

Transport Network Plan

Southern Area of Eurobodalla



Figure 1. Previous Transport Upgrades at Narooma Flat Roundabout and Bermagui Road with active transport elements incorporated.

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The Vision

Our vision is to ensure a safe, accessible, integrated and resilient transport network that provides for the efficient and effective movement of people and goods, and to activate and support our growing permanent and visitor population and economy.

To support this vision, this plan has been developed on a network and whole of route basis. This plan sets out the major actions (works) and strategies across the southern area of the Eurobodalla for the next 10-20 years on all major transport routes. The routes covered under this southern plan include:

- i) South Head Road (Princes Highway to Headland Grove)
- ii) Bingie Road (Princes Highway to Mullimburra Road)
- iii) Hector McWilliam Drive
- iv) Potato Point Road
- v) Eurobodalla Road/Nerrigundah Mountain Road
- vi) Mort Avenue/Noble Parade/Amhurst Street/Dalmeny Drive
- vii) Mystery Bay Road
- viii) Bermagui Road
- ix) Araluen Road

Araluen Road is included as a more significant inter-regional road connecting Moruya to Araluen to Braidwood, with 46.5km being within the Eurobodalla LGA. The key issue along this route is the on-going resilience to landslide and flooding.

This plan also addresses the traffic management changes proposed within Moruya town to accommodate the development of Moruya South and the major traffic management elements within Narooma to balance the traffic along Princes Highway compared to Riverside Drive.

For simplicity, this plan does not include rural roads covered by the Eurobodalla Local Infrastructure Development Contributions Plan 2022 nor unsealed roads proposed to be 'dust sealed' for traffic or environmental reasons. These are listed in the Transport Asset Management Plan.

The plan takes account of previous studies and is consistent with Council's adopted Community Strategic Plan, Delivery Program, Operational Plan and Local Planning Statement. This plan takes account of current and proposed development along these routes.

This plan delivers on the actions within the Eurobodalla Road Safety Plan 2019-22, by providing further detail on the route upgrades required to meet growth and capacity needs in the southern area of Eurobodalla whilst providing improved road safety outcomes. It is our intent to develop all the major routes identified here to a minimum Star Rated 3 or higher road environment and to cater for all road users.

A Star Rating 3 is not achievable along Araluen Road due to the physical constraints of the road environment in mountainous terrain. A focus should nonetheless continue on making minor safety improvements as funding allows.

The proposed works outlined within this plan ensure a more resilient transport network, taking lessons from the 2019-20 Black Summer bushfires and integrating road safety, capacity and resilience improvement actions to achieve a better future in a way that minimises impacts and/or enhances environmental outcomes.

It is recognised that this plan can only be delivered with a high level of funding support from the NSW and Australian Governments. This plan will inform grant applications under the various

transport, road safety, active transport and other related programs to deliver the actions outlined in this plan. Council will continue to integrate works to enhance route outcomes wherever practical to advance the objectives of this plan.

This plan outlines the proposed changes to the local and regional road network required to facilitate growth in the southern area of Eurobodalla and provide improved integration of pedestrian and cyclist movement between and within villages to improve place and movement outcomes. Within the southern area the Dalmeny Land Release Area has been identified in the Eurobodalla Local Environmental Plan 2012 for further low density residential development. A Development Control Plan is currently being prepared for this area before further subdivision progresses.

The plan cross references the adopted Eurobodalla Pathways Strategy 2017 and adds further detail in some specific locations such as South Head Road and Dalmeny. The plan does not seek to duplicate nor replace the Eurobodalla Pathways Strategy 2017 which can be found on Council's website at <https://www.esc.nsw.gov.au>.

This plan requires that all major routes identified have direct access from private development onto the route controlled to maintain the primary higher level transport function of these routes as regional or distributor roads in the overall network.

On all major urban roads and all rural lead-in roads (inclusive of those not listed herein), access points must be planned to minimise direct driveway access and ensure appropriate intersection treatments to all new access points. The plan includes removal or restriction of some existing access points to reduce the number of conflict points and enhance road safety and transport functionality.

This plan will continue to support public transport along these major routes. Where appropriate public transport facilities will be upgraded with the needs of public transport listed for consideration as part of the detailed design phase of each proposal. In areas with speed zones greater than 60km/hr, bus facilities should preferably be located off these primary routes in low hierarchy roads or off-road parking areas to enhance user safety. Similarly, key destinations outside of urban areas should ensure that provision for bus facilities including shelters are incorporated within their developments rather on the major routes to improve the safety for people utilising these important services.

All regional and distributor roads identified in this plan on the local and regional road network are to be designed and constructed be capable of accepting higher mass limit 26m B-double vehicles to facilitate more efficient future transport. Araluen Road is excluded from this requirement due to the physical constraints of this route.

This plan is integrated with the existing and proposed State highway network. Upgrades to the State highways is a matter for the NSW Government and not separately identified in this plan with the exception of the need for Transport for NSW to upgrade the Princes Highway and Bingie Road intersection as this will likely impact the route of Bingie Road on the approach to the highway. Council's advocacy on State highways will continue to be identified in submissions to the NSW Government and working through the South East Australian Transport Strategy Inc (seats.org.au).

Background and Context

Eurobodalla is a vibrant community with strong rural and coastal heritage and Indigenous culture. Our local industry once based primarily on dairying, forestry, and fishing, is now a diverse economy built around agriculture, aquaculture, the visitor economy, retail, construction, property, health, education and other Government services.

With 143km of coastline, 83 beaches, 20 lakes and four major river systems, Eurobodalla is known as the land of many waters. Over three-quarters of our land area is open space, consisting of 10 national parks and 15 state forests. Our population is spread along the coastline, in the regional centre of Batemans Bay, the main towns of Moruya and Narooma and smaller villages and rural areas.

Our land-use plans and the Eurobodalla Local Planning Statement provide for growth through sustainable urban expansion as well as increased density and infill development in select areas. As there will be increased demand on existing services it is pivotal that urban infrastructure continues to be renewed. Infrastructure development will also support business and tourism growth throughout Eurobodalla.

In 2022 Eurobodalla's estimated resident population was 40,129. Based on current projections it is expected to reach more than 45,000 by 2036. In addition, Eurobodalla attracts more than 1.6 million visitors annually with higher visitation during the holiday peak seasons. Based on these estimates, in 2031 Eurobodalla can expect an average daily population of 55,000 and a peak population of more than 120,000.

The transport network across Eurobodalla includes the Princes Highway and Kings Highway. The responsibility for these highways rests with the NSW Government through Transport for NSW (TfNSW). The length of highways within Eurobodalla is 108km and 37km respectively. Council does perform work on behalf of TfNSW on the Kings Highway under contract and from time to time on the Princes Highway. These works are determined and funded by TfNSW.

Council has responsibility to upgrade, renew and maintain the local and regional road network consisting of 1,019km of road length that can be categorised by hierarchy as shown in

Table 1 below (as at 30 June 2022).

Hierarchy of Road	Length (Km)	Percentage of Network (%)
Regional Road	57.4	5.6
Distributor	42.5	4.2
Collector	101.0	9.9
Local	317.8	31.2
Local Access	94.0	9.2
Unsealed Roads	399.6	39.2
State Parking	7.0	0.7
Total Network	1,019	100%

Table 1 Local and Regional Road Network maintained by Eurobodalla Shire Council

The regional roads within this plan are as follows:

- i) Hector McWilliam Drive
- ii) Mort Avenue/Noble Parade/Amhurst Street/Dalmeny Drive
- iii) Bermagui Road

These roads receive separate annual grant funding under the Regional Road Block Grant and Regional Road Repair Program.

Council also has responsibility for a growing pathway network as shown in Table Two below.

Category	Type	Length (m)
Footpath	Footbridge	1,161
	Footpath	82,261
	Stairway	955
	Total Footpath	84,377
Shared Pathway	Footbridge	408
	Shared Pathway	51,646
	Stairway	23
	Total Shared Pathway	52,077
Totals		136,454

Table 2 Footpaths and Shared Pathways maintained by Eurobodalla Shire Council (30 June 2022)

Both the road and pathways network are experiencing significant growth with further development. There is a significant gap in pathways within the urban road network which Council seeks to address for higher order roads and key connections as per the Eurobodalla Pathways Strategy, Northern Area Transport Network Plan and this plan. New developments are required to fund and build appropriate footpath, shared pathway and facilities to provide safe road crossings at the time of development.

Our existing transport network is well managed underpinned by:

- i) taking a strategic whole of network and route approach, rather than a project specific approach
- ii) a well established road hierarchy directly linked to current and planned growth
- iii) a strong focus on saving lives and reducing road related trauma through implementation of the Eurobodalla Road Safety Plan 2019-22
(https://www.esc.nsw.gov.au/_data/assets/pdf_file/0005/161429/Eurobodalla-Road-Safety-Plan-2019-2022.pdf)
- iv) sound asset and risk management including integration of resilience outcomes
- v) strategic integration of multiple projects through advanced route planning and extensive re-use of materials to accelerate delivery of route and network outcomes
- vi) integration of active transport through implementation of the adopted Eurobodalla Pathways Strategy 2017
(https://www.esc.nsw.gov.au/_data/assets/pdf_file/0006/146481/Eurobodalla-Pathway-Strategy-2017.pdf)
- vii) a strong focus on improving connectivity, walkability and liveability of our towns and villages, particularly within our commercial business districts and where major routes pass through our villages

Yet there remain many challenges including the need to address road related trauma, legacy issues from previous development eras, changing transport needs and modes, increasing community expectations, demand from growth as well as many areas of the broader road network with a low level of resilience. The delivery of the transport program is also heavily dependent on external funding sources (particularly Government grants and developer contributions).

Since the 2019-20 Black Summer bushfires, Eurobodalla has also experienced nine additional natural disasters (up until 31 August 2022). These disasters have resulted in disconnections of communities along with major challenges and works to recover the transport network. This is particularly the case in the western sector of Eurobodalla with the destruction or damage to nineteen timber bridges, major landslides and huge amounts of damage to existing roads. Whilst these immediate challenges are being substantially addressed through natural disaster funding arrangements, the remainder of the network remains vulnerable to further damage with significant adverse impacts on our community.

