

Shoalhaven City Council

Nowra Key Road Projects Strategic Overview

May 2017



Shoalhaven
City Council

localé consulting

ABN: 73 140 973 735

T 0419 700 401
A 36 Sunset Avenue Woolgoolga NSW 2456
P PO Box 53 Woolgoolga NSW 2456
E info@localeconsulting.com.au
W www.localeconsulting.com.au

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Job Contact: Greg Pullen - Economic Development Manager

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| 1 | 24 March 2017 | Steve Thompson | Steve Thompson |
| 2 | 13 April 2017 | Steve Thompson | Steve Thompson |
| 3 | 01 May 2017 | Steve Thompson | Steve Thompson |
| 4 | 12 May 2017 | Steve Thompson | Steve Thompson |

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1. Introduction

1.1 Purpose of this Strategic Overview

This strategic overview document provides a succinct review and proposed directions for the future implementation of key road projects in the Nowra area. The document is designed to support Shoalhaven City Council (**Council**) in their lobbying and funding requests to enable key road projects to be progressed in a logical sequence which meets the needs of Council, the NSW Roads and Maritime Services (**RMS**) and the Shoalhaven public.

1.2 Overview of Key Road Projects

A total of 13 key road projects have been identified as being critical to the effective movement of vehicles to and through the Nowra / Bomaderry urban area over the next 20+ years. In the longer-term, a by-pass of Nowra is likely to be required, though these identified projects will assist to ensure that the local area continues to meet minimum service needs in the short to medium term.

It should be noted that not all projects may need to be delivered over the short to medium term. This will be dictated by the priority and timing of each, as further discussed in later sections of this document.

The 13 key road projects include (generally from north to south):

1. Berry to Bomaderry upgrade;
2. Moss Vale Road Duplication;
3. Far Northern Collector Road (short-term);
4. North Nowra Link Road (long term beyond 2028);
5. Highway upgrade - Moss Vale Road roundabout to Bolong Road;
6. Shoalhaven River Bridge;
7. Highway upgrade - Shoalhaven River Bridge to Warra Warra Road;
8. East Nowra Sub-Arterial;
9. Kalandar Street / Princes Highway upgrade;
10. Yalwal Road / Albatross Road to Princes Highway (long term);
11. Yalwal Road widening;
12. Yalwal Road / Albatross Road intersection upgrade; and
13. Registered Road Classification for Flinders Road.

Some projects are considered to be major due to their size/cost, whilst others are important due to strategic economic development interests or because they are able to push back other major works (for example the Nowra by-pass). Many of these projects were identified in the Nowra Bomaderry Structure Plan Strategic Directions report, endorsed by the NSW Department of Planning in February 2008.

A short, one page summary of each project is provided in Appendix B.

2. Desired Process and Outcomes

2.1 Desired Outcomes

The desired outcomes of Council in respect of preparing this Strategic Direction are:

- To facilitate the implementation of the Berry to Bomaderry Upgrade and Nowra Bridge projects by RMS and the Commonwealth of Australia;
- To ensure that residents of the Nowra / Bomaderry urban area are not unreasonably disrupted by the implementation of the those major projects;
- To ensure that more localised projects that have a substantive benefit to the operation of the Princes Highway are recognised by the RMS and considered for funding through appropriate State or Commonwealth funding streams; and
- To ensure that the implementation of major projects do not exacerbate traffic implications at the local level.

To achieve these outcomes, a comprehensive approach to the issue is required, establishing an agreed set of road network implementation priorities to facilitate long-term outcomes.

2.2 Process of Implementation

As any one nominated project is likely to have implications on another project or projects, a preliminary sequencing of these works has been developed by Council utilising the modelling of previous traffic and transport studies (see for example the Nowra CBD Transport Strategy - by Eppell Olsen & Partners, dated December 2003 and Nowra CBD (East) Road Network Strategy Review - by Eppell Olsen & Partners, dated July 2007). This implementation process is set out in the flowchart at Appendix C.

It is noted that there are two projects which Council believe will be required as a minimum prior to the new Shoalhaven River Bridge being constructed. In conjunction with the Berry to Bomaderry Upgrade project, there is risk that the Princes Highway traffic between the Bridge and the existing intersection of the highway with Moss Vale Road will be operating beyond reasonable capacity, resulting in significant impact on the local road network and the State Government endorsed urban land releases. Establishing and implementing a suitable range of projects that enable the highway north of the bridge to operate effectively is required.

Similarly, the operational efficiency of the highway south of the bridge will also need to be addressed in the short and medium term. Particular issues exist around the impacts on Bridge Road as a result of the new bridge arrangements, as well as the increase in the number of traffic signals through central Nowra and the existing pinch point at Kalandar Street. Council's planning has identified a number of short-term projects that have the potential to reduce these impacts, though more significant long-term projects may also be required.

2.3 Requested Outcomes

In respect to the need for co-ordinated action, Council requests that:

- State funds are allocated to the development of a co-ordinated effort to identify:

- Northern Nowra roads projects, aimed at ensuring that the proposed major highway projects can be accommodated, and that the implementation of regional / local roads form part of the planning for these projects; and
- Southern Nowra roads project, aimed at long-term highway efficiencies that employ regional/localised efforts as part of a co-ordinated response.

These documents would assist Council and RMS in securing detailed design and construction funding either through budget allocation or grants from State or Federal Governments.

