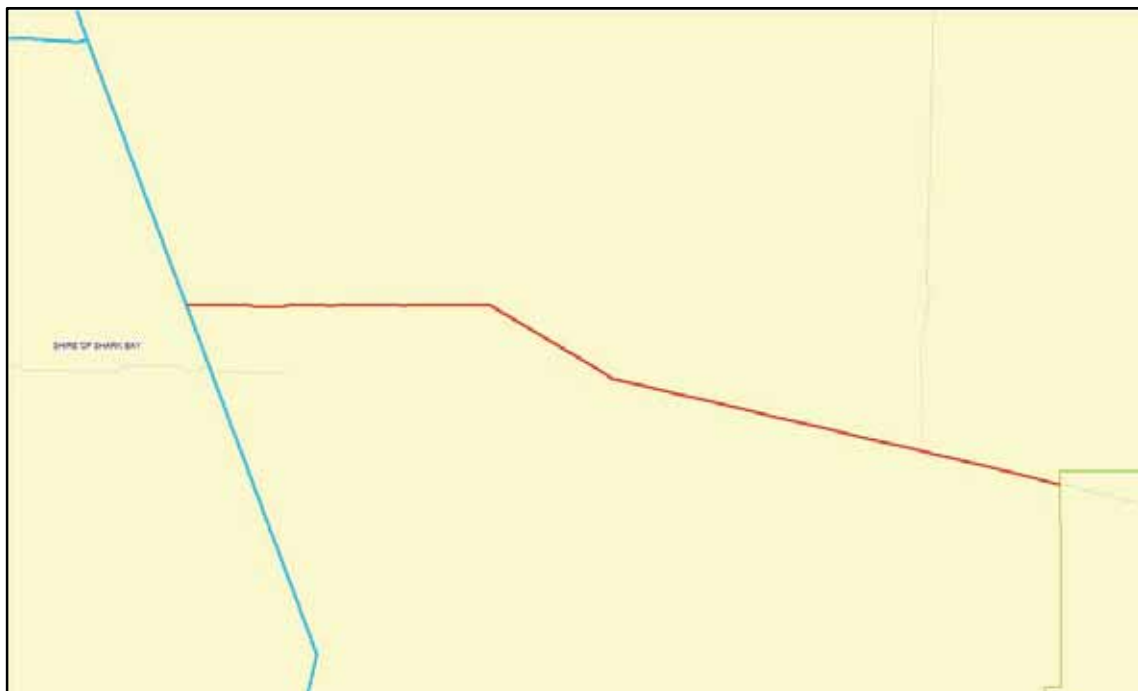
The road was upgraded some years ago to provide access from North West Coastal Highway for the construction of the Dampier to Perth natural gas pipeline project. The road connects with local pastoral roads and provides access to the Shark Bay coastal region from the Murchison. It is part of a regionally significant radial link between Mt Magnet and North West Coastal Highway via Dalgaringa and Murchison Settlement.

DEVELOPMENT NEED

The road is the most direct link to the Shark Bay region for people commuting from the Murchison and is in need of upgrading to cater for the increasing traffic.

DEVELOPMENT STRATEGY

The development strategy for the route is to construct the road to a Type 3 gravel standard.



CARNARVON – MULLEWA ROAD

Road No. 8030242 and 8050045
Regional Distributor

Carnarvon and Upper Gascoyne Shires

Last Reviewed: January 2013

ROAD FUNCTION

This road begins at North West Coastal Highway, passes through Gascoyne Junction, Murchison Settlement and south to Mullewa.

This road is an important link between Carnarvon, Gascoyne Junction and the Murchison settlement servicing the pastoral and tourism industries.

A section of the road forms part of a broader inter-regional and interstate route from the Gascoyne Region through the Mid West and Goldfields – Esperance Regions via Glenburg, Landor and Mount Gould to Meekatharra.

Some horticultural produce from Carnarvon to the Eastern States is transported via this road, in addition to livestock and general freight. Access to Mt Augustus, a significant tourist destination, is also via this road.

Carnarvon – Mullewa Road (8030242) is a RAV Network 8 road.

Carnarvon – Mullewa Road (8050045) is a RAV Network 8 road (conditional).

ROAD DEVELOPMENT NEED

A demand exists for an improved standard of road and a more direct east west link between the Gascoyne and Mid West and Goldfields – Esperance Regions to access new markets in these regions and in the Eastern States.

The development need is to continually improve the standard of this road to better facilitate the growing users of this road.

ROAD DEVELOPMENT STRATEGY

To reseal sealed sections to improve skid resistance and seal shoulders to improve safety for road users.

The ultimate strategy is to develop the route to a two lane sealed standard.



CARNARVON TOWNSITE ROADS

Carnarvon Road (8030105) – Regional Distributor
Cornish Street (8030052) – Access Road
Douglas Street (8030012) – Access Road
Harbour Road (8030209) – Access Road
Sydney 2 Memorial Drive (8030252) – Regional Distributor

Carnarvon Shire

Last Reviewed: January 2013

ROAD FUNCTION

The function of these roads is to provide access from the road train assembly area to the boat harbour, industrial area and town site.

Carnarvon Road, Sydney 2 Memorial Drive and Douglas Street are RAV Network 4 roads (conditional).

Cornish Street is a RAV Network 8 road (conditional).

Harbour road is a RAV Network 9 road (conditional).

Harbour Road / Cornish Street will be the primary heavy vehicle access route to the industrial area of Carnarvon.

Sydney 2 Memorial Drive/Carnarvon Road / Douglas Street is the primary heavy vehicle access route to the boat harbour and CBD area of Carnarvon.

ROAD DEVELOPMENT NEED

With the increased demand for freight and local traffic, the Carnarvon community has identified a need to improve access and road safety to the industrial, boat harbour and CBD areas.

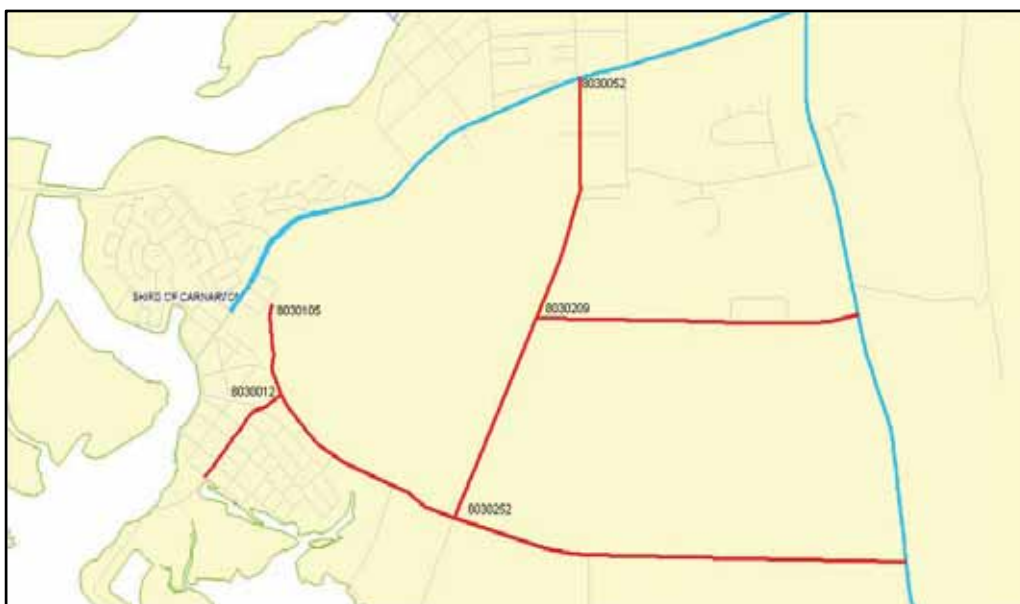
ROAD DEVELOPMENT STRATEGY

Widening of Cornish Street to facilitate the increasing demand of heavy haulage vehicles.

Construction and sealing of Harbour Road between Hudson and Cornish Streets, as a better link to the road train assembly area.

Reconstruction of Douglas Street to improve safety for tourism and the increasing freight traffic to the boat harbour.

Reconstruction and extension of Carnarvon Road to give better access for road users to the Carnarvon CBD and surrounds.