A separate Transport Network Plan has already been prepared for the northern area of Eurobodalla Shire which focusses on the major growth corridor between Batemans Bay and Moruya plus Cullendulla Drive (servicing Long Beach and Maloneys Beach) and Durras Drive (servicing South Durras) in the north of the Eurobodalla. The Northern Area Transport Network Plan (NATNP) is available on Council's website www.esc.nsw.gov.au.

This Southern Area Transport Network Plan (SATNP) plan focusses on the major regional, distributor and other key road network links servicing the coastal towns and villages within the southern area of Eurobodalla from Moruya Bridge in the north to Bermagui Road in the south. It also includes key road network links to the west such as Araluen Road and Eurobodalla Road/Nerrigundah Mountain Road.

Major actions taken to date in the southern sector of Eurobodalla include:

- i) Development and completion of high priority actions under the Eurobodalla Pathways Strategy (with significant new connecting pathways provided to all shopping precincts and other facilities across Eurobodalla over the last decade)
- ii) Improved walkability within each main commercial business district
- iii) Progressive upgrades to South Head Road including offroad shared paths and upgraded intersection treatments
- iv) Reconstruction of Congo Road south to meet a rural road standard and improved access to the Congo Village
- v) Progressive upgrades to Potato Point Road including widened verges, safer flatter batters and clear zones
- vi) Reconstruction of Eurobodalla Road (south of Sutcliffe Street) including provision of a new pathway to separate pedestrians from trucks and other vehicles
- vii) Progressive upgrades to parts of Bermagui Road including widened sealed shoulders, widened centerline treatments, improved batters, clear zones and resilience improvements
- viii) Advocacy and liaison with Transport for NSW in relation to the Moruya Bypass, including ensuring Transport for NSW engage with the community and business chamber
- ix) Completion of road safety reviews of all rural and regional sealed roads with identification and prioritisation of progressive network improvements that will form part of this plan

- x) Completion of pedestrian safety improvements in Moruya CBD including implementation of the 30km/hr high pedestrian activity area speed zone (speed zones are approved by Transport for NSW).
- xi) Replacement of bushfire and flood damaged timber bridges with concrete bridges on local roads
- xii) On Araluen Road, major geotechnical stabilisation works at the 11, 14, 18, 19, 24, 41, 43, 45km marks, major resilience works at various sites including west Merricumbene and construction of a new alternate route at the 22km mark on Araluen Road

The southern area of Eurobodalla is experiencing growth through increased subdivision and infill development. This has resulted in growth in traffic volumes on our major routes. These growth rates are expected to continue increasing numbers of people choosing to live regionally and with the increasing numbers of visitors coming to the Eurobodalla coast.

Council's regional and major distributor roads share a disproportionately high percentage of casualty crashes. As stated within the Eurobodalla Road Safety Plan 2019-22 of the 376 casualty crashes occurring on local, regional, and other roads, 152 or 46.9% of these occurred on only 9% of the Council network, being the busier regional and distributor roads.

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Current traffic volumes on these major routes within the southern area of Eurobodalla Shire are shown below in Table 3.

Road Name	Current Traffic Volume (vehicles per annum)	Comment
South Head Road	1.40 million	Based on AADT of 3,846vpd recorded in 2019 near intersection with Princes Highway
Hector McWilliam Drive	1.32 million	Based on AADT of 3,609vpd recorded in 2020 west of Anderson Avenue
Dalmeny Drive	1.21 million	Based on AADT of 3,302vpd recorded in 2019 north of Lakeside Drive
Noble Parade	0.89 million	Based on AADT of 2,432vpd recorded in 2019 east of Creswick Pde
Mort Avenue	0.83 million	Based on AADT of 2,267vpd recorded in 2019 NE of Goolara Avenue
Bermagui Road	0.64 million	Based on AADT of 1,741vpd recorded in 2019 north of Turner Drive
Araluen Road	0.43 million	Based on AADT of 1,188vpd recorded in 2020 west of Yaragee Rd Intersection
Bingie Road	0.36 million	Based on AADT of 991vpd recorded in 2019 at Princes Hwy Intersection
Mystery Bay Road	0.22 million	Based on AADT of 611vpd recorded in 2018 near intersection with Princes Highway
Eurobodalla Road	0.17 million	Based on AADT of 467vpd recorded in 2019 near intersection with Princes Highway
Potato Point Road	0.16 million	Based on AADT of 431vpd recorded in 2018 west of Derraquin St
Nerrigundah Mountain Road	0.09 million	Based on AADT of 247vpd recorded in 2016 northwest of Bridge

Table 3 Traffic Volumes on Key Routes within Northern Area Transport Network

Note: Additional traffic counts will be taken post the COVID-19 era to ascertain traffic volumes in 2022-23.

Introduction

This Plan sets out Eurobodalla Shire Council's upgrade roadmap for our highest volume transport routes within the Southern Area of our Shire over the next 20 years.

The plan covers the major local distributor and regional road links including:

- i) South Head Road, Moruya
- ii) Bingie Road, Bingie (Princes Highway to Mullimburra Road)
- iii) Hector McWilliam Drive, Tuross Head
- iv) Potato Point Road, Potato Point
- v) Mort Avenue/Noble Parade/Amhurst Street and Dalmeny Drive, Dalmeny/Kianga
- vi) Mystery Bay Road, Mystery Bay
- vii) Bermagui Road, Akolele
- viii) Araluen Road, Moruya

Araluen Road is included as a more significant inter-regional road connecting Moruya to Araluen to Braidwood, with 46.5km being within the Eurobodalla LGA. The key issue along this route is the on-going resilience to landslide and flooding. This route extends beyond Pigeon Gully bridge where it then moves into the ownership and care of Queanbeyan Palerang Regional Council.

This plan also addresses the traffic management changes proposed within Moruya town to accommodate the development of Moruya South and the major traffic management elements within Narooma to balance the traffic along Princes Highway compared to Riverside Drive.

The future of the Southern Area of Eurobodalla depends on a safe, reliable, efficient, accessible, and connected Transport Network. This plan will ensure upgrades to the transport network are undertaken on a 'whole of network' and route-based approach maximising the outcomes from each activity to help ensure the overall vision for the network is strategically achieved and our individual efforts are not duplicated. By planning and thinking in this way each upgrade project can be leveraged to achieve multiple outcomes from road safety to the overall capacity and resilience of the network.

This plan does not intend to replace other strategies, plans and studies that Council has already developed in relation to the transport network, instead it has been developed to compliment them and to ensure actions in relation to the key routes within this plan are undertaken in a coordinated way considering the whole of the network. Other strategic documents that are to be read in conjunction with this plan include:

Eurobodalla Community Strategic Plan – One Community

In NSW, Councils are required to develop community strategic plans for their community consistent with the principles of Integrated Planning and Reporting. This 20-year community plan identifies the main priorities and aspirations for the future of the Eurobodalla Shire. Following extensive community engagement Eurobodalla Shire Council developed its Community Strategic Plan – One Community which strives to develop a friendly, responsible, thriving and proud community. It also incorporates key outcomes including providing 'Connected and Accessible Places' with the goal that 'our integrated accessible transport system grows to ensure social and economic needs are met now and into the future'.

Resourcing Strategy, Delivery Program and Operational Plan

Council's strategies are developed into action plans through inclusion of specific items in Council's Resourcing Strategy, Delivery Program and Operation Plan. Together these plans show how Council will contribute to delivering our community's vision and objectives outlined in the Community Strategic Plan.

The Delivery Program sets out activities that Council will complete in the term of each Council (typically a four year period), along with measures to track our progress in achieving the activities.

The Operational Plan shows the actions, projects and capital works that Council will deliver in the financial year and include the budget and capital program, information on rates and the revenue policy and fees and charges.

Asset Management Strategy

The Asset Management Strategy is part of Council's Resourcing Strategy and outlines the resources required to deliver the community's vision in the community strategic plan.

Council's ability to sustain and upgrade the local and regional road network and deliver on other transport needs is heavily dependent upon grant funding from other levels of Government.

The outcomes of this plan will be incorporated into the next update of the Transport Asset Management Plan and Asset Management Strategy.

Eurobodalla Road Safety Plan 2019-22

Council recognises and accepts the key role we play in road safety through the implementation of a safe systems approach (safer roads, people, vehicles and speeds) within our area of responsibility. Council adopted the Eurobodalla Road Safety Plan 2019-22 (ERSP). The ERSP outlines specific measures Council needs to continue undertake to reduce road related trauma and improve safety for our community and visitors to Eurobodalla as they drive our local and regional roads or bus, scooter, cycle and walk around our community.

Key actions from ERSP have been incorporated into this Transport Network Plan for the Southern Area of Eurobodalla. This Transport Network Plan also fulfils key actions within the ERSP to develop more detailed route plans for major transport routes in the northern area of Eurobodalla as a priority action (as per Section 6 of the ERSP).