In addition, Council continues to support the need for ongoing planning investigations and improvements to the Princes Highway to the south of Nowra - particularly in relation to transformative projects such as the Milton Ulladulla by-pass road. Whilst this document has a focus on the Nowra Bomaderry urban area, the need for work in other areas is also therefore acknowledged.

It is further acknowledged that there are financial implications of these projects for Council, as well as State and, potentially, Federal Governments. Appendix D provides an indication of these financial implications over the next 10 years which have been derived based on the indicative project timing indicated in Appendix C and the following apportionment of costs (overall estimated costs of each project is provided in the project summaries in Appendix B).

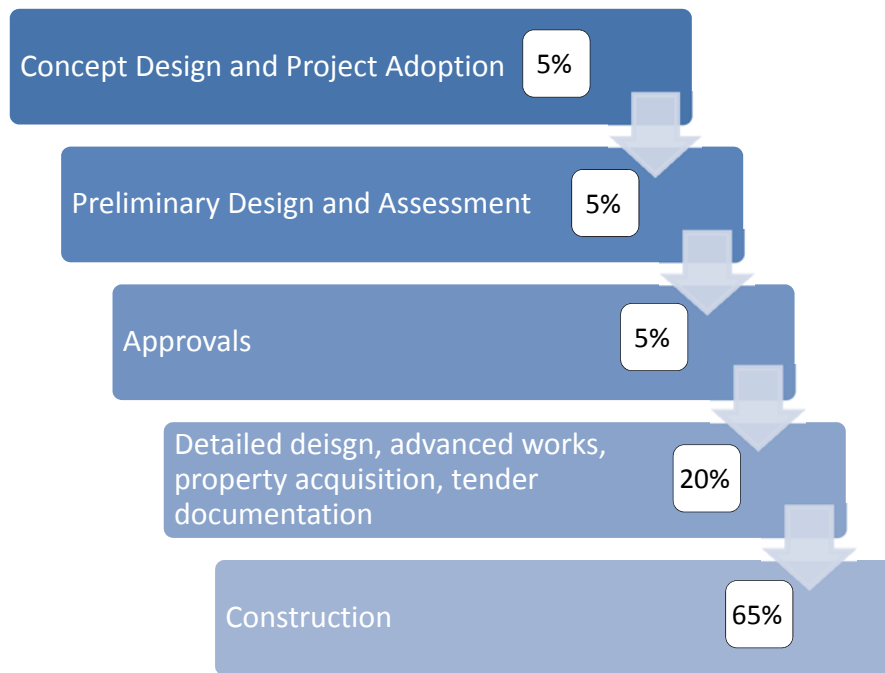


Figure 1: Project Implementation Stages - Including Indicative Cost

Appendix A – Key Road Projects Briefing Document

Nowra Key Road Projects

Achieving long-term road network solutions in the Nowra / Bomaderry urban area

Overview and Introduction

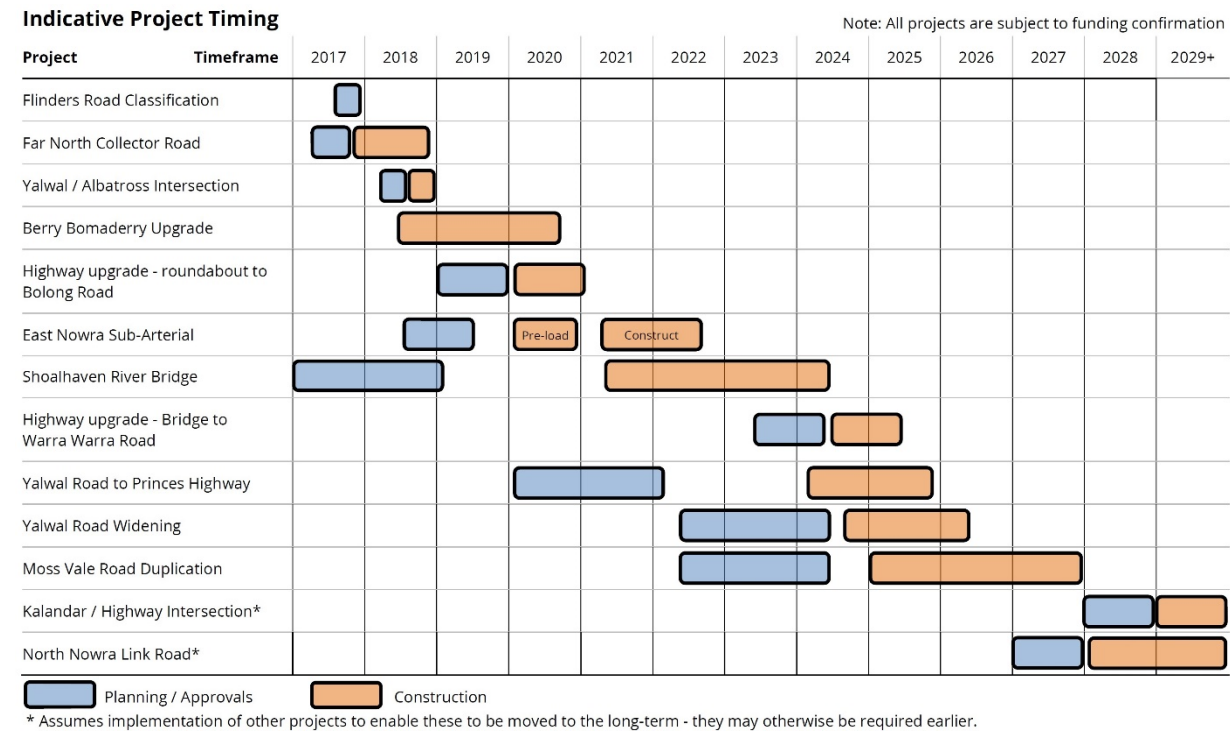
This document highlights the ongoing needs of the Shoalhaven community to ensure that the implementation of major road projects not only achieve quality outcomes in terms of travel time along the Princes Highway, but do not cause undue impacts on residents and businesses of the Shoalhaven. An effective road network is also essential to facilitate the housing and population growth in the Shoalhaven as set out in the Illawarra-Shoalhaven Regional Plan. Council is committed to working closely with NSW Roads and Maritime Services to ensure that the delivery of these key projects can be completed in a timely and effective manner.