EAGLE BLUFF ROAD

Road No. 8040015
Access Road

Shark Bay Shire

Last Reviewed: January 2013

ROAD FUNCTION

Eagle Bluff Road is mainly used by tourist traffic. The road is 4.4km long and terminates at a cul de sac and car park which overlooks the water and surrounding landscape. In 1999 CALM (now DPaW) upgraded the car park facility and constructed a wooden boardwalk and lookout area to reduce degradation.

ROAD DEVELOPMENT NEED

The road at present is a Type 3 standard with gravel and clay sheeting to cover the soft natural material. The road has an AADT count of 90. It is subject to closure due to rain during the winter months.

ROAD DEVELOPMENT STRATEGY

Development strategy is for the road to be constructed and sealed to a 7 m width.



GASCOYNE JUNCTION TO KENNEDY RANGE AND MOUNT AUGUSTUS

Cobra – Dairy Creek Road (8050001) – Regional Distributor
Cobra – Gifford Creek Road (8050007) – Regional and Local Distributor
Cobra – Mount Augustus Road (8050020) – Regional Distributor
Edmund – Gifford Creek Road (8050006) – Regional Distributor
Ullawarra Road (8050002) – Regional Distributor and Access Road

Upper Gascoyne Shire

Last Reviewed: April 2013

FUNCTION

The roads which comprise this route provide access to abutting pastoral stations and to the Kennedy Range and Mount Augustus National Parks. They link several station properties with Gascoyne Junction and form part of the road network linking the Carnarvon – Meekatharra route with North West Coastal Highway and Paraburdoo.

Cobra – Dairy Creek Road is a RAV Network 6 road (conditional).

Cobra – Gifford Creek Road is a RAV Network 6 road (conditional).

Edmund – Gifford Creek Road is a RAV Network 6 road (conditional).

Ullawarra Road is a RAV Network 6 road (conditional).

This route starts at Gascoyne Junction on Carnarvon–Mullewa Road and is a district mail run. Tourists use this route to visit the Kennedy Ranges and drive its length to Mount Augustus. At times throughout the year, cattle trucks use it to cart produce to market.

DEVELOPMENT NEED

The Kennedy Range and Mount Augustus National Parks are becoming increasingly popular as tourist destinations. In addition to intra-state visitors, the area attracts interstate as well as overseas visitors. The route is suitably positioned to best serve the tourist and pastoralist needs in this area and appropriate upgrading of the route is required to properly reflect its significance.

Ullawarra Road is of various shapes and dimensions between Types 1, 2, and 3 and requires realignments, reformation and gravel work. It needs to be progressively improved to a continuous Type 3 standard due to the type of road traffic using this road, i.e. vehicles towing caravans, stock trucks and mail truck (on a regular basis). At times, due to its surface standard, it is closed because of rain, placing local pastoralists at a disadvantage.

DEVELOPMENT STRATEGY

The development strategy for the whole route is to construct a Type 3 gravel road and provide concrete floodways at major river crossings to reduce periods of road closure.

The development strategy for Ullawarra Road is to improve the running surface and the corners to a Type 3 standard from Gascoyne Junction to Ullawarra. The present aim is to achieve an all-weather gravel standard.



HAMELIN POOL ROAD

Road No. 8040012
Access Road

Shark Bay Shire

Last Reviewed: January 2013

ROAD FUNCTION

This road is a type 5 access road. It starts at Shark Bay Road and terminates at Hamelin Pool Caravan Park and the world renowned Stromatolites. Along this road is also the access to Hamelin Station Stay.

This road is part of the World Heritage Drive scenic route and has tourist traffic as the main users.

ROAD DEVELOPMENT NEED

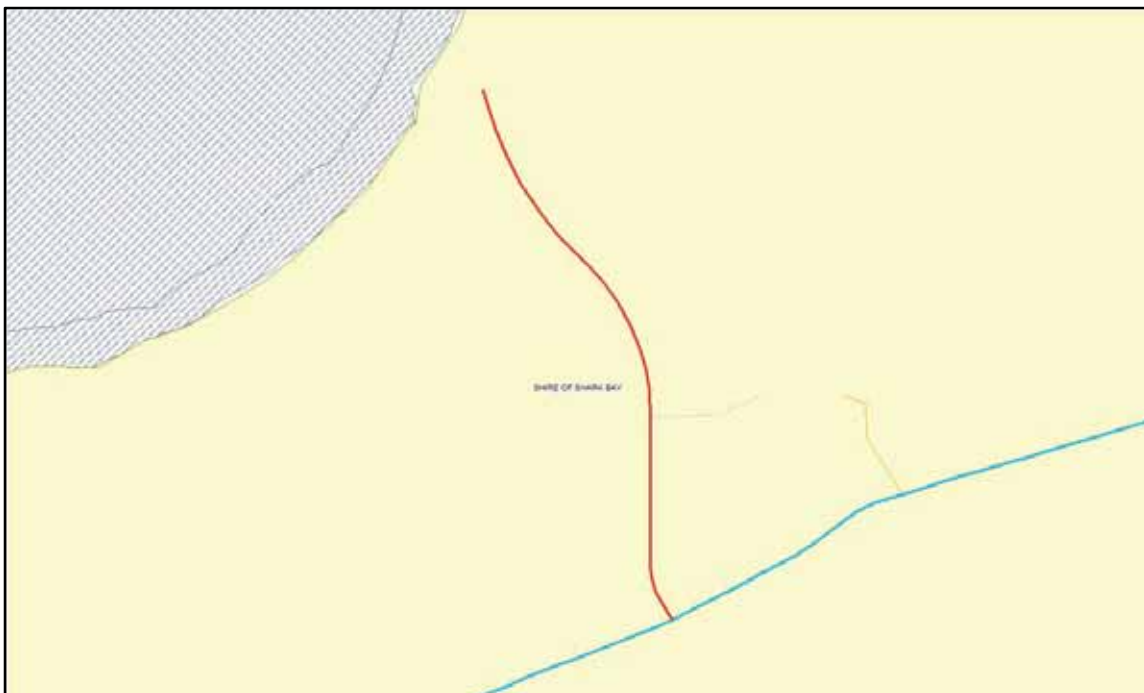
The Stromatolites are a significant tourist attraction and draw a large number of tourist traffic. This traffic will only increase as more tourists are attracted to this pristine World Heritage listed area.

Hamelin Pool Caravan Park is undergoing significant upgrades to cater for the increased influx of tourists with Hamelin Station Stay, being a new establishment, contributing to the increase in numbers.

As tourist traffic numbers increase, there will be a need to improve the safety along the Hamlin Pool Road.

ROAD DEVELOPMENT STRATEGY

The development strategy for this road is to have a surface retreatment program with the addition of line marking.



MINE AND COASTAL ACCESS

**Blowholes Road (8030066)
Quobba-Gnaraloo Road (8030121)
Local Distributors**

Carnarvon Shire

Last Reviewed: January 2013

ROAD FUNCTION

Sections of the Quobba - Gnaraloo Road are of an extremely low standard. It provides access to some of the region's highly prized tourist attractions. Blowholes Road services the tourist industry, as well as the Rio Tinto Mine site.

The Blowholes road is a RAV Network 7 road.

ROAD DEVELOPMENT NEED

With the greater demand on Blowholes Road from the increasing numbers of tourist and mine site activities, the road is lacking the standards to cater for this demand.

Quobba – Gnaraloo Road is severely lacking in both safety and serviceability standards to meet the increasing number of tourists visiting the area.

ROAD DEVELOPMENT STRATEGY

The development strategy is to widen the seal and seal the shoulders on Blowholes Road and upgrade parts to a Type 5 standard.

The development strategy for Quobba – Gnaraloo Road is to remove blind corners and sharp crests and curves. Upgrade parts of the road to a Type 3 standard.



MOUNT AUGUSTUS – PARABURDOO ROAD

Proposed Road

Upper Gascoyne Shire

Last Reviewed: April 2013

FUNCTION

A more direct through road would provide substantial travel time savings for tourists and for the transport of livestock and supplies. The development of this road would avoid the present inconvenience of having to backtrack or follow an indirect road via a series of pastoral station roads.

DEVELOPMENT NEED

There is a need to connect the tourism and pastoral areas of the northern Gascoyne to the central Pilbara and to provide a more direct route between Paraburadoo, Mount Augustus, Meekatharra and Carnarvon. The regional road network lacks a suitable connection to Mount Augustus from a northern population centre.