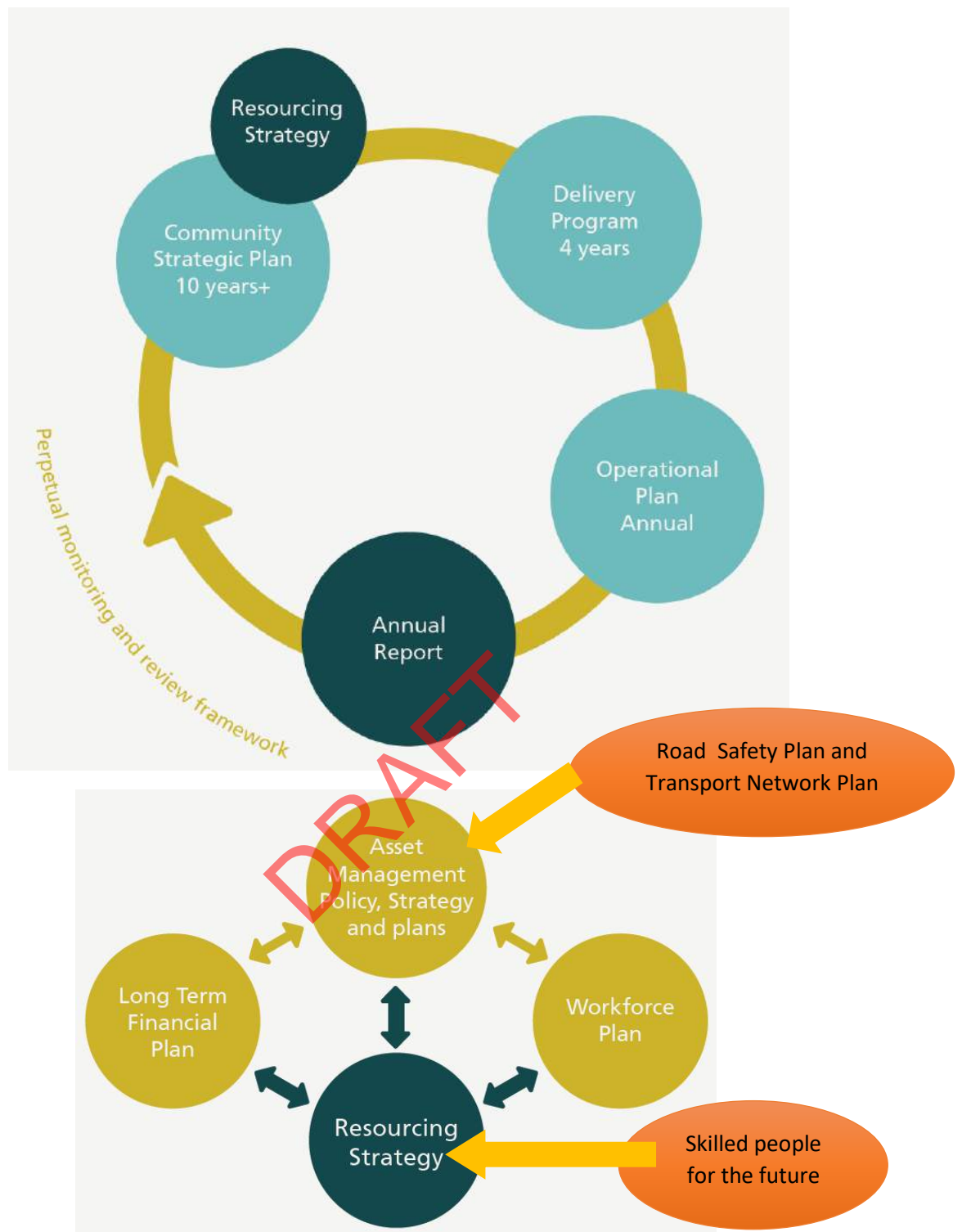


Figure 1 – Links to the Integrated Planning and Reporting Framework for NSW Councils

Section 7.11 Development Contributions (Previously Section 94 Contribution Plan)

Development contribution plans set out the framework and requirements proposed to help fund, plan and deliver infrastructure and services to meet the needs of current and future Eurobodalla residents, in a planned and sustainable manner.

Development contributions are payments made by developers to Council for the provision of public infrastructure. These contributions assist in the provision of roads, pathways and other public infrastructure where there is a nexus between growth and the infrastructure required to service that growth.

Key transport related projects included this plan will also be included in the Section 7.11 Developer Contributions Plan where applicable.

[Eurobodalla Pathways Strategy 2017](#)

This strategy is a guiding document for the development and implementation of new pathway facilities for pedestrians and cyclists within Eurobodalla. This includes both formal footpaths and shared pathways.

[Northern Area of Eurobodalla Shire Traffic Study – Transport Plan Report \(2011\)](#)

In May 2010, Council commissioned a transport and traffic study of the northern area of Eurobodalla Shire. This included the construction of a TRACKS strategic land use/traffic model providing recommendations for implementable solutions focussed on key nodes. This model incorporated current land-use planning predictions. The study presented a Future Transport Plan providing recommendations for implementable solutions to mitigate existing and future road infrastructure and traffic issues. Although mostly focusing on the Northern Area of the Shire the study did include South Head Road which is included within this plan. The study was adopted by Council at its Finance and Services Committee meeting held 8 November 2011 – Minute FSM11/152.

[Narooma Pedestrian Access and Mobility Plan 2008 and North Narooma Pedestrian Access and Mobility Plan \(PAMP\)](#)

These PAMPs identify issues and opportunities for pedestrians within the Narooma Flat and North Narooma area. It provides a comprehensive network of pedestrian facilities for all types of pedestrians, including children, the elderly, tourists, and pedestrians with a mobility or vision impairment. Many of the recommendations from this plan have now been implemented and are included within the Eurobodalla Pathways Strategy.

[Eurobodalla Local Strategic Planning Statement 2020-2040](#)

The Eurobodalla Local Strategic Planning Statement sets out a 20-year vision for land-use planning in the region and how it will be managed in future. It explains the basis for strategic planning with regards to economic, social and environment matters.

The Statement addresses a broad range of matters including:

- placemaking
- housing supply, diversity and affordability
- employment and economic growth
- environmental management
- town and village character enhancement
- infrastructure provision.

Critical elements of the plan

Safety

The safety of drivers, pedestrians, cyclists, all other transport network users and the broader community is a cornerstone of this transport upgrade plan.

The adopted Eurobodalla Road Safety Plan 2019-22 (ERSP) recognises that addressing road related trauma is a whole of Government and community challenge. The cost of road related trauma is \$7.6B and \$30B annually across NSW and Australia respectively but the human cost is far too high.

The ERSP identifies that the highest incidence of crashes occurs on just 9% of the local and regional road network. This same segment of the network is experiencing the highest growth rates and without action, road crashes and associated road related trauma would continue to increase. The targeted actions taken by Eurobodalla are reducing the total number of crashes and injuries on our local and regional road network.

The adopted ERSP commits Council to pro-actively address road safety using the Safe Systems approach and to leverage Council's funding to secure grants to deliver an upgraded, safer local and regional road and pathway network that provides for future growth.

The measures outlined in the ERSP have been incorporated in this plan to ensure these key community outcomes are achieved. The ERSP also sought to have more detailed route plans developed for each major route. This network plan delivers that outcome. This includes the need to design and build our major transport routes to be more forgiving and to account for human error and vulnerability.

As part of the ERSP, Council has now undertaken a road safety review of all the rural and regional sealed roads under its control and has identified improvements to address each issue. Taking a whole of network and route approach, the improvements listed within this transport plan will allow Council to work progressively toward the desired outcomes.

Also, through this continued use of advanced route and network planning, Council is able to achieve many road safety improvements at a lower cost through the integration of multiple projects outcomes across its annual programs. An example of this is through the re-use of excess materials across transport and other projects, and even between State agencies and Councils, to achieve the required community focussed outcome. Another example of lowering cost is through the sharing of advanced planning information with other services providers (such as Essential Energy, Telstra, NBN and others) so their infrastructure is installed to avoid the need for relocation, or so relocation can be arranged in advance of civil construction activities.

By taking this whole of network approach every investment in the transport network is maximised and many road safety improvements can be achieved that would otherwise not be readily achievable.

Council also participated in a pilot program with Transport for NSW and the Australian Road and Research Board (ARRB) in 2020 to undertake a road safety assessment using the AusRAP of the key routes within this plan. AusRAP is the Australian Road Assessment Program which uses the International Road Assessment Program (iRAP) to determine a Star Rating for each road segment. Those assessed with a high Star Rating have a higher safety performance. Globally, iRAP has adopted a safety performance benchmark of building a '3 Star or better' road network as they have determined that this will significantly reduce the incidence of road crashes and associated road related trauma and death. Correspondingly, it is our goal that all key routes will also be of a

minimum of a 3 Star rating or better. This approach is made more achievable by the advanced planning in place and the ability to effectively recycle and re-use suitable materials to develop an even safer road network over the medium term.

This more holistic and strategic approach also means we can place a much stronger focus on the ease of on-going maintenance and worker safety (which is both a moral and legislated responsibility). This includes making better provision for maintenance vehicles to pull off to the side of the road and for mowers to be able to mow continuously off the main carriageway (where practicable). This approach also provides for safer break down space on these busy routes.

Resilience

The 2019-20 Black Summer bushfires and nine natural disaster floods and storms that followed showed us just how susceptible our transport infrastructure can be to natural disasters. Along with personal, property and environmental impacts, our community has also had to deal with access issues caused by damage to the Council maintained road network. Bridges have been destroyed, the road surface has suffered, extensive fire-affected roadside trees presented a significant hazard, and multiple roadside slopes have collapsed.

One of the prime lessons from our bushfire experience was also:

- i) the fundamental role these major routes played in saving peoples' lives as they fled on the oncoming bushfire
- ii) just how dangerous some routes were for first responders both during and immediately after the bushfire passed
- iii) how, in some cases, the lack of resilience of the route contributed to the devastation and how this can be avoided or mitigated in the future
- iv) the significant additional challenges and safety risks to workers involved in the short and medium term disaster recovery works (across multiple agencies)

Council continues to dedicate significant resources to restoring safe access and to recovering our transport and other infrastructure from these ten consecutive natural disasters since November 2019 to August 2022. Council has been successful in advocating for specific funding and in securing funding under the Natural Disaster Relief and Recovery Arrangements. This funded work is anticipated to extend into 2023-24.

The report to Council on 13 September 2022 IR22/024 Infrastructure Recovery – Natural Disasters outlines the infrastructure resilience and recovery work and is publicly available at [Agendas and minutes | Eurobodalla Council \(nsw.gov.au\)](#).

Bermagui Road is a critical regional evacuation route as demonstrated during the 2019-20 bushfires. It must therefore be maintained to a higher level including on-going maintenance of vegetation, including removal of overhanging lateral regrowth.