Council supports the Commonwealth of Australia and the NSW Government in their allocation of funds to the current and future major works programs in the Shoalhaven areas and we look forward to working co-operatively with all parties to facilitate smooth implementation.



Our Road Project Priorities

Council have undertaken long-term planning over a number of years, with outcomes continuing to support a number of key projects in the area. In particular, Council is cognisant of ensuring that existing residents and businesses are given equitable access during the construction of the new Shoalhaven River Bridge, and are not unreasonably impacted by the increase in traffic through the northern Bomaderry area. Key projects are needed prior to the Bridge being constructed as outlined below.



Future Funding

The key issue is providing the co-ordination between all projects and establishing an agreed direction for major local, regional and state level roads across the Nowra Bomaderry urban area. Council acknowledges that there are financial implications of these projects for Council, as well as State and, potentially, Federal Governments.

To better establish and confirm these funding requirements and in respect to the need for co-ordinated action, Council requests that:

- o State funds are allocated to the development of a co-ordinated effort to identify:
 - Northern Nowra roads projects, aimed at ensuring that the proposed major highway projects can be accommodated, and that the implementation of regional / local roads form part of the planning for these projects; and
 - Southern Nowra roads project, aimed at long-term highway efficiencies that employ regional/localised efforts as part of a co-ordinated response.

Council also continues to support the need for ongoing planning investigations and improvements to the Princes Highway through and to the south of Nowra - particularly the transformative projects such as the Milton Ulladulla by-pass road, and the future Nowra-Bomaderry by-pass road.

Key Projects - Overview

Moss Vale Road Duplication

Strategic Need: Provides access to the Moss Vale Road urban release areas and into North Nowra via the Far North Collector Road.

Project Location: Commencing at the Princes Highway at Bomaderry and terminating at the intersection of Main Road Cambewarra.

Far Northern Collector Road

Strategic Need: Provides a connection from North Nowra to Moss Vale Road that will connect the Moss Vale Road Urban Release Areas to North Nowra providing relief to Moss Vale Road and the Princes Highway. Will also provide relief by removing traffic from the Illaroo Road / Princes Highway intersection.

Project Location: Commencing near the Illaroo Road / West Cambewarra Road intersection, and terminating at the intersection of Moss Vale Road / Bells Lane intersection.

Shoalhaven River Bridge

Strategic Need: Existing southbound (eastern) bridge does not enable suitable service levels (particularly for HML vehicles) due to age / size. A new replacement bridge will increase traffic capacity, reduce congestion and improve the flow of traffic onto and across the Shoalhaven River crossing.

Project Location: Commencing at (or prior to) the intersection of Bolong Road in the north and continuing over the Shoalhaven River to Bridge Road in the south, including grade separation options at Bolong, Illaroo and Bridge Roads.

Yalwal Road Widening

Strategic Need: Provides access to urban release areas at Mundamia from Albatross Road. Also services the University of Wollongong's Shoalhaven Campus and industrial quarries to the west.

Project Location: Commences at Albatross Road intersection (west of highway), continuing through West Nowra urban area to the Flat Rock Dam bridge.

Yalwal Road / Albatross Road Intersection

Strategic Need: Localised issue with conflict between heavy vehicle movements and vehicles accessing residential/education and employment precincts. Intersection requires signalisation to create a safe and efficient operational state





Project Location: Intersection of Yalwal Road and Albatross Road to the west of the existing highway.