DEVELOPMENT STRATEGY

Develop a route corridor by linking Paraburadoo and Mt Augustus. This route will be developed as a road ultimately to Type 3 formed gravel standard.

A route/alignment has been identified, but the alignment needs to be developed by on-ground works.



MOUNT AUGUSTUS TO GREAT NORTHERN HIGHWAY

Landor – Meekatharra Road (8050032)
Landor – Mount Augustus Road (8050004)
Regional Distributors

Upper Gascoyne Shire

Last Reviewed: April 2013

FUNCTION

The route provides access to Mount Augustus from Great Northern Highway via Mount Gould, Errabiddy and Landor. It services abutting pastoral properties in addition to increasing tourist traffic. The section from Mount Gould to Meekatharra is part of the Carnarvon – Meekatharra Route which is an inter-regional link between the Mid West and Gascoyne Regions.

Both these roads are RAV Network 6 roads (conditional).

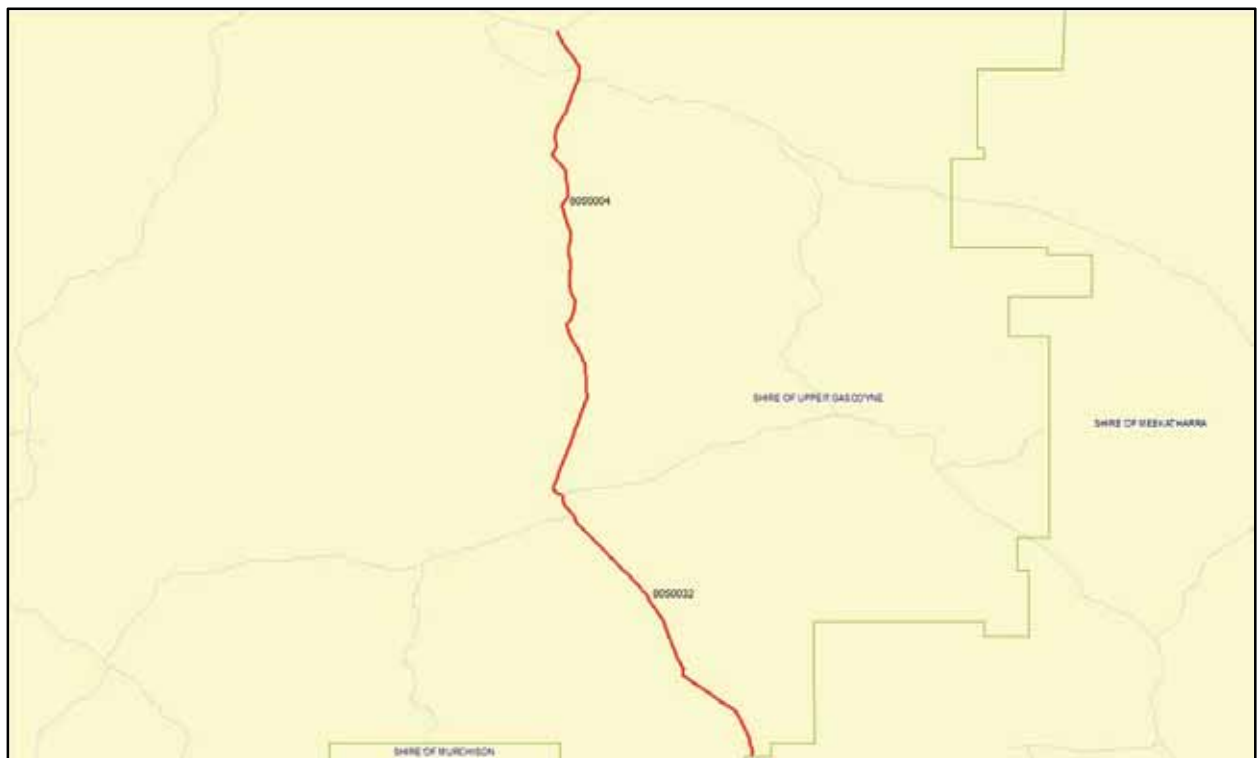
DEVELOPMENT NEED

A reliable link to Great Northern Highway is required to cater for the increasing number of tourists visiting Mount Augustus National Park each year.

There needs to be a more clearly defined “official” route from Great Northern Highway and this route best satisfies the need from a regional perspective.

DEVELOPMENT STRATEGY

The strategy is to upgrade the existing roads to a good gravel standard. Part of the route is addressed under the Carnarvon – Meekatharra Route proposal.



MURAT ROAD

Road No. 8060066
Regional Distributor and Local Distributor
Exmouth Shire

Last Reviewed: January 2013

ROAD FUNCTION

Murat Road is the only entrance road into the Exmouth town site. The road was originally designed and constructed in 1966.

Murat Road services a significant tourist destination and the Exmouth community. It links the town site with the Naval Communication Base 'Harold E Holt'. The road extends north to Yardie Creek Road in close proximity to the coastline, providing visitor access to the Ningaloo shore and reef and Cape Range National Park which is encapsulated within the Ningaloo Coast World Heritage Area.

With Exmouth being promoted as the "Northern Gateway" to the Ningaloo Reef and with development increasing in the town site and increased usage of the World Heritage coastline in between Exmouth and Carnarvon, it is critical that the entrance road into in Exmouth is appropriately designed to improve vehicle and pedestrian safety.

Murat Road is included in the RAV 4 Network system (conditional).

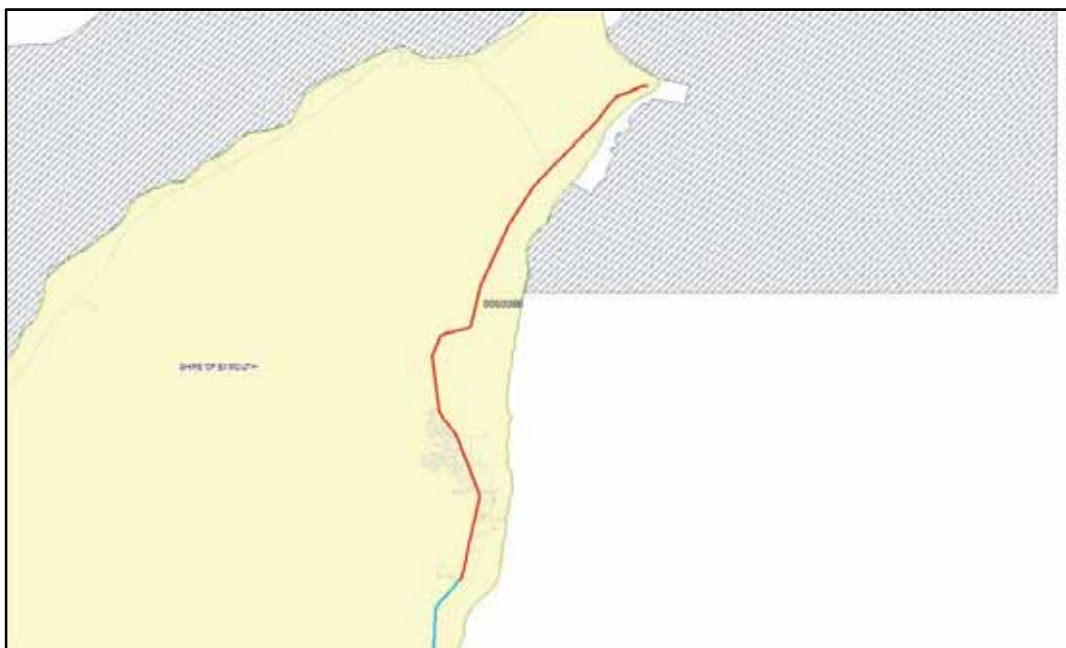
ROAD DEVELOPMENT NEED

Increasing traffic to the Exmouth region is placing high demands on the existing road which was designed in 1966. The road is under-engineered and its design does not meet current standards. It is expected that traffic volumes will increase on Murat Road as the Shire continues to develop.

One of the main benefits to be derived from the reconstruction of Murat Road relates to the significant indirect economic benefit opportunity associated with the project. It is envisaged that the Exmouth's new and improved infrastructure associated with air, sea and road transport, land development, building construction, tourism facilities, World Heritage recognition will inevitably attract increased investment from both existing and prospective owners.