All other routes are critical local evacuation routes, including Congo Road south into the village of Congo.

An underpinning principle in our recent recovery and all future work is to build a more resilient future of our community, for our first responders and for our workers that incorporates the many direct lessons learnt to provide a safer future. This includes building a more resilient local and regional road and transport network.

To do this our transport network must be able to:

- Provide reliable and safe access during emergencies and extreme weather events
- Ensure the network's ability to help protect communities from the impacts of bushfires and flooding
- Reduce the risks to the community, first responder and workers during and following natural disasters.
- Minimise the works required to recover the network following natural disasters
- Progressively adapt the network over time to respond to a changing climate and associated impacts including rising sea level rises and more frequent and extreme weather events
- Manage roadside vegetation based on the lessons learnt through regular slashing, removal of hazardous trees and lateral growth.

The key resilience priorities on Araluen Road include:

- i) Geotechnical stabilisation works to re-open the road at the 43km mark
- ii) Completion of widening from Merricumbene open farming country west (approximately 41km mark). This work is part funded for completion 2023-24.
- iii) Batter slope stability work at Grumleys Road. Initial work has been completed.
- iv) Additional transverse drainage and slope stability work base on assessment and need.
- v) On-going monitoring and assessment of the route on an annual basis or following substantial rainfall events (greater than 50mm).

Council has been funded to replace the following additional bridges:

- i) All five timber bridges along Wagonga Scenic Drive (Clarksons, Cobra, Cowdroys, Grumleys, Punkalla Creek bridges)
- ii) Potato Point bridge
- iii) Silo Farm bridge
- iv) Tilba Tilba bridge
- v) Old Mill Road bridge

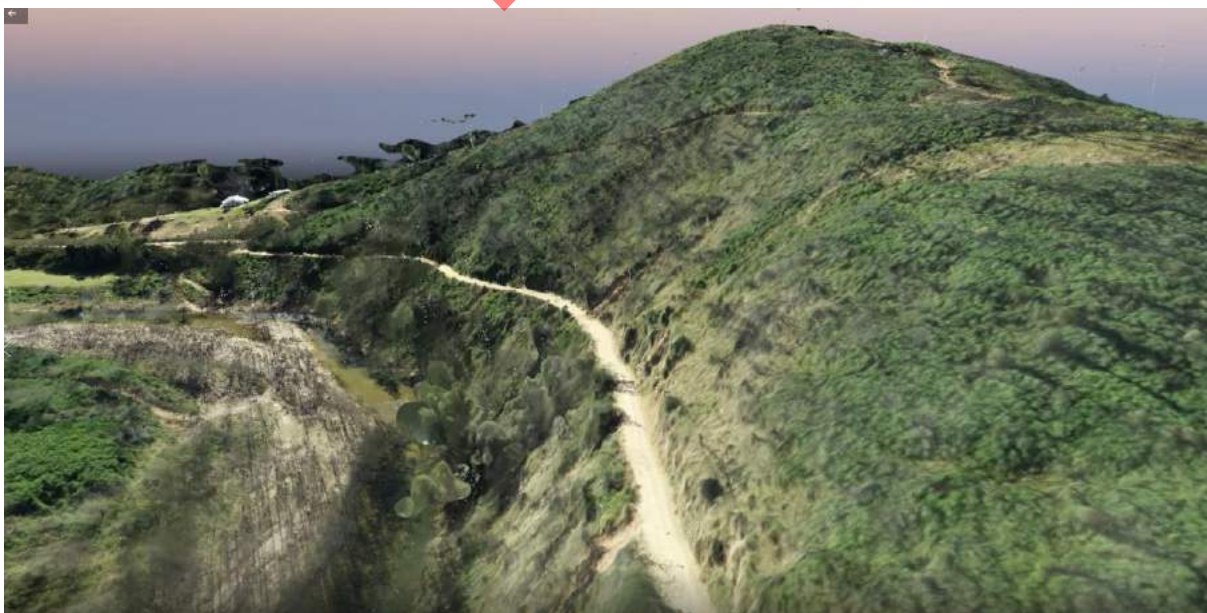


Photo 1 – Araluen Road 43km mark landslide is in extremely steep terrain typical of this route. Innovative drone survey technology was utilised to assess the risk and develop solutions.



Photo 2 – Belimbla bridge on Belowra Road and 18 others sustained major damage during the bushfires and floods.



Photo 3 – Belimbla bridge on Belowra Road is one of thirty (30) timber bridges and causeways to be funded for replacement since 2020 under the Eurobodalla Infrastructure Resilience Plan 2020-22 bringing vastly improved resilience to the Eurobodalla community.

Liveability

At the heart of Eurobodalla's Community Strategic Plan's vision is having a liveable community that has pride of place, ease of access, community harmony, and a mobile and healthy population that is encouraged and motivated to participate in community life. There is a feeling of safety and security, a strong vibrant cultural base, and places to relax, study and play which means people are happy with their work life balance.

To achieve this vision the transport network must be able to support and enable liveability. This means that it must be able to connect the community and contribute to providing a healthy and attractive place to live, visit, work and play. The transport network needs to contribute to and reinforce the character of the villages and towns it connects as well as providing for and encouraging more and improved opportunities for walking and cycling to encourage physical activity within the local community.

This transport plan is linked to Eurobodalla's pathway strategy and seeks to encourage active transport wherever possible. This plan also seeks to change the actual speed environment and place to allow easier movement particularly in identified precincts. The works undertaken to improve pedestrian safety and accessibility in Moruya CBD is an excellent example of changing the road environment to improve safety in the context of place and to support business activity (completed 2020-22).

Sustainability

Our transport network also needs to be socially, economically and environmentally sustainable now and into the future. This means that the development of the network needs to support a range of outcomes including supporting improved accessibility, community, business and visitor outcomes; assist in the attraction of investment in our towns and villages; and the environment is considered, enhanced and protected and alternative active and more sustainable modes of transport are provided for.

The network must also be made ready for innovative technology changes and support and enable the current and future use of electric and automated vehicles and 'smart city' technologies.

Connectivity and Accessibility

The transport network must be fit for purpose in enabling connected and accessible places. This is essential to ensure that our social and economic needs are met now and into the future. This plan will ensure that our transport network has sufficient capacity and provides for the movement of people and freight, as well as providing improved access to employment, services, retail, recreation and tourism destinations.

The transport network must meet the outcomes targets in the Eurobodalla Community Strategic Plan in the delivery of effective transport options for our community. This includes the continual development of connections into and around Eurobodalla including local and regional roads, reducing traffic congestion at peak times and providing footpaths, shared pathways, public transport, freight and tourism connections.

The Moruya Regional Airport is a key destination from a connectivity and accessibility perspective, including for freight, business and the visitor market.

Improvement Treatments

To ensure our transport network in the southern area of the Eurobodalla grows to meet the social and economic needs of our community now and into the future, various several key upgrades are recommended. These upgrades have previously been documented within various plans including Eurobodalla's Road Safety Plan, Council's Asset Management Strategy and Plans, Eurobodalla's Pathway Strategy and the Northern Area of the Shire Traffic Study and can be broadly summarised into the following treatments:

Intersection Upgrades

Intersections are often the location where many of the crashes on our road network occur. Because of this the installation of appropriate types of intersection treatments and application of best practice in intersection design has the potential to make a significant contribution to crash reduction on our road network. Different types of intersections have different safety performances, and this factor should be considered in the selection of an intersection type for any given situation, along with other important objectives, such as the need to provide adequate capacity for traffic movement on the road network AGRD Part 4 (Austroads 2017).

Depending on the specific requirements for each intersection, the traffic volumes, speeds and site constraints, different treatments are recommended ranging from basic intersection treatments, through to channelised turn treatments and then onto roundabouts and signalised intersections. The type of intersection treatment required will differ depending on the performance requirements of each site including the need to improve liveability of specific places along these major routes.

The symbols used to represent different proposed intersection upgrades in this plan include:

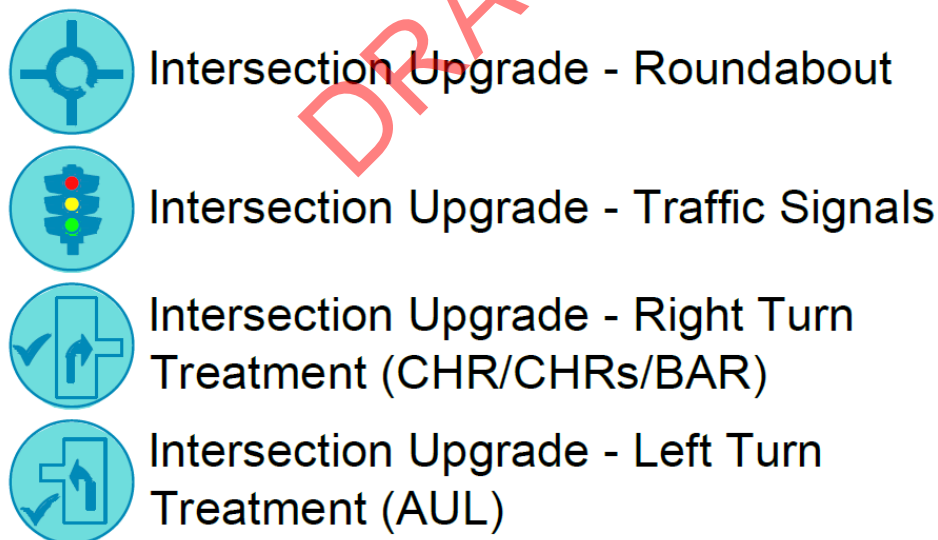


Figure 2 Intersection Upgrades Symbols

Central Median/Right Turn Restrictions

In some situations, particularly as traffic volumes increase, it is necessary to provide a physical separation between vehicles with the use of a raised central median. This treatment is also used to restrict uncontrolled right turns to remove conflicts between turning movements to/from adjoining properties or intersections, thereby reducing the high risk crashes (right turn and rear end collisions) and to improve traffic flow and capacity.