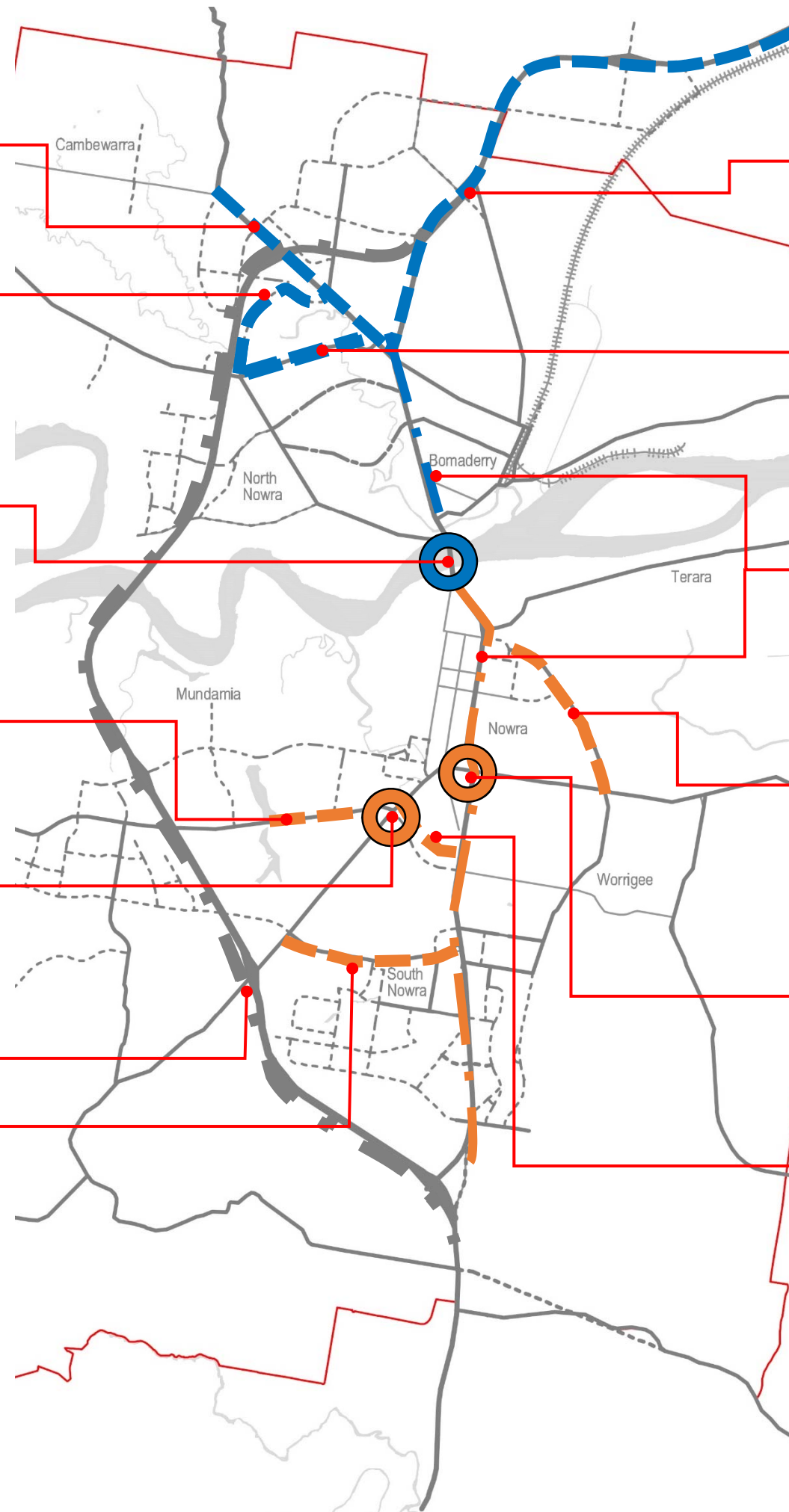
Nowra Bypass Road (Long-term project)

Flinders Road Classification

Strategic Need: Classification of Flinders Road to a higher level reflecting its status as primary link between the Princes Highway, Flinders Industrial Estate and Main Road 92. Provides the opportunity to direct heavy vehicles to the new highway connection at Browns Road. Is currently the designated B-double route.

Project Location: Flinders Road extends from the Princes Highway in the east to Albatross Road in the west.

| Legend | |
|---|------------------------------|
|  | Road project |
|  | Intersection project |
|  | Northern Nowra Road Projects |
|  | Southern Nowra Road Projects |



Berry to Bomaderry Upgrade Project

Strategic Need: Completes the duplication (at least two lanes in each direction) of the Princes Highway between Sydney and the Jervis Bay Road intersection to achieve a safer highway and reduce travel times.

Project Location: Commencing to the south of Berry at the end point of the Foxground & Berry Bypass project, and terminating to the north of the roundabout in Bomaderry (Cambewarra / Moss Vale Road intersection).

North Nowra Link Road

Strategic Need: Provides a future connection from North Nowra to the Princes Highway, reducing pressure on the Illaroo Road / Princess Highway intersection and the flow-on impacts on the Shoalhaven River Bridge.

Project Location: Three options originally considered, with the northern option - commencing on Illaroo Road and terminating at the intersection of Moss Vale Road / Elvin Drive - receiving concept approval by the Planning Assessment Commission (Part 3A major project).

Highway Upgrade - Moss Vale Rd to Warra Warra Rd

Strategic Need: To decrease Highway travel times and improve safety through Bomaderry / Nowra / South Nowra there will be a progressive need to upgrade the highway to three lanes in each direction and signalise each of the major intersections to support projected traffic flows.

Project Location: Commencing at the roundabout in the north (Bomaderry) and continuing to Bolong Road (northern section) and from the Shoalhaven River bridge to Warra Warra Road in the south.

East Nowra Sub-Arterial

Strategic Need: Will reduce congestion on Highway by providing access between the Nowra CBD and the growing East Nowra / Worrigeer residential area by way of accessing a direct signalised Highway crossing.

Project Location: Commencing in the Nowra CBD at North and Junction Streets, and continuing south east to meet Greenwell Point Road at the intersection of Old Southern Road.

Kalandar Street / Princes Highway Upgrade

Strategic Need: Potential grade separation of Princes Highway at Kalandar Street, improving Highway efficiency. An east-west crossover links residential and commercial areas extracting most vehicles from highway traffic.

Project Location: Intersection of Kalandar Street and Princes Highway, with Highway rising to the north and re-joining the existing highway alignment to the south.

Yalwal / Albatross Rd to Princes Highway

Strategic Need: Provides an additional east west access across the Nowra urban area between areas of significant residential growth and employment / education precincts. Facilitates greater highway flows due to alleviating congestion at Kalandar Street and at Flinders / Browns Road.