ROAD DEVELOPMENT STRATEGY

The redesign/construct work will focus on upgrading the existing Type 4 Road to a Type 5 Road, building up the residual gravel pavement to full thickness, increase width, compact and sealed and street lighting and landscaping.



NANGA ROAD

Road No. 8040007
Access Road

Shark Bay Shire

Last Reviewed: January 2013

ROAD FUNCTION

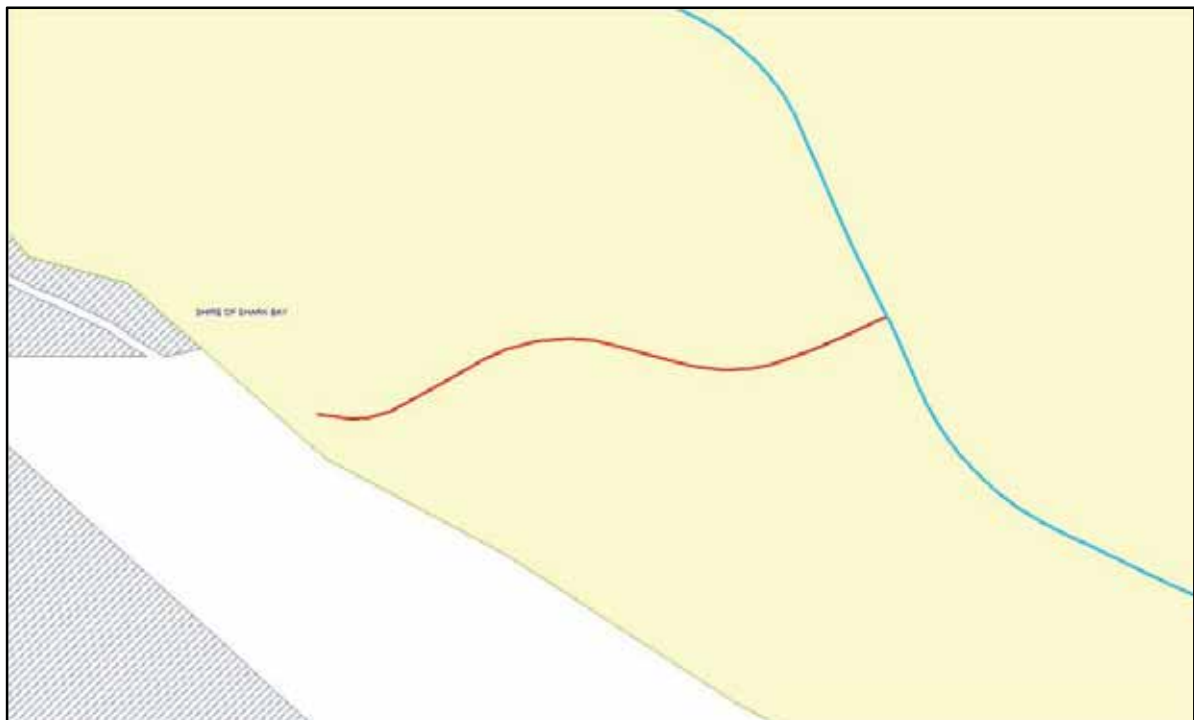
This Road is a Type 5 access road. This connects Shark Bay Road with the Nanga Bay Resort/Caravan Park. This road is part of the World Heritage Drive scenic route and has tourist traffic as the main road users, predominately caravans and buses.

ROAD DEVELOPMENT NEED

Nanga Bay Resort/Caravan Park is undergoing a number of upgrades and as tourist numbers increase within the Shire, there will be a larger number of tourist movements along Nanga Road. There are some narrow shoulders along Nanga Road which require widening.

ROAD DEVELOPMENT STRATEGY

The development strategy for this road is to increase the width of the narrow shoulders where required, along with surface retreatment.



NINGALOO ROAD

Road No. 8060083
Local Distributor

Exmouth Shire

Last Reviewed: January 2013

ROAD FUNCTION

The road provides visitor access to the Ningaloo shore and reef which is encapsulated within the Ningaloo Coast World Heritage Area. It also provides access to the Ningaloo Station homestead which has become a popular destination for tourists.

With Exmouth being promoted as the “Northern Gateway” to the Ningaloo Reef and with development increasing in the town site and increased usage of the World Heritage coastline in between Exmouth, Coral Bay and Carnarvon, it is appropriate that access is maintained. World Heritage recognition will inevitably attract increased tourism and investment from both existing and prospective owners.

Ningaloo Road is not included in the RAV Network system.

ROAD DEVELOPMENT NEED

Ningaloo Road provides access to the Ningaloo Coast World Heritage Area, Ningaloo Beach's, Reef, Cape Range National Park and Coral Bay. Increasing traffic to the Exmouth region is placing high demands on the existing road which is under-engineered to meet the existing road transport requirements.

The road construction gravels in proximity to Ningaloo Road are low quality and would be described calcareous material including shelly sands, coral gravel limestone and sand. The Shire cannot afford or keep up with the level of pavement disintegration that is occurring on Ningaloo Road, nor can the Shire afford to purchase and cart processed gravels. Even if the maintenance funds and operations are maintained at the current level, asset value will degrade and then drop in severability. Ultimately it would be expected that much of the Ningaloo Road would effectively revert to a 4x4 access only road if the level of existing funding remains static.

In March 2012 a bush fire started on the southern and northern side of Ningaloo Road. The fire scar is approximately 10 kilometres long interfacing with the road. As a result of the loss of vegetation and the summer wind pattern sand is drifting in a northerly direction over the road. The road conditions sand drift assessed could be described as; very deep sand drifts and complete road coverage varying in depth to 700mm. Sand lumps forming intermittently 3 to 6 metres wide and 5 to 7 metres between formations. The sand drift road reserve volume is estimated at 30,000, 31 October 2012.

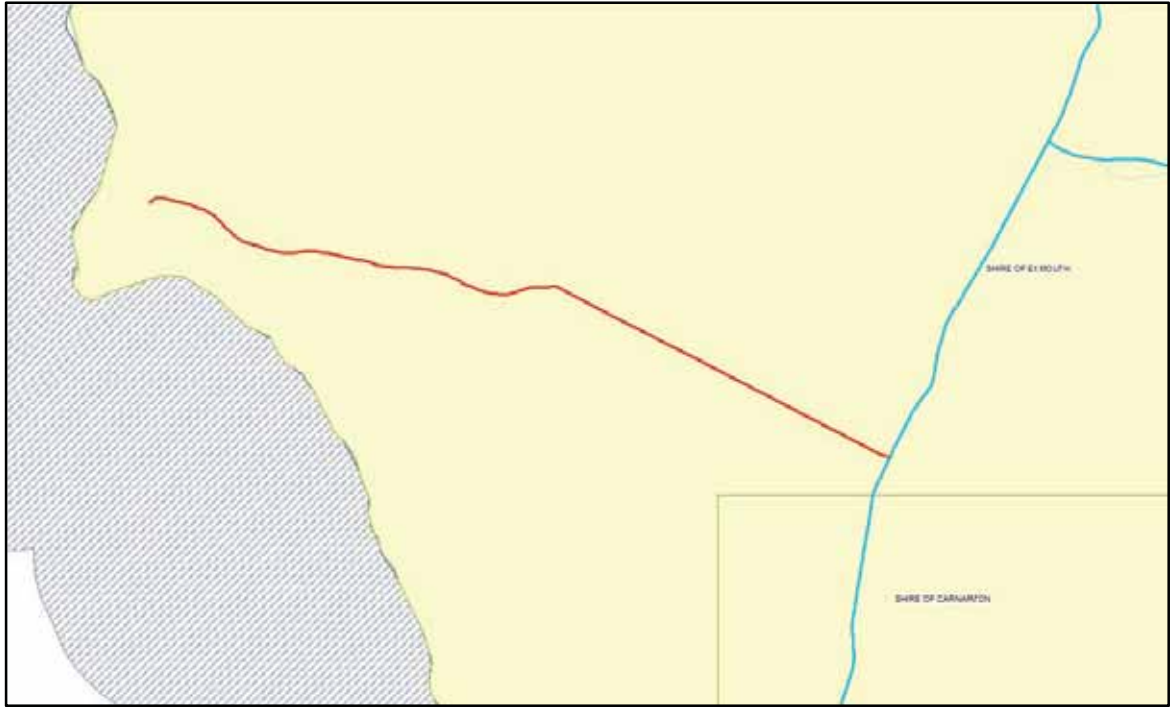
The benefits of Strategy proposed below are asset preservation, traffic safety taking into account increases in development and tourism

The Shire loader cleared sand for 12 days. The goal was to provide limited access through the sand to Ningaloo Station. This action become financially unachievable and the project carried increasing risk of failure. It is estimated that 15 days additional sand clearing works are required to provide temporary access. This is subject to wind conditions. The sand clearing project was stopped.