The symbol used to represent a proposed central median or a right turn restriction in this plan is:

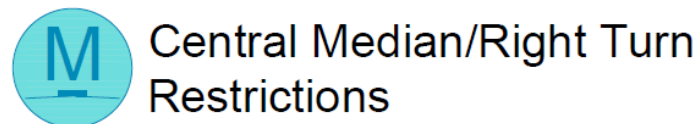


Figure 3 Central Median Treatment Symbols

Pavement Strengthening

To ensure our road pavements can provide adequate service to our community now and into the future it is often necessary to extend their asset life through pavement strengthening. This is particularly relevant where traffic volumes are increasing including heavy vehicles, thereby exceeding the structural strength of the original pavements. Such treatments can include stabilisation of the existing pavement materials and increases in overall pavement thickness with the addition of an overlay of new material, or in other circumstance may require a full box out and reconstruction. However, this plan attempts to reuse existing material wherever possible.

Another benefit of undertaking pavement strengthening is to correct any deficiencies in the pavement surface including improvements to crossfall and superelevation. Whenever pavement strengthening is proposed, the works should consider inclusion of the necessary widening to achieve the desired road formation to meet road safety, resilience and capacity requirements. This includes provision of widened centrelines and sealed shoulders for improved road safety and use by the increasing numbers of on-road cyclists.

The symbol used to represent a proposed pavement strengthening, with provision for widening to the desired road formation, in this plan is:

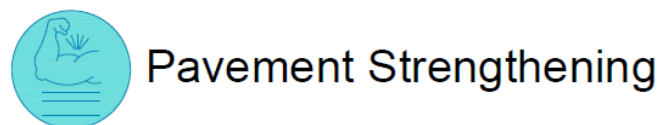


Figure 4 Pavement Strengthening Symbol

Capacity Upgrade to 4 Lanes (2 lanes in each direction)

As traffic volumes increase, particularly on the busiest parts of our transport network along Beach Road and the northern section of George Bass Drive the capacity of the network to provide an adequate level of service, particularly in peak times becomes stretched. To prevent traffic congestion and reduce delays during busy times of the year as well as avoid the need for drivers to merge and de-merge sections of the network need to be upgraded to 4 lanes (2 in each direction).

On George Bass Drive between Batehaven and Surf Beach, much of the road formation has already been prepared to allow for the entire route to be upgraded to four lanes in the long term. Only the higher priority duplications north of Sunshine Bay Road have been incorporated in this plan. The timing of further duplications south of Sunshine Bay Road should be reviewed when the transport model is next updated in 2023-24.

The symbol used to represent a proposed capacity upgrade to 4 lanes in this plan is:

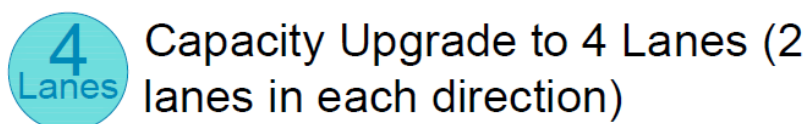


Figure 5 Capacity Upgrade to 4 Lanes Symbol

Shoulder Widening

Having adequate sealed shoulder widths, particularly on our higher volume regional, distributor and collector roads is essential. Wide sealed shoulders have proven to provide many benefits, including:

- Space is available to pull off the road safely in the event of an emergency, in case a vehicle becomes inoperable, or for inspection and maintenance of the road
- Space is available for vehicles to avoid collisions and recover control
- Improved sight distance across the inside of horizontal curves
- Increased driver comfort and the quality of service of the road
- Reduction in crash rates, particularly with respect to run-off road crashes
- Enable cyclists to separate from faster moving traffic

The minimum standard for roads within this plan without kerb and gutter is to progressively be upgraded to have a minimum of a 2.0m sealed shoulder.

The symbol used to represent a proposed shoulder widening in this plan is:

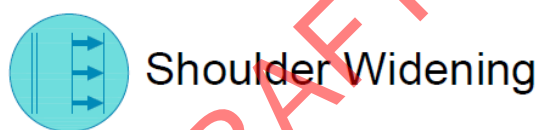


Figure 6 Shoulder Widening Symbol

Widened Centreline (BB1, BB2)

For higher speed roads providing a widened centreline treatment, up to 1m (BB2) can help provide additional separation between vehicles travelling in opposite directions to improve safety, to reduce the potential for head-on crashes. This type of treatment has demonstrated substantial reductions in the number of crashes on higher volume two-lane roads. Our objective is to progressively work toward achieving a widened centreline treatment on all major routes (either BB1 or BB2 centreline width). Where practicable and affordable, the wider centreline treatment should be preferred.

The symbol used to represent proposed widened centrelines within this plan is:

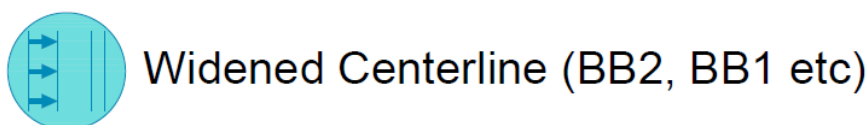


Figure 7 Widened Centreline Treatment Symbol

Improved Clear Zones and Batters

It is important that our roadside environment is as forgiving as possible and hazards in the road corridor are either eliminated or protected to reduce the severity of crashes. Where steep drop offs, and isolated hazards can be removed this will have significant road safety benefits.

Considerable work has already occurred in this space however there is a limited amount still to be done. Where practicable this plan seeks to continue the practice of optimising the use and co-sharing of cleared space improving road safety and the resilience of the road network and assisting to improve the resilience of other services (eg power and telecommunications lines)

This includes improving the ease and safety of undertaking roadside maintenance operations.

The symbol used to represent a proposed improved clear zones and more recoverable batters in this plan is:

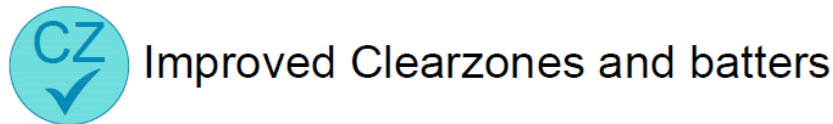


Figure 8 Improved Clear Zones and Batters Symbol

Shared Pathway/Active Transport Additions

Encouraging active transport and separating larger numbers of cyclists and pedestrians from higher speed vehicles is incorporated into this plan where these actions are considered a high priority. Eurobodalla's Pathway Strategy highlights the proposed future footpaths and shared pathways, and this transport network plan does not intend to reproduce this strategy. Instead, to ensure key shared pathway upgrades are integrated with other transport upgrades within relevant proposed upgrades along the key transport routes have been highlighted.

These inclusions do not limit the future development of additional shared pathway routes following the next review of the pathways strategy.

The symbol used to represent a proposed shared pathway or other active transport addition in this plan is:



Figure 9 Shared Path Addition Symbol

Public Transport Upgrades

Eurobodalla is heavily reliant on the car as the primary source of transportation. Only 0.7% of residents use public transportation and the lack of transport choice is a measure of transport disadvantage. Whilst 85% of residents own a car, transport disadvantage is experienced by specific groups in the population, primarily families with young children, people with a disability, and Indigenous Australians.

The Eurobodalla Local Strategic Planning Statement identifies opportunities to consolidate future development in the urban centres and establish alternative modes of transportation around activity and employment centres.

Where upgrades to public transport facilities can help further encourage the safe use of public transport they will be identified with the following symbol:



Figure 10 Public Transport Upgrade Symbol

Drainage Upgrades

Strategic stormwater drainage upgrades can help improve the resilience and safety of the road network.

Targeted capacity upgrades to key road crossings can help increase the resilience of the road network allowing it to provide increased use through natural disasters as well as reduce time parts of the road become disconnected due to flood waters.

Extensions of culverts that are close to the road batter can enable verges to be widened and batters to be flattened improving the safety of the road network.

Other drainage related upgrades identified in this plan include the addition of new kerb and gutter to improve how stormwater flows are conveyed to downstream receiving waters, reducing sediment loads, scour and road drop off and better use of road shoulders.