Project Location: Commences at Albatross / Yalwal Road (west of highway), continuing through existing vegetated / vacant land to the Highway at or near to the Hillcrest Avenue roundabout.

Appendix B – Key Roads Projects Summaries

Berry to Bomaderry Upgrade

Strategic Need: Completes the duplication (at least two lanes in each direction) of the Princes Highway between Sydney and the Jervis Bay Road intersection to achieve a safer highway and reduce travel times.

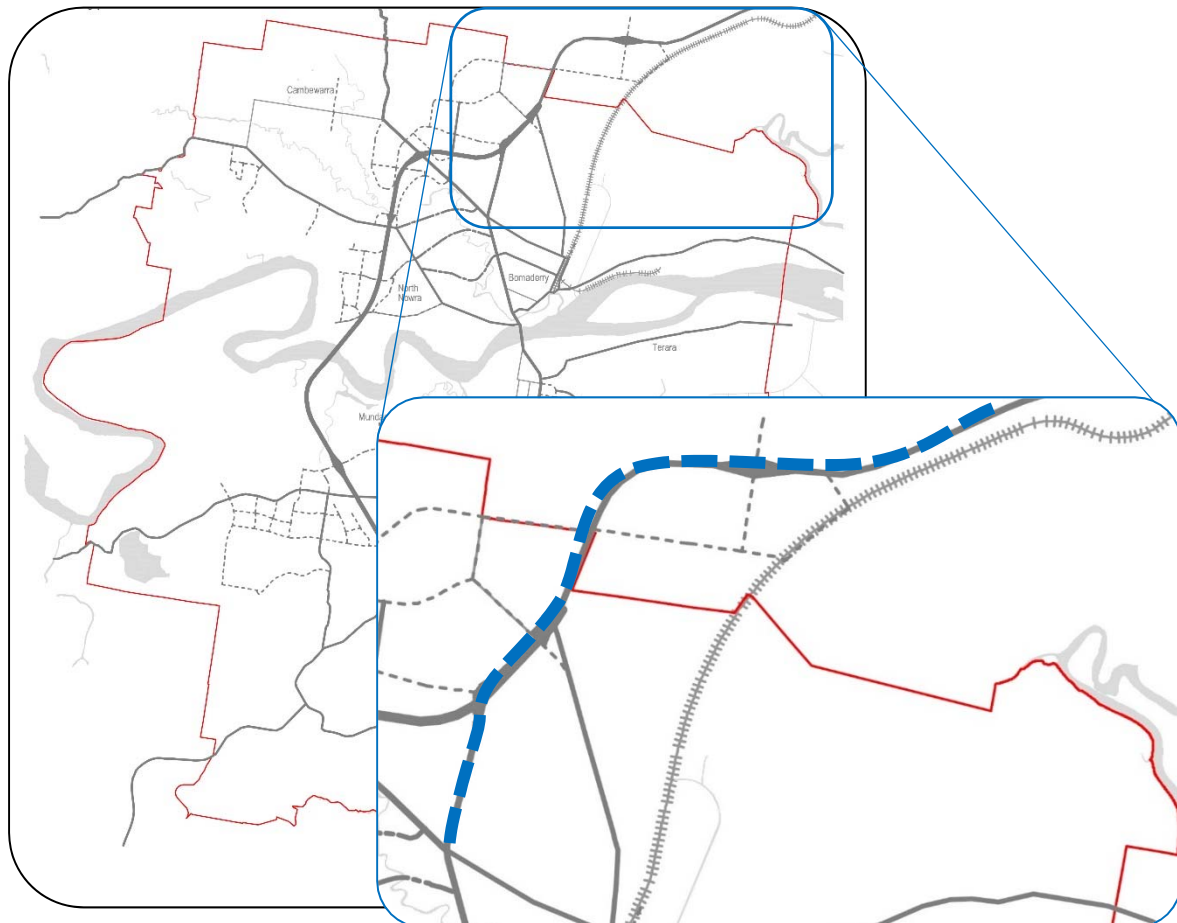
Project Location: Commencing to the south of Berry at the end point of the Foxground & Berry Bypass project, and terminating to the north of the roundabout in Bomaderry (Cambewarra / Moss Vale Road intersection).

Approval and Construction Timeframes: Project approved received March 2014 and is now awaiting funding for construction. Construction period anticipated to be 2018 - 2020.

AADT 2016: 14,000 2026: 18,000 2036: 24,000

Responsibilities: RMS / Commonwealth

Estimated Cost: To be advised



Moss Vale Road Duplication

Strategic Need: Provides access to the Moss Vale Road urban release areas and into North Nowra via the Far North Collector Road.

Project Location: Commencing at the Princes Highway at Bomaderry and terminating at the intersection of Main Road Cambewarra.

Approval and Construction Timeframes: No approvals or construction timeframes have been identified.