At this stage the road is open to 4 WD vehicles only.

ROAD DEVELOPMENT STRATEGY

The development strategy is to maintain/construct Ningaloo Road to a Type 2 formed road.



NORTH WEST COASTAL HWY TO KENNEDY RANGE AND MOUNT AUGUSTUS ROUTE

Lyndon – Mangaroon Road (8030078) - Local Distributor
Lyndon – Minnie Creek Road (8050016) - Local Distributor
Lyndon – Towera Road (8030077) - Local Distributor
Minilya – Lyndon Road (8030174) - Local Distributor

Carnarvon and Upper Gascoyne Shires

Last Reviewed: January 2013

ROAD FUNCTION

The function of these roads is to provide a direct link between the Kennedy Range/Mount Augustus and the Exmouth area. It is also a direct link between pastoral stations and services the pastoral station needs.

Lyndon – Mangaroon Road and Lyndon – Minnie Creek Road are both RAV network 6 roads (conditional).

ROAD DEVELOPMENT NEED

There is a need to provide more direct links and better standard roads between tourist destinations in the Gascoyne Region.

For people living in the northern parts of the region, this proposal links Exmouth more directly than travelling via Carnarvon and the North West Coastal Highway.

ROAD DEVELOPMENT STRATEGY

The Strategy is to provide a good gravel road between Mangaroon and North West Coastal Highway. This will link into the Gascoyne Junction to Mount Augustus Route and provide strong connectivity to the major road network.



PIMBEE ROAD

Road No. 8050003
Local Distributor

Upper Gascoyne Shire

Last Reviewed: April 2013

FUNCTION

This road serves as the main southern access route out of the Shire of Upper Gascoyne when there is no need to visit Carnarvon to the west. The actual saving is 100km in one direction. Stock transport delivering cattle, sheep and goats to the southern sale yards travel this road due to the time and fuel saved. Local and tourist traffic use this route, it is also a mail route.

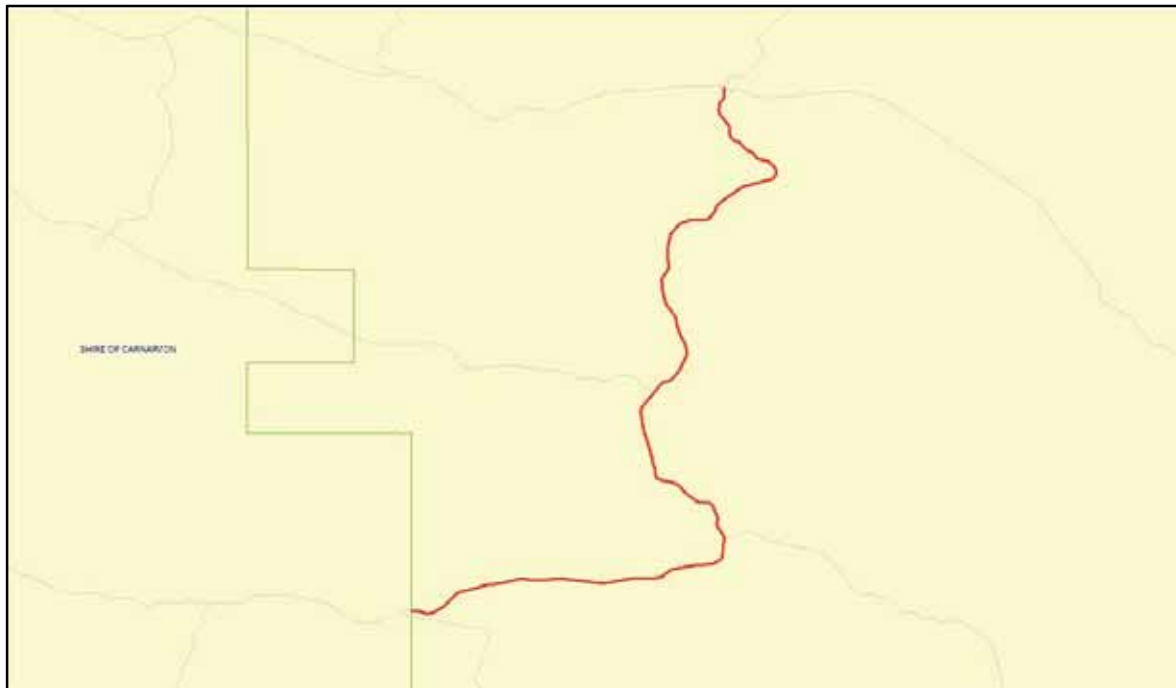
Pimbee Road is a RAV Network 6 road (conditional).

DEVELOPMENT NEED

The road at present is mostly Type 2 and requires upgrading to a Type 3 all-weather gravel standard. Some sections require realignment and minimal widening of grids to 7.6m to allow safe passage of cattle trucks and cars. Drainage and surface improvements will allow traffic to transverse these sections during normal winter conditions.

DEVELOPMENT STRATEGY

The development strategy is to progressively improve the gravel surface, widen out narrow grids, realign dangerous corners and install suitable drainage.



PLANTATION ROADS

Bibbawarra Road 8030062
North River Road 8030053
Regional Distributors

Carnarvon Shire

Last Reviewed: January 2013

ROAD FUNCTION

The function of these roads is to provide access for local traffic, tourism and freight for the horticulture district.

Bibbawarra Road and North River Road are heavy haulage routes which service plantations with both incoming and outgoing freight.

Bibbawarra Road is a RAV network 1 road.

North River Road is a RAV network 8 road.

ROAD DEVELOPMENT NEED

With the ever increasing demand of tourism and heavy vehicles utilising these roads, the standards have been found to be inadequate for safety and access.

ROAD DEVELOPMENT STRATEGY

Reconstruction of both roads in parts to satisfy drivability and safety concerns.



STELLA ROWLEY DRIVE

Road No. 8040067
Local Distributor

Shark Bay Shire

Last Reviewed: January 2013

ROAD FUNCTION

This road is a Type 5 local distributor. The road connects Monkey Mia Road with the Roundabout on Knights Terrace. Stella Rowley Drive is used by tourists and locals and is the main link between Denham and Monkey Mia. This road is also part of the World Heritage Drive scenic route that starts at the Overlander Roadhouse and terminates at Monkey Mia.

ROAD DEVELOPMENT NEED

As traffic movements along Stella Rowley Drive continue to escalate there is an increasing chance of accidents occurring as the shoulders are narrow and very soft in places and the batter slope extremely steep.

ROAD DEVELOPMENT STRATEGY

The development strategy for this road is to remove unsuitable material from the existing shoulders and replace with gravel to a suitable width. Additional material will also need to be imported to construct suitable batters in conjunction with surface retreatment.



USELESS LOOP ROAD

Road No. 8040024
Local Distributor

Shark Bay Shire

Last Reviewed: January 2013

FUNCTION

The road provides the only road access to the salt mining operation and community at Useless Loop. Access to Steep Point and False Entrance, which are popular tourist fishing locations, is also via the Useless Loop Road.