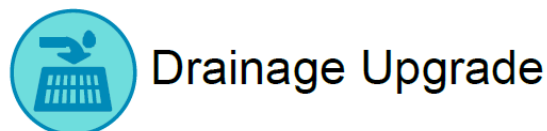
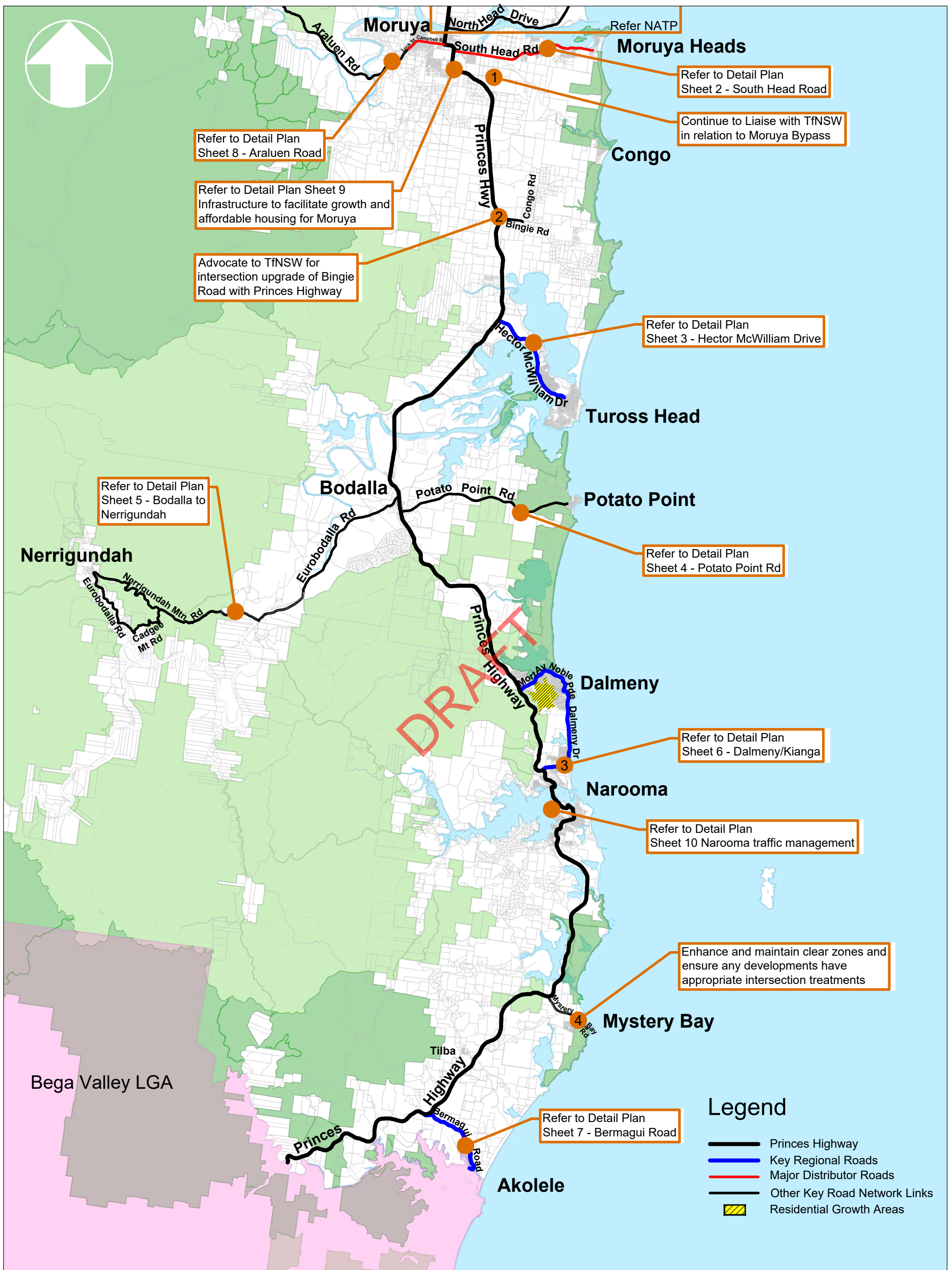
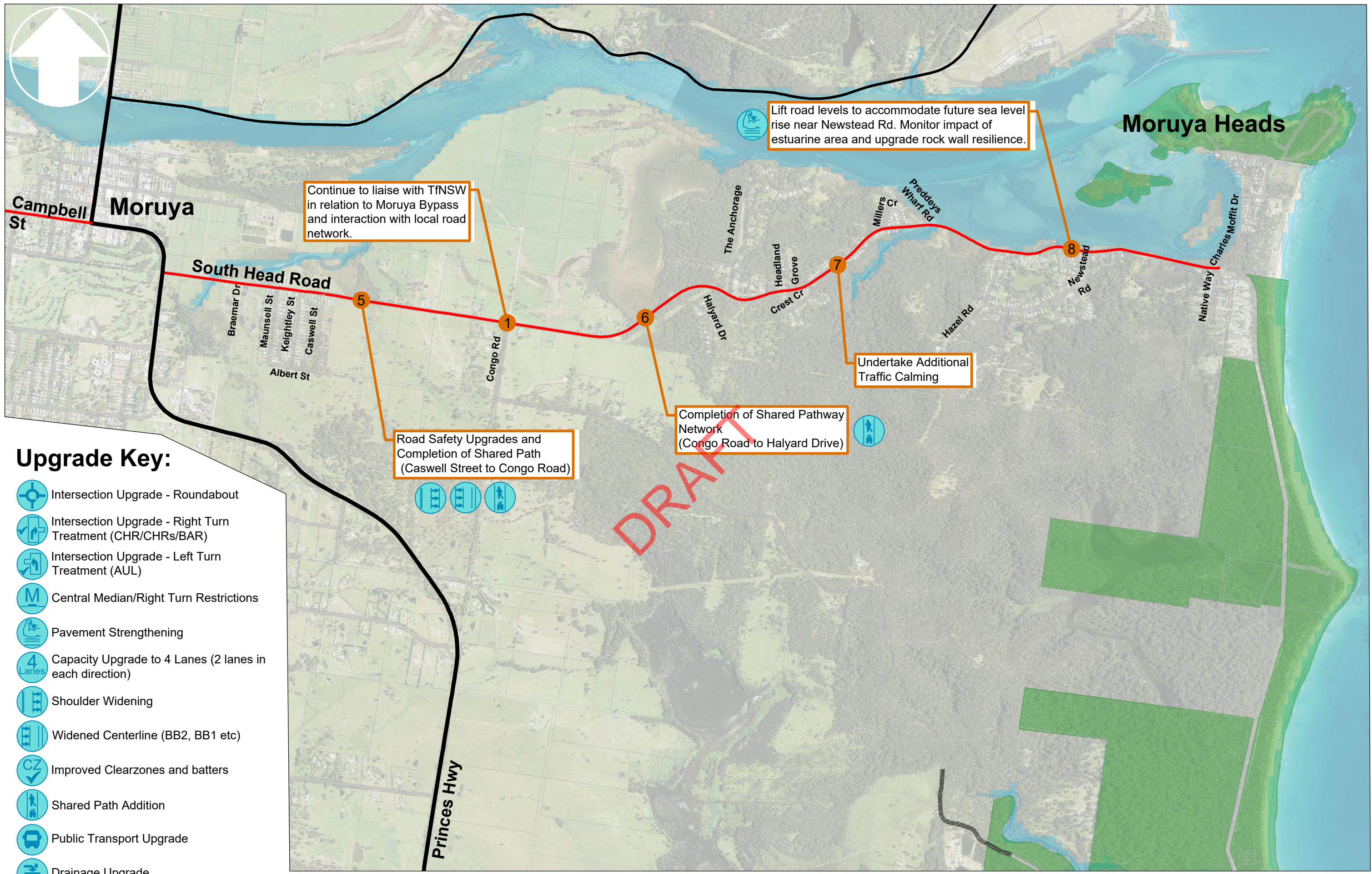


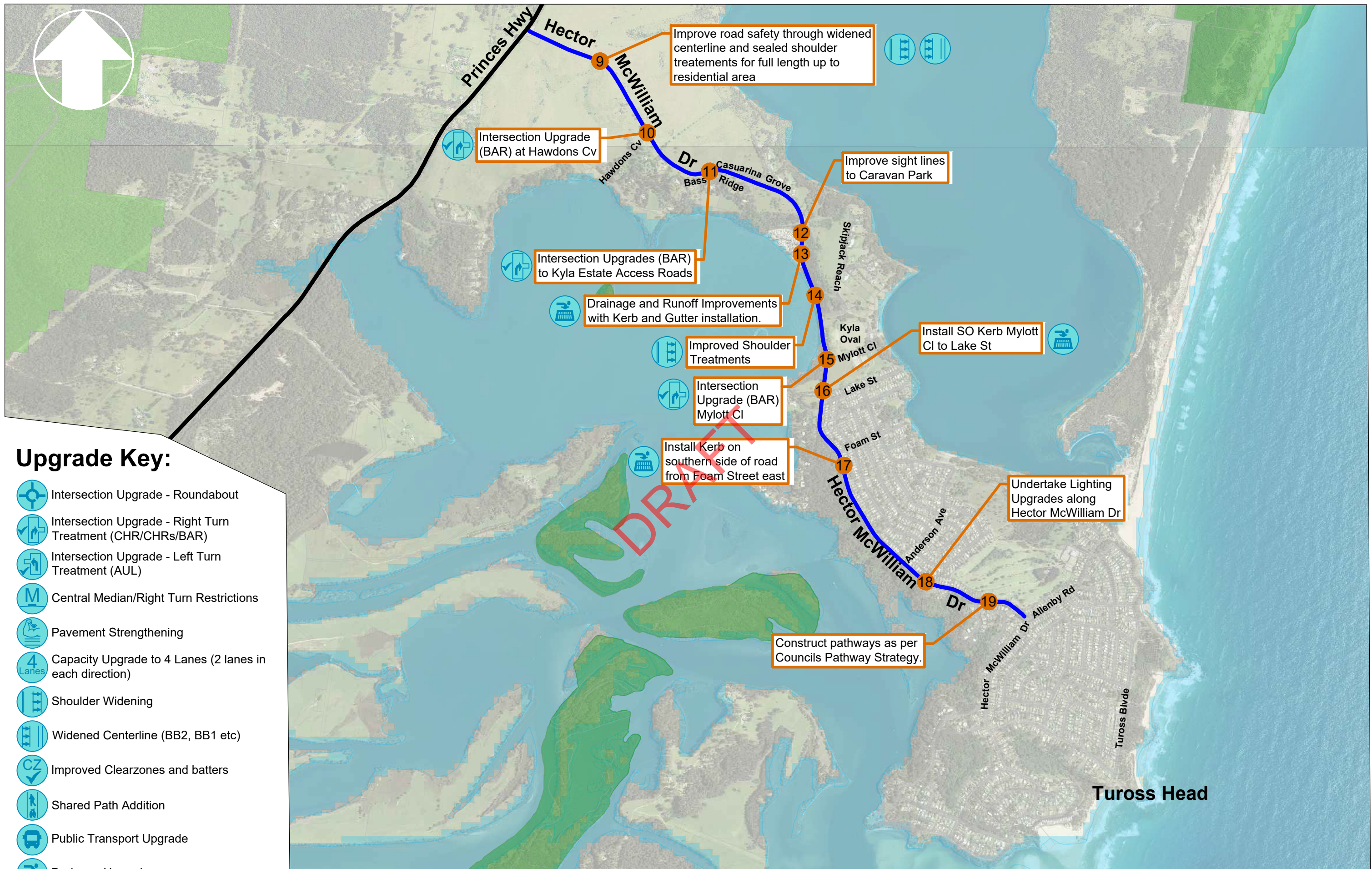
Figure 11 Drainage Upgrade Symbol













Upgrade Key:

- Intersection Upgrade - Roundabout
- Intersection Upgrade - Right Turn Treatment (CHR/CHRs/BAR)
- Intersection Upgrade - Left Turn Treatment (AUL)
- Central Median/Right Turn Restrictions
- Pavement Strengthening
- Capacity Upgrade to 4 Lanes (2 lanes in each direction)
- Shoulder Widening
- Widened Centerline (BB2, BB1 etc)
- Improved Clearzones and batters
- Shared Path Addition
- Public Transport Upgrade
- Drainage Upgrade



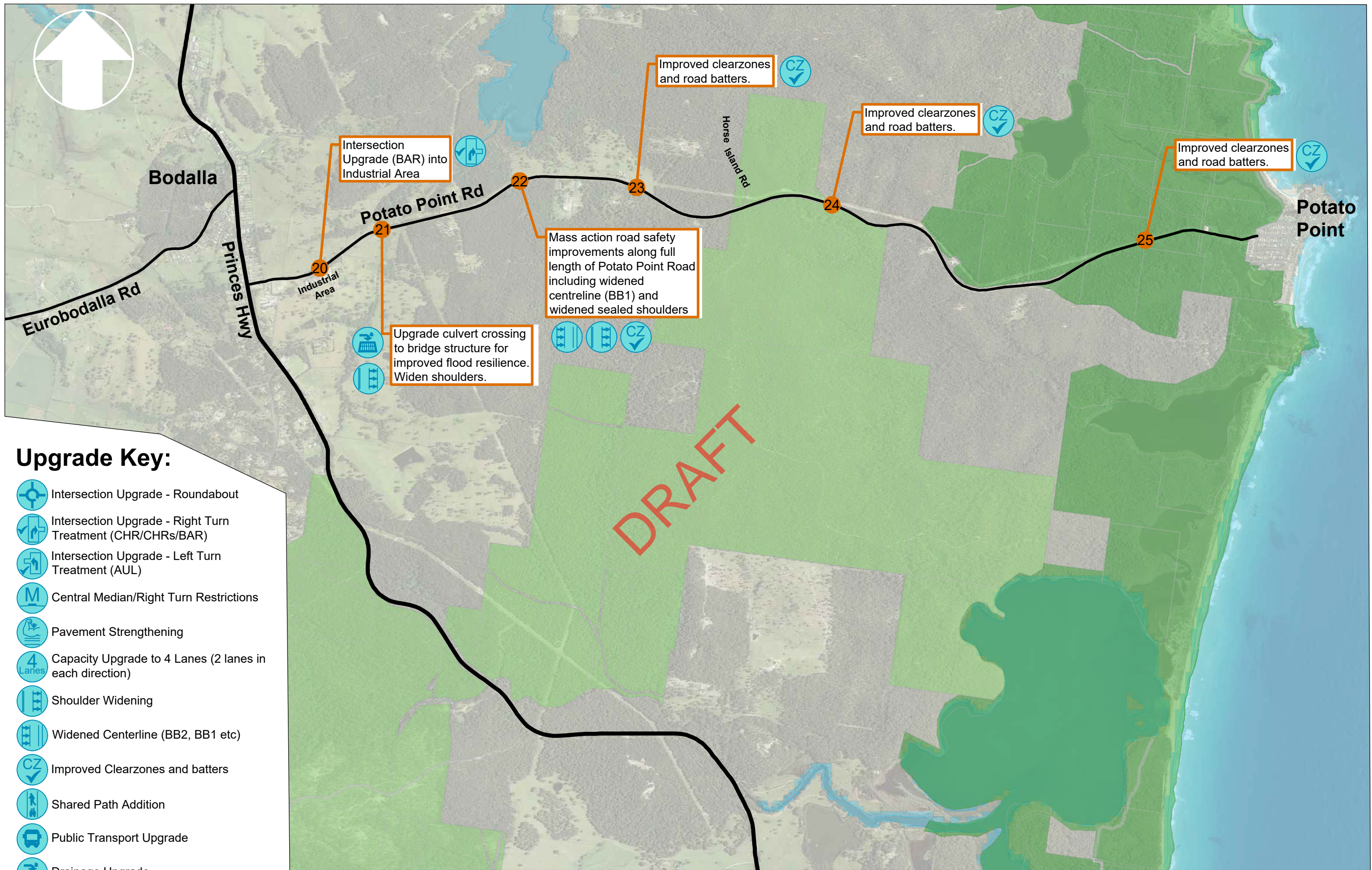
Upgrade Key:

-  Intersection Upgrade - Roundabout
-  Intersection Upgrade - Right Turn Treatment (CHR/CHRs/BAR)
-  Intersection Upgrade - Left Turn Treatment (AUL)
-  Central Median/Right Turn Restrictions
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-  Shoulder Widening
-  Widened Centerline (BB2, BB1 etc)
-  Improved Clearzones and batters
-  Shared Path Addition
-  Public Transport Upgrade
-  Drainage Upgrade

Scale 1:20,000



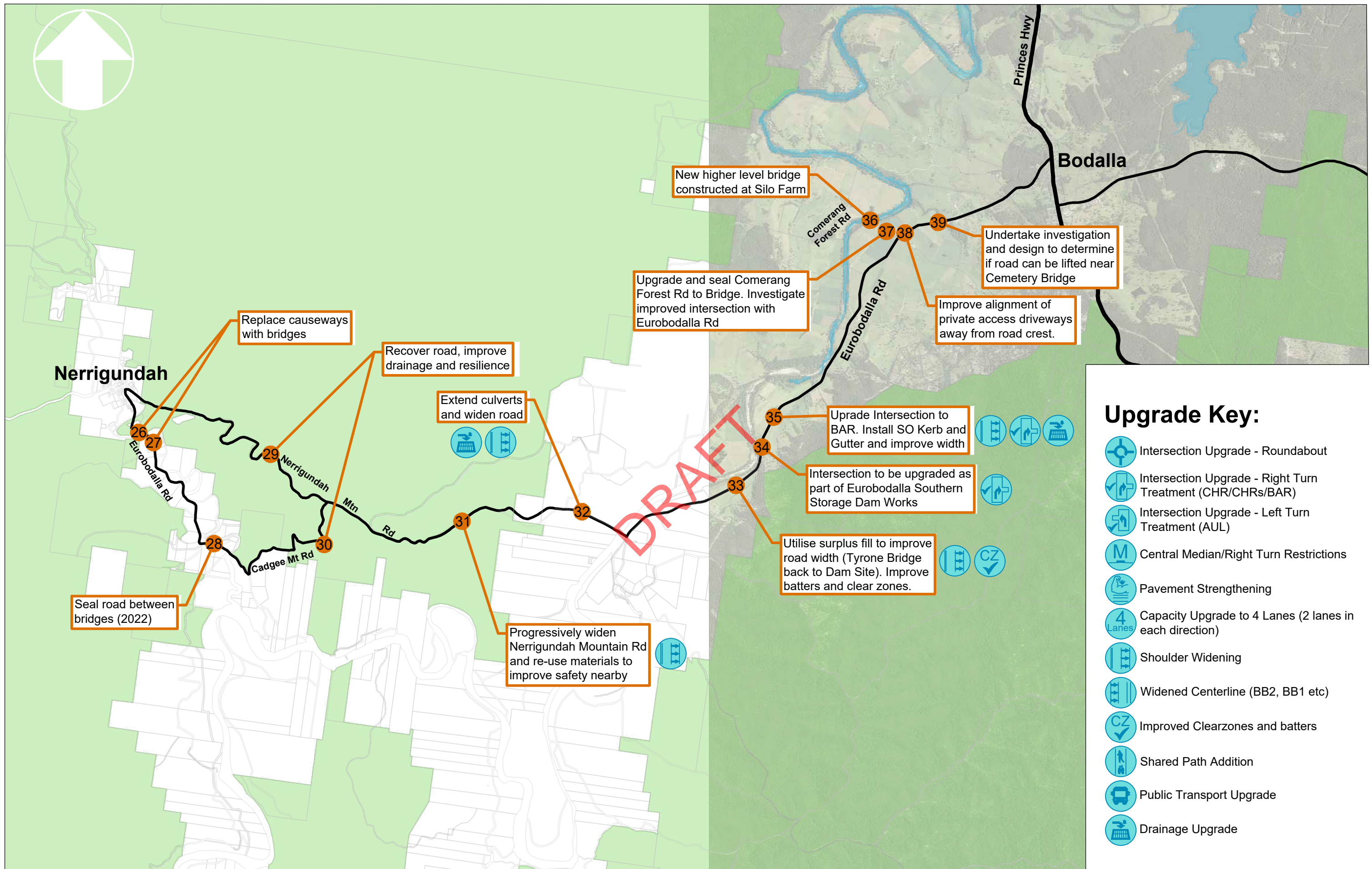
29/9/2022

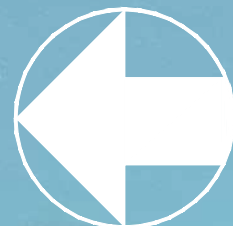


Upgrade Key:

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-  Intersection Upgrade - Right Turn Treatment (CHR/CHRs/BAR)
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-  Shared Path Addition
-  Public Transport Upgrade
-  Drainage Upgrade

DRAFT





Install pedestrian
refuge road crossing
near Eucalyptus Dr

Pedestrian Refuge at
Barkala St/Dalmeny Dr

Intersection Upgrade and Pedestrian Refuge
Crossing with Small Mountable Roundabout
at Surf Beach Rd/Dalmeny Dr

Undertake
lighting upgrades
as required along
Dalmeny Dr

Investigate
intersection upgrade
at Centenary Dr

Dalmeny

Intersection Upgrade
(Small Mountable
Roundabout) William
St/Noble Pde

Intersection Upgrade
(Roundabout) at
southern end of
Dalmeny Land
Release Area

Intersection Upgrade
(Roundabout) Cresswick
Pde/Noble Pde

Install SO Kerb and
undertake further detail
design and investigation
(Ruth Place to Goolara Ave)

Intersection Upgrade
(Roundabout) Binalong
St/Mort Ave/DLRA

Extend 450mm
culvert either side
and flatten batters.