AADT 2016: 8,000 2026: 10,000 2036: 16,000

Responsibilities: Council / RMS

Estimated Cost: \$50 million

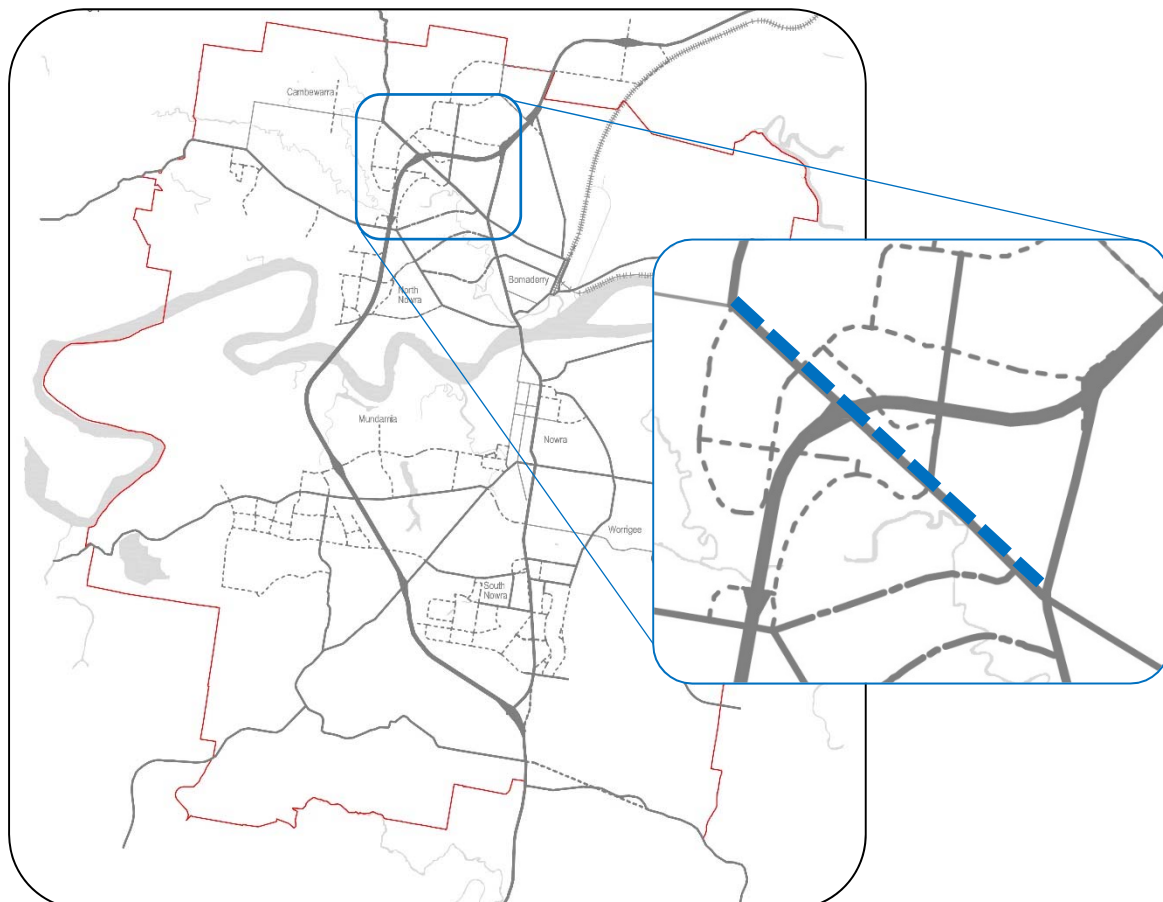
Concept Design and Project Adoption

Preliminary Design and Assessment

Approvals

Detailed design, advanced works, property acquisition, tender documentation

Construction



Far North Collector Road

Strategic Need: Provides a connection from North Nowra to Moss Vale Road that will connect the Moss Vale Road Urban Release Areas to North Nowra providing relief to Moss Vale Road and the Princes Highway. Will also provide relief by removing traffic from the Illaroo Road / Princes Highway intersection.

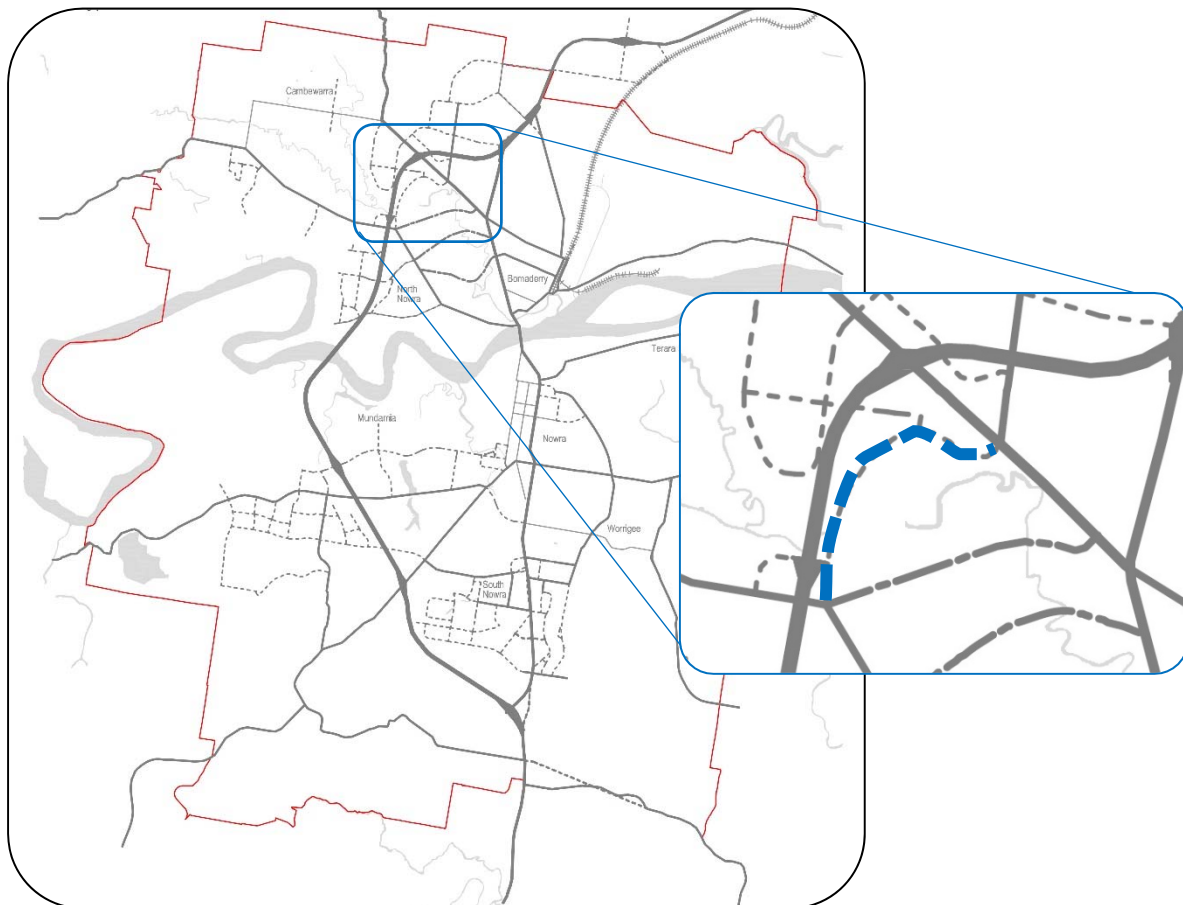
Project Location: Commencing near the Illaroo Road / West Cambewarra Road intersection, and terminating at the intersection of Moss Vale Road / Bells Lane intersection.