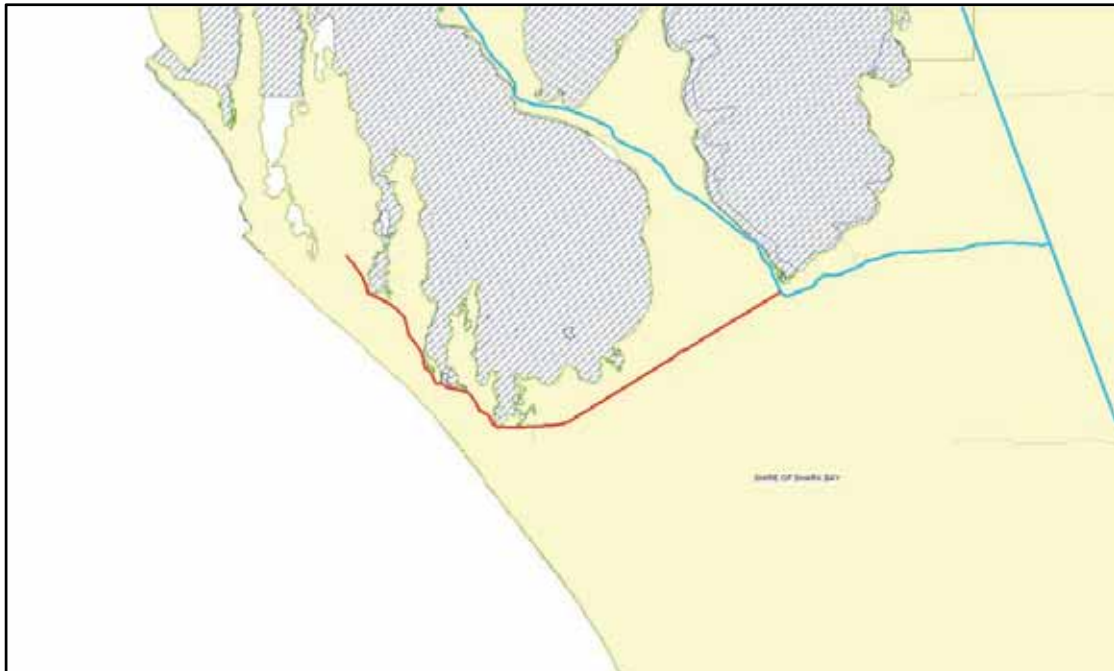
Useless Loop Road is a RAV Network 6 road.

DEVELOPMENT NEED

The people living at Useless Loop are isolated from other regional towns by a poor standard road access. The need exists to improve the standard of road access to the Useless Loop community and Steep Point to provide social and economic benefits.

DEVELOPMENT STRATEGY

Upgrading initially to a uniform formed road standard is required in the short term. This should be progressively improved to a formed gravel stage followed by sealing in the longer term.



WOODLEIGH – BYRO ROAD

Road No. 8040002
Local Distributor

Shark Bay Shire

Last Reviewed: January 2013

FUNCTION

Woodleigh – Byro Road provides access from North West Coastal Highway to local pastoral roads and provides access to the Shark Bay coastal region from the Murchison.

The road also serves as access to Compressor Station No.6 on the Dampier to Bunbury natural gas pipeline.

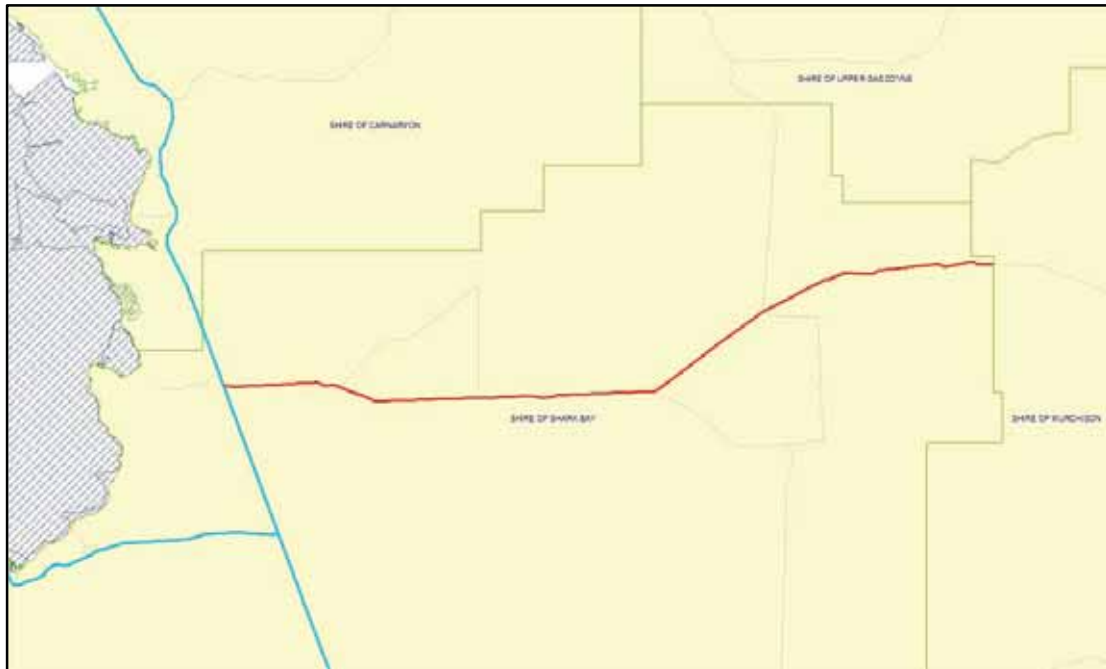
Woodleigh – Byro Road is a RAV Network 6 road.

DEVELOPMENT NEED

The road is an alternative link to the Shark Bay region for people commuting from the Murchison and is in need of upgrading to cater for the increasing traffic.

DEVELOPMENT STRATEGY

The Development Strategy for the route is to construct the road to a Type 3 gravel standard.



YARDIE CREEK ROAD

Road No. 8060038

Local Distributor

Exmouth Shire

Last Reviewed: January 2013

ROAD FUNCTION

Yardie Creek Road provides sealed access to the Ningaloo Coast World Heritage Area, Ningaloo Beach's, Reef and Cape Range National Park. Subject to Environmental conditions and Military training access south over Yardie Creek via YCR to Coral Bay through DPaW, Shire, Defence and Station lands is achievable by 4 WD.

With Exmouth being promoted as the "Northern Gateway" to the Ningaloo Reef and with development increasing in the town site and increased usage of the World Heritage coastline in between Exmouth, Coral Bay and Carnarvon, it is appropriate that access is maintained.

World Heritage recognition will inevitably attract increased tourism and investment from both existing and prospective owners.

Yardie Creek Road is included in the RAV 4 Network system (conditional)

ROAD DEVELOPMENT NEED

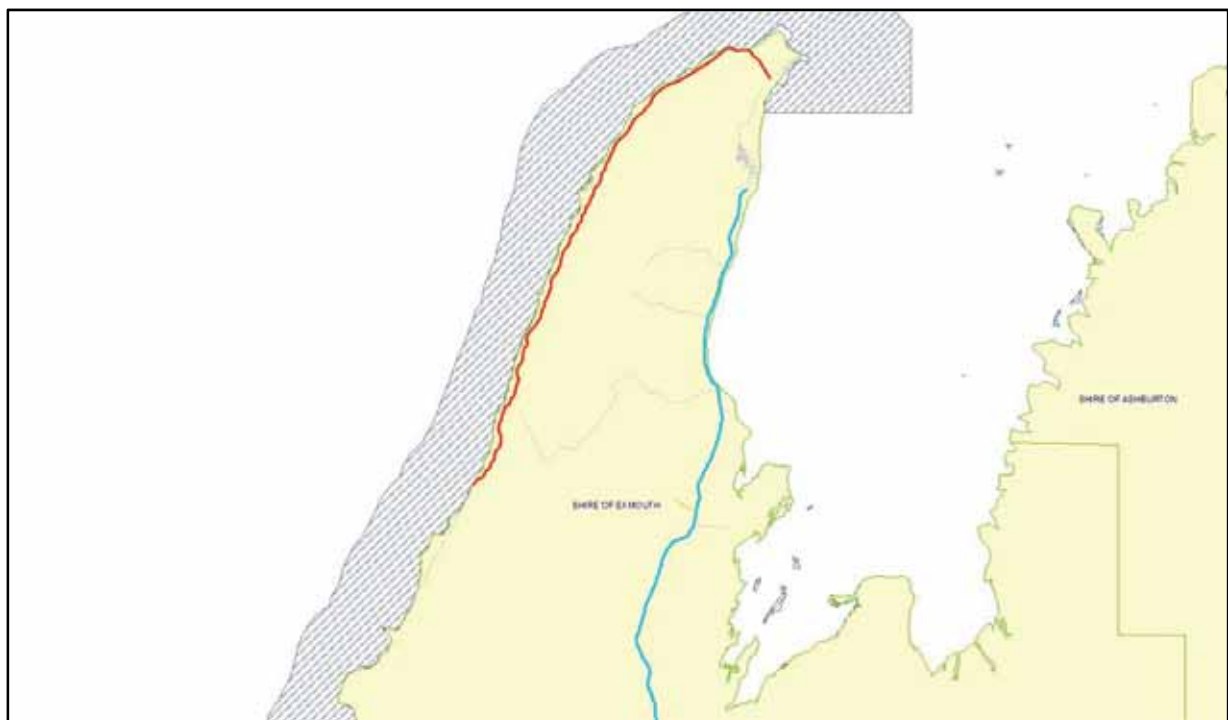
Increasing traffic to the Exmouth region is placing high demands on the existing road which is under-engineered and its design does not meet current standards. It is expected that traffic volumes will increase on Yardie Creek Road as the Shire continues to develop.