Continue to advocate to NSW
Government to remove the bus
shelter off the Princes Hwy bus
stop and install nearby.

Dalmeny Dr

Kianga

Upgrade Intersection (BAR)
at Warbler Cr (east)

Construct Offroad Shared Path
Warbler Cr (west) to Centenary
Dr as per Pathway Strategy

Intersection Upgrade
(Roundabout) at
Warbler Cr (west)

Upgrade intersection to
include protected right hand
turn treatment (CHRs) at
Williamson Dr. Further
investigate longer term plans.

DRAFT

Upgrade Key:

- Intersection Upgrade - Roundabout
- Intersection Upgrade - Right Turn Treatment (CHR/CHRs/BAR)
- Intersection Upgrade - Left Turn Treatment (AUL)
- Central Median/Right Turn Restrictions

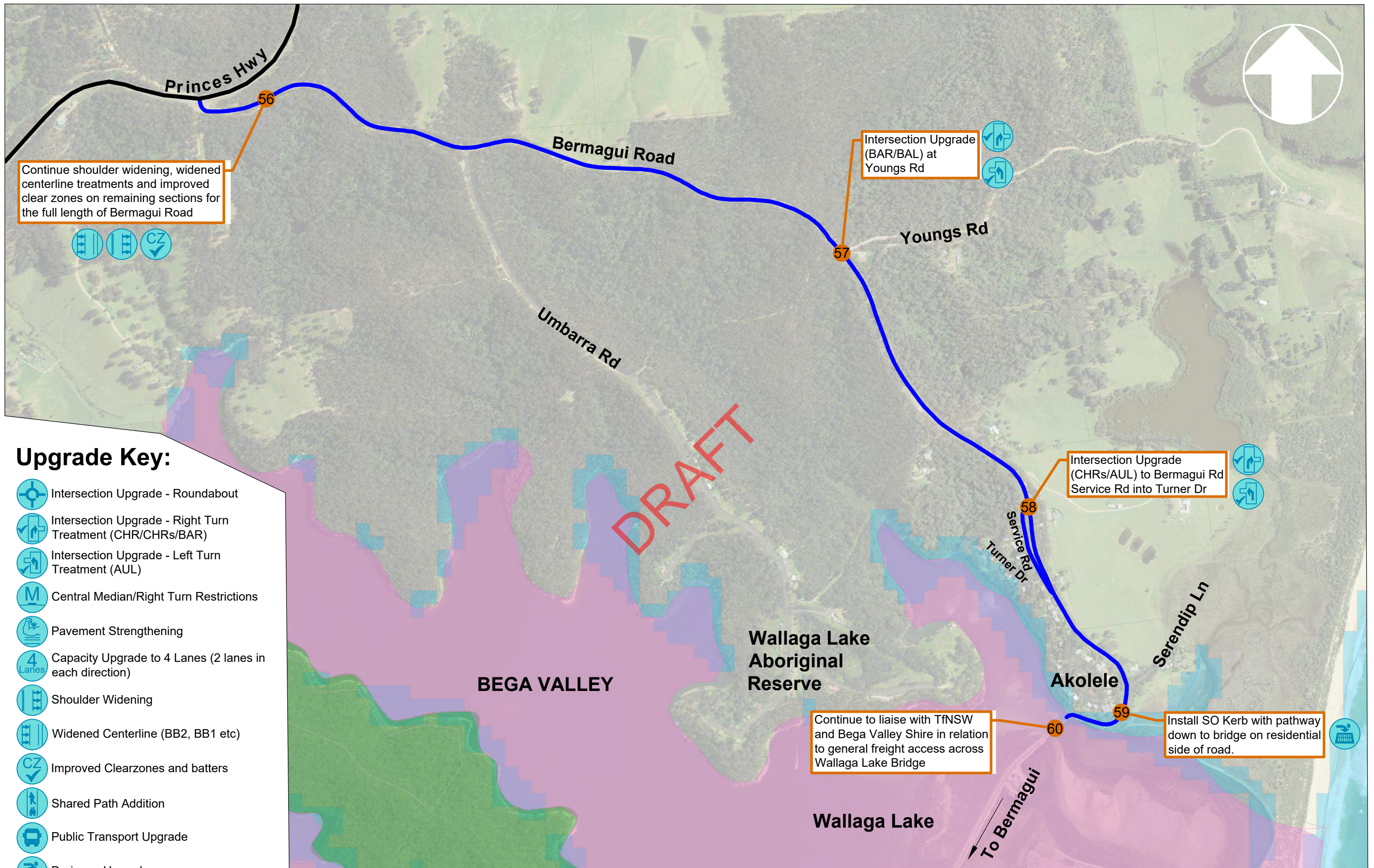
- Pavement Strengthening
- Capacity Upgrade to 4 Lanes (2 lanes in each direction)
- Shoulder Widening
- Widened Centerline (BB2, BB1 etc)

- Improved Clearzones and batters
- Shared Path Addition
- Public Transport Upgrade
- Drainage Upgrade

Scale 1:12,500

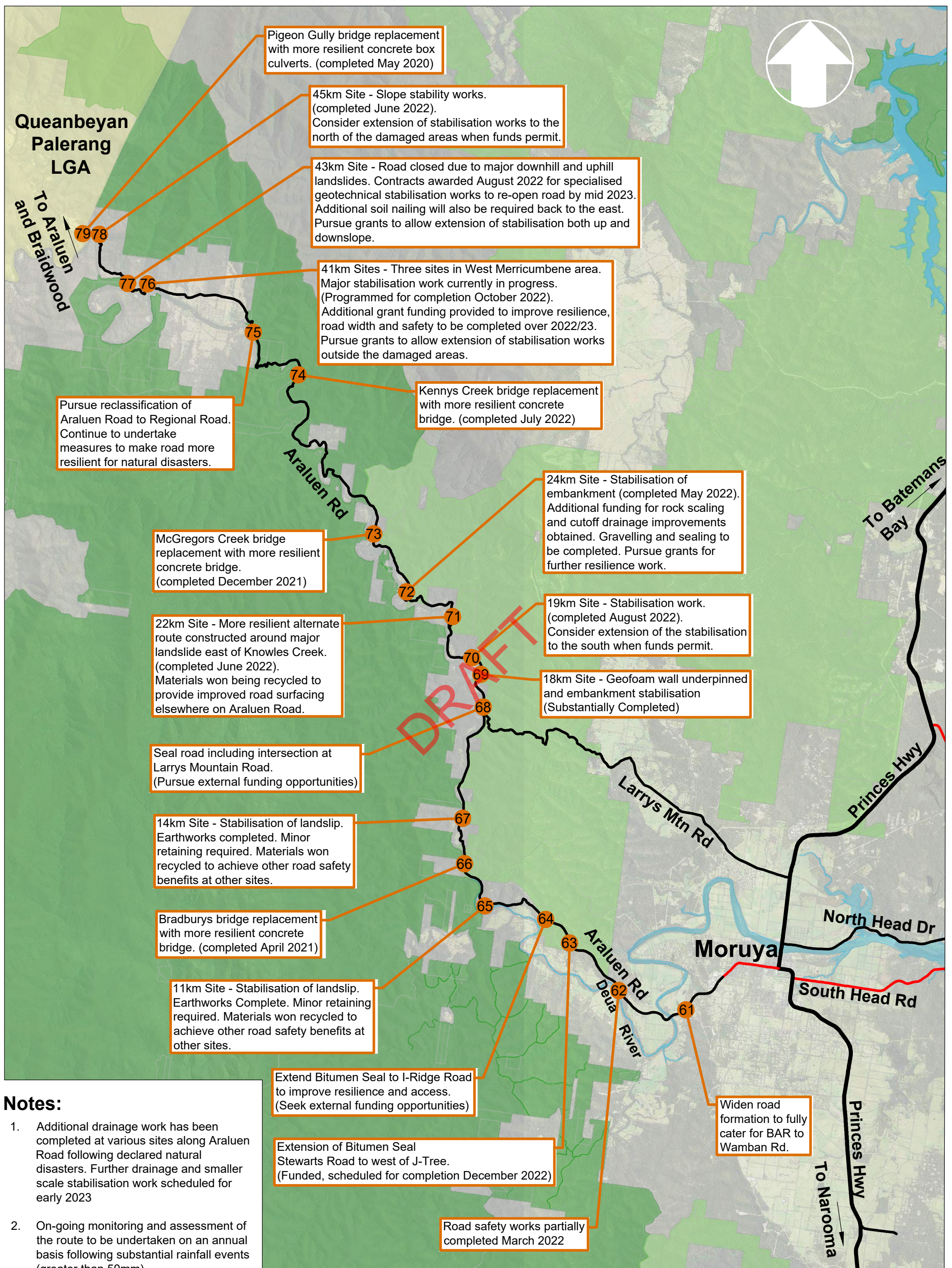
0 0.75km

29/9/2022



Upgrade Key:

-  Intersection Upgrade - Roundabout
-  Intersection Upgrade - Right Turn Treatment (CHR/CHRs/BAR)
-  Intersection Upgrade - Left Turn Treatment (AUL)
-  Central Median/Right Turn Restrictions
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-  Capacity Upgrade to 4 Lanes (2 lanes in each direction)
-  Shoulder Widening
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-  Improved Clearzones and batters
-  Shared Path Addition
-  Public Transport Upgrade
-  Drainage Upgrade



Notes:

1. Additional drainage work has been completed at various sites along Araluen Road following declared natural disasters. Further drainage and smaller scale stabilisation work scheduled for early 2023
2. On-going monitoring and assessment of the route to be undertaken on an annual basis following substantial rainfall events (greater than 50mm)



eurobodalla
shire council

0 6.0km

29/09/2022

Scale 1:100,000

Southern Area

Transport Network Plan - Araluen Rd

Sheet 8