Approval and Construction Timeframes: Project approval could be achieved within 6 months. Construction period expected to be 12 months.

AADT 2016: n/a 2026: 5,000 2036: 8,000

Responsibilities: Council / Commonwealth

Estimated Cost: \$14 million



North Nowra Link Road

Strategic Need: Provides a future connection from North Nowra to the Princes Highway, reducing pressure on the Illaroo Road / Princess Highway intersection and the flow-on impacts on the Shoalhaven River Bridge.

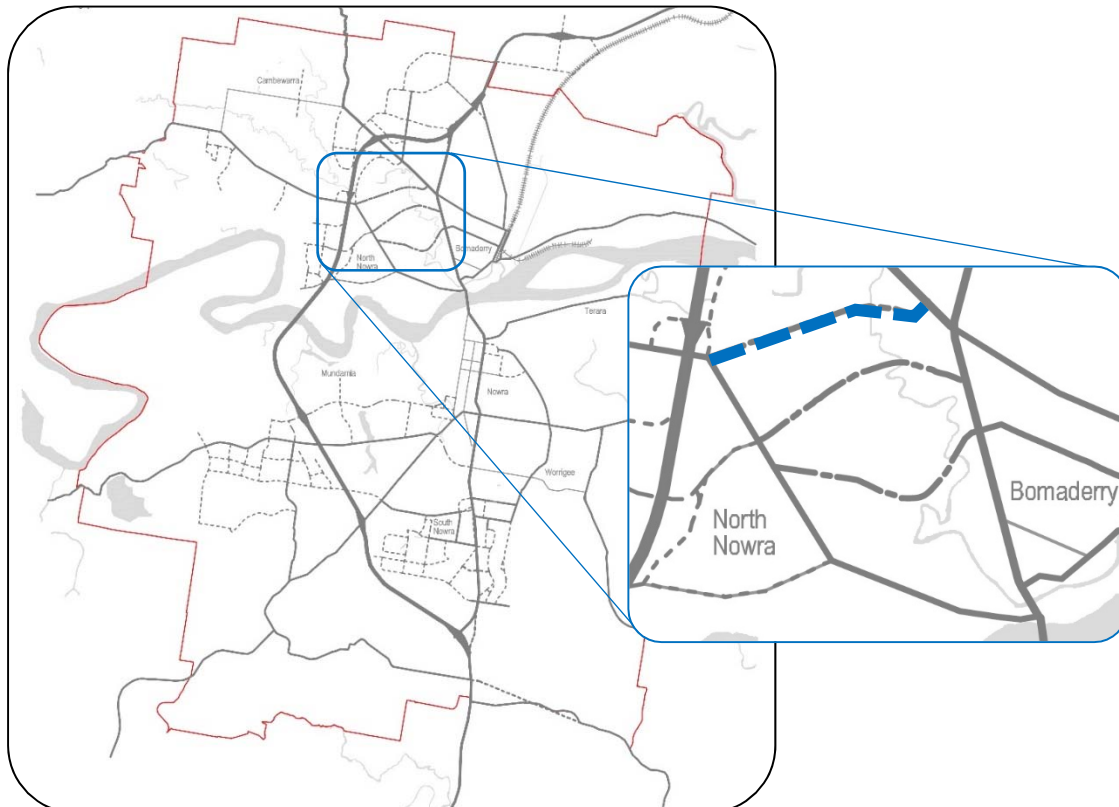
Project Location: Three options originally considered, with the northern option - commencing on Illaroo Road and terminating at the intersection of Moss Vale Road / Elvin Drive - receiving concept approval by the Planning Assessment Commission (Part 3A major project).

Approval and Construction Timeframes: Whilst northern option has concept approval, implementation of this and Far Northern Collector Road is not recommended. If Far Northern Collector road is implemented North Nowra Link Road could be deferred.