The benefits of works proposed in the Development Strategy are asset preservation, traffic safety taking into account increases in development and tourism.

ROAD DEVELOPMENT STRATEGY

An evaluation examining the maintenance cycles, quantities and cost associated with maintaining the full length of YCR (76 km) has been completed. This process included the formulation of the 20 year maintenance program for YCR.

The road's redesign will focus on upgrading the existing Type 4 Road to a Type 5 Road, widening the seal to 7 m.



SERVICE LEVELS

Type 1 – Unformed Road

(Cleared-flat bladed. Minimum construction. Formation consists of adjacent material)
This type is the first stage development of the road when the alignment is cleared of all vegetation with the running surface constructed from materials in-situ. This type of road allows for light traffic. With minimal drainage provision, the road is prone to closure during periods of heavy rainfall.

Type 2 – Formed Road

(Formed (raised) and drained road without imported material or a constructed pavement)
To avoid possible further relocation of the road and the resultant impact on the landscape environment, Type 2 earthworks are constructed using local road-making material and improved drainage control.

Type 3 – Gravel Road

(Road construction from imported material of adequate thickness, shaped and drained)
When maintenance costs increase to unacceptable levels or when economic or social benefits are evident, a Type 2 road can be improved by sheeting the surface with suitable gravel material to become a Type 3 road.

Type 4 – Sealed Road (6m Seal Width)

(Sealed with no kerbing)

Sealing is carried out to improve road-user comfort and safety when the road is experiencing higher traffic volumes or when significant numbers of heavy vehicles are required to use a Type 3 road. A Type 3 road is upgraded to Type 4 by building up the residual gravel pavement to full thickness. This is then compacted and sealed.

Type 5 – Sealed Road (7m Seal Width)

This is further development of the Type 4 road with extra seal width being provided to cater for higher traffic volumes and a high proportion of heavy vehicles.

Type 6 – Sealed Road (8 - 9m Seal Width)

This stage represents further development of a Type 4 or Type 5 road with additional seal width being provided as traffic volumes increase to improve safety; reduce maintenance costs; provide space for a stationary vehicle to stand clear of traffic lanes; and to assist cyclists.

Type 7 – Sealed Road With Overtaking Lane

An additional lane is provided on two-laned sealed roads when the traffic volume; proportion of heavy vehicles; and overtaking opportunities on adjoining sections of road cause traffic bunching to occur.

Type 8 – Dual Carriageway

An additional carriageway is provided to improve safety and increase the capacity on high volume roads.

ROAD NUMBERING SYSTEM

The road numbering system used throughout this Strategy document is explained as follows.

Local Roads, managed by Local Government Authorities (LGAs), have seven digit road numbers. The first three digits indicate the LGA that manages the Local Road, the final four digits denote the number, or label, assigned to that road by the LGA. The following table summarises the LGA codes for the Gascoyne region.

Local Government Authority	Code
Carnarvon	803
Shark Bay	804
Upper Gascoyne	805
Exmouth	806

As an example consider the Carnarvon – Mullewa Road. The portion of Carnarvon-Mullewa Road (8030242) managed by Carnarvon Shire has been numbered “0242” by this shire. Upper Gascoyne Shire has numbered its portion of Carnarvon – Mullewa Road (8050045) as “0045”.

RESTRICTED ACCESS VEHICLE (RAV) NETWORKS

Main Roads Western Australia has granted certain Restricted Access Vehicles (RAVs) conditional access to specified Western Australian roads, through the gazettal of a Class 2 and 3 Notice under the provisions of the Road Traffic (Vehicle Standards) Regulations 2002.

The following pages diagrammatically display the vehicle categories that comprise the Class 2 and 3 Notices. Further information can be found at <https://www.mainroads.wa.gov.au/UsingRoads/HeavyVehicles/Pages/HeavyVehiclesHome.aspx>.

Prime Mover, Trailer Combinations

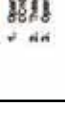
VEHICLE DESCRIPTION AND CONFIGURATION CHART (RAV) – PRIME MOVER, TRAILER COMBINATIONS EXAMPLES

Category	Vehicle Description and Configuration	Age Group	Length (m)	Mass (t) (Gross Vehicle Weight)	Height (m) (to top of chassis)	Axis	Notes
1	(A) PRIME MOVER, SEMI TRAILER TOWING A PG TRAILER	A	4.5B	50	44.8	4	Network
	(B) PRIME MOVER TOWING AN OVERSIGHT SEMI TRAILER	B	5.7B	42.5	46.8	4	
	(C) TRIPLE PRIME MOVER TOWING SEMI TRAILER	C	5.7B	50	46.8	4	
2	(A) PRIME MOVER, SEMI TRAILER TOWING A PG TRAILER	A	4.57A	46.8	44.8	4	Network
	(B) PRIME MOVER TOWING SEMI TRAILER	B	4.5B	42.5	46.8	4	
	(C) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER	C	4.57A	47.5	46.8	4	
3	(A) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER	A	4.5B	44	46.8	4	Network
	(B) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER	B	4.57A	47.5	46.8	4	
	(C) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER	C	4.5B	42.5	46.8	4	
4	(A) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER	A	4.57A	47.5	46.8	4	Network
	(B) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER	B	4.5B	42.5	46.8	4	
	(C) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER	C	4.57A	47.5	46.8	4	
5	(A) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER	A	4.57A, 4.5B1	44	46.8	4	Network
	(B) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER	B	4.57A, 4.5B1	44-4	46.8	4	
	(C) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER AND CONVERTER DOLLY	C	4.57A, 4.5B1	47.5-4	46.8	4	
6	(A) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER	A	4.57A, 4.5B1	47.5	46.8	4	Network
	(B) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER	B	4.57A, 4.5B1	47.5	46.8	4	
	(C) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER AND CONVERTER DOLLY	C	4.57A, 4.5B1	47.5-4	46.8	4	
7	(A) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER	A	4.57A, 4.5B1	47.5	46.8	4	Network
	(B) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER	B	4.57A, 4.5B1	47.5	46.8	4	
	(C) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER AND CONVERTER DOLLY	C	4.57A, 4.5B1	47.5-4	46.8	4	
9	(A) PRIME MOVER, SEMI TRAILER TOWING 2 X DOG TRAILERS	A	>49.8, 4.5B1	120.0	46.8	7	Network
	(B) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER AND CONVERTER DOLLY	B	>49.8, 4.5B1	84-4	46.8	7	
	(C) PRIME MOVER, SEMI TRAILER TOWING 2 DOG TRAILERS	C	>49.8, 4.5B1	107.5	46.8	7	
10	(A) PRIME MOVER, SEMI TRAILER TOWING 2 X DOG TRAILERS	A	>49.8, 4.5B1	120.0	46.8	7	Network
	(B) PRIME MOVER, SEMI TRAILER TOWING A DOG TRAILER AND CONVERTER DOLLY	B	>49.8, 4.5B1	84-4	46.8	7	
	(C) PRIME MOVER, SEMI TRAILER TOWING 2 DOG TRAILERS	C	>49.8, 4.5B1	107.5	46.8	7	

Heavy Vehicle Operations
 TPO (138)
 Email: tpo@mainroads.wa.gov.au
 Website: www.mainroads.wa.gov.au

1. The height of the vehicle is measured 4.5m to the top of the chassis (GVM) and 4.6m to the top of the chassis (GVW).
 2. These diagrams are a visual aid only.
 3. Operations must refer to the OPERATING COVID-19/2020 for 7.5-11.5t vehicle operations.
 4. The height of the vehicle is measured 4.5m to the top of the chassis (GVM) and 4.6m to the top of the chassis (GVW).
 5. Maximum height of PG Trailer only.

NOTES



Guidelines to Regional Road Groups(RRGs) for development of Roads 2030

Updated June 2013

1.1 Overview

1.2 Background

The Roads 2020 Regional Road Development Strategies, released during 1997 and 1998, were an initiative of the 1992 Memorandum of Understanding between the State Government and the Western Australian Local Government Association, then known as the Western Australian Municipal Association.

Local government roads in the Strategies were designated 'Significant Roads'.

The Roads 2025 Regional Road Development Strategies for each rural Region constituted the first review of the Roads 2020 Regional Road Development Strategies. They were commenced in 2004 and completed in the latter part of 2007.

The Memorandum of Understanding requires that the road development strategies be reviewed at five yearly intervals to assess the effects of changing circumstances. The next update of the Strategies is due for development in 2012.

1.3 Strategy Principles

Regional Road Development Strategies (i.e. Roads 2030) are an investment planning tool to assist with allocating available funding in a systematic fashion to achieve long term strategic planning goals for the Region and State through improvement of road infrastructure. Inclusion of a road in a Development Strategy does not influence the amount of funding provided to a Regional Road Group.

1.3.1 Roads 2030 and Maintenance

Funds to implement the Roads 2030 improvement strategy are sourced from the Road Project Grants (Category 1) of the State Road Funds to Local Government Agreement (SRFLGA). State funding to assist with general maintenance needs of the local road network are typically allocated as Direct Grants.

The Office of the Auditor General (OAG) defines maintenance¹ under two main types:

Reactive maintenance includes sealing cracks and fixing potholes, cleaning up verges, road markings and signs. It is short term and needs to be done on a day to day basis to keep roads safe and serviceable,

Planned maintenance is more costly but has long term benefits. It includes:

- Resurfacing of roads in response to aging, traffic wear and to prevent water damage, bridge repairs and replacing road markings;
- Rebuilding to restore the structure of roads and bridges. That may include strengthening the roads and bridges, correcting the shape of the road or minor changes in road width.

¹ Maintaining the State Road Network” report (page 10),

1.3.2 Routine Maintenance

Reactive maintenance is often referred to as Routine Maintenance. Routine maintenance work is not to be included in strategies for individual roads within Roads 2030 as it is assumed such activities will always be undertaken on roads and thus do not need to be referred to in improvement strategies. Furthermore, by its nature, routine maintenance does not improve the road.

1.3.3 Periodic Maintenance

Planned maintenance is more often referred to as Periodic Maintenance.

The need for major periodic maintenance works can be included in strategies for individual roads in Roads 2030. This includes works such as reseals and resheeting, rehabilitation, shoulder reconditioning and other heavy maintenance type works.

The potential need for inclusion of any periodic heavy maintenance work on a road must be documented as part of the overall strategy for the road.

1.3.4 Reconstruction

The Office of the Auditor General (OAG) uses the term “rebuilding”² to describe works more often called “reconstruction” in the road industry.

Reconstruction of roads is not maintenance as it replaces the existing asset with a new one, typically with a design life of 40 years. Where appropriate, the need to undertake reconstruction of all or part of a road is to be included in strategies for individual roads within Roads 2030.

1.3.5 Roads forming Routes

The term “road” is used throughout this document. In some instances, a number of roads may be combined to create a route which is given an appropriate name for the purposes of identification. In the context of this document, “road” includes routes which have more than one individual road and an identifying route name.

² Maintaining the State Road Network” report (page 10),

2. CONTENT

2.1 Significant Roads

2.1.1 Definition

Roads that do, or will, provide a positive contribution to the economic and/or social wellbeing of the region and Western Australia as a whole.

2.1.2 Road Types

The following are defined as Significant Roads for inclusion in Roads 2030.

- All 'highways' and 'main roads'
- Road Hierarchy roads with a category of District Distributor or Regional Distributor. (Roads with a lesser classification may be included if it can be demonstrated to the State Advisory Committee (SAC) they do, or will, have a clear role in the provision of a positive and measurable contribution to the economic and/or social wellbeing of Western Australia.)
- Roads shown at Appendix B Figure 5 of the *Local Government Grain Freight Heavy Vehicle Strategic Pathway Mapping and Access Policy* report.

2.2 Development Strategy Roads

All Significant Roads with a development need are to have a high level improvement strategy prepared. This can be as little as a two or three sentence statement. In the rare instance where it is intended to include major maintenance as part of the high level strategy, the need for it must be clearly documented.

Significant Roads which do not require improvement are to be listed by road name and number in a table.

2.3 Structure of Roads 2030 Strategy documents

Each Regional Road Development strategy is to have the same format. An electronic version of the relevant Roads 2025 document will be provided to each Regional Road Group to facilitate production of the Roads 2030 document. The 2030 documents will comprise:

Cover Sheet

Contents Page(s)

Overview of Regional Road Development Strategy document (includes history of previous development strategies and relationship to Roads 2030). (updated content from Roads 2025).

Overview of Region (updated content from Roads 2025).

Map(s) of Region showing colour coded roads in the following categories:

- State Roads ('highways' and 'main roads');
- Road Hierarchy roads (District Distributors, Regional Distributors, Local Distributors and Access Roads);
- Significant Roads requiring improvement/development to meet strategic role;
- Significant Roads not requiring improvement/development; and
- Grain Freight Routes.

State Roads

Strategy and map for each road (in alphabetical order)

Local Roads

- Table of all Significant Roads (in alphabetical order), including individual roads comprising any Routes. Roads which have development strategies are to be shown in bold text, with other Significant Roads in a following list in plain text;
- Strategy and map for each road requiring development (other than in exceptional instances, excludes roads which only require ongoing maintenance). See below for content of individual road strategies.

2.4 Content of Individual Road Strategy Pages

The format is to be the same as Roads 2025 i.e. :

- Road or Route Name
 - Road Number(s)
 - Local Government name
 - Last Review date (i.e. 2007)
 - Function (including Road Hierarchy category and a comment on how the road makes a positive contribution to the economic and/or social wellbeing of the region and Western Australia as a whole)
 - Development Need
 - Development Strategy (A brief, high level summary. Include proposed funding sources e.g. Road Project Grant, Black Spot)
 - Locality Map
- Maps will be prepared centrally as arranged by Main Roads, based on Road Number and SLK start and end for each road (or roads if a route comprises more than one road) provided by RRGs.

3. ALLOCATION OF ROAD PROJECT GRANT FUNDING

Road Project Grant funding is not to be allocated to a road which does not have a SAC approved Roads 2030 strategy.

All projects seeking funding are to contain a brief statement on how the project will contribute to delivery of the road's Roads 2030 strategy.

4. CHANGES TO ROADS IN SAC APPROVED ROADS 2030 STRATEGIES

Clause 4 of the 2011/12 – 2015/16 SRFLGA refers to Regional Roads Groups making recommendations to the State Advisory Committee “in relation to amendments to Roads 2025 Strategy or its updated equivalent document”.

It is recognised that significant changes in road use and/or the role of a road could occur unexpectedly during the life of a five year strategy. If, due to such a change, it is necessary to amend the overall strategy through inclusion or deletion of a road, the RRG is to seek approval from SAC for the change. The request is to clearly demonstrate the reason or basis for the request i.e. how the function of the road has changed, and the factors responsible for this change. A road development strategy is to accompany the submission.

5. MONITORING PROGRESS

RRGs are to report annually³ to SAC on works undertaken using Road Project Grant funds to improve Significant Roads identified in Roads 2030. The Report is to include:

- road name and number
(or roads comprising the route if multiple roads were combined to form a route)
- start and end SLKs
- brief description of works
- amount spent

This reporting will assist with calculation of the KPIs referred to in Clause 5.3 of the current SRFLGA.

³ on a financial year basis