AADT 2016: n/a 2026: 7,000 2036: 10,000

Responsibilities: Council / RMS

Estimated Cost: \$15 million



Highway upgrade - Moss Vale Road roundabout to Shoalhaven River Bridge

Strategic Need: To decrease Highway travel times and improve safety through Nowra/Bomaderry there will be a progressive need to upgrade the highway to three lanes in each direction and signalise each of the major intersections to support projected traffic flows.

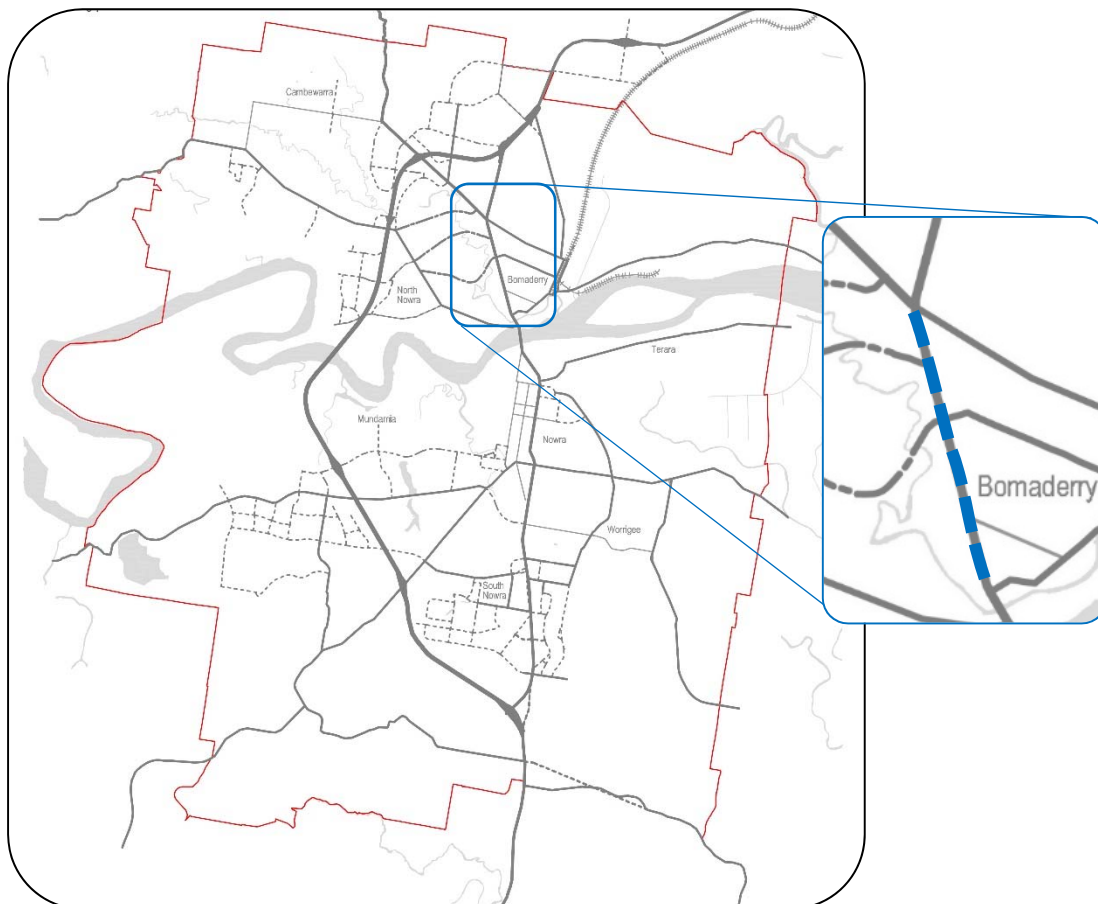
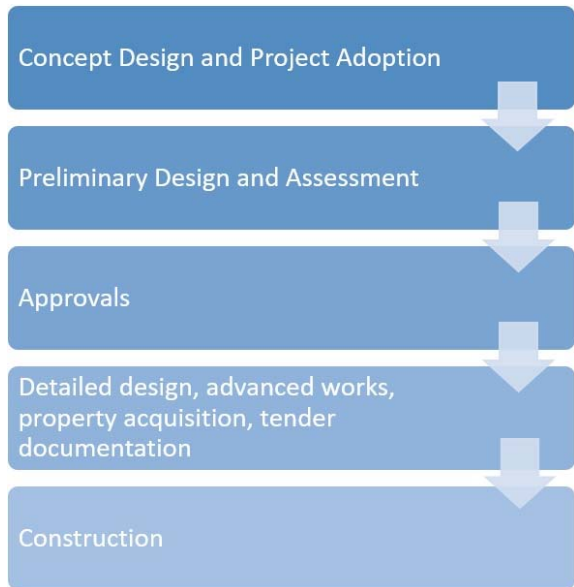
Project Location: Commencing at the roundabout in the north and continuing to Bolong Road in the south.

Approval and Construction Timeframes: No approvals or construction timeframes have been identified.

AADT 2016: 22,000 2026: 30,000 2036: 40,000

Responsibilities: RMS

Estimated Cost: To be advised



Shoalhaven River Bridge

Strategic Need: Existing southbound (eastern) bridge does not enable suitable service levels (particularly for HML vehicles) due to age / size. A new replacement bridge will increase traffic capacity, reduce congestion and improve the flow of traffic onto and across the Shoalhaven River crossing.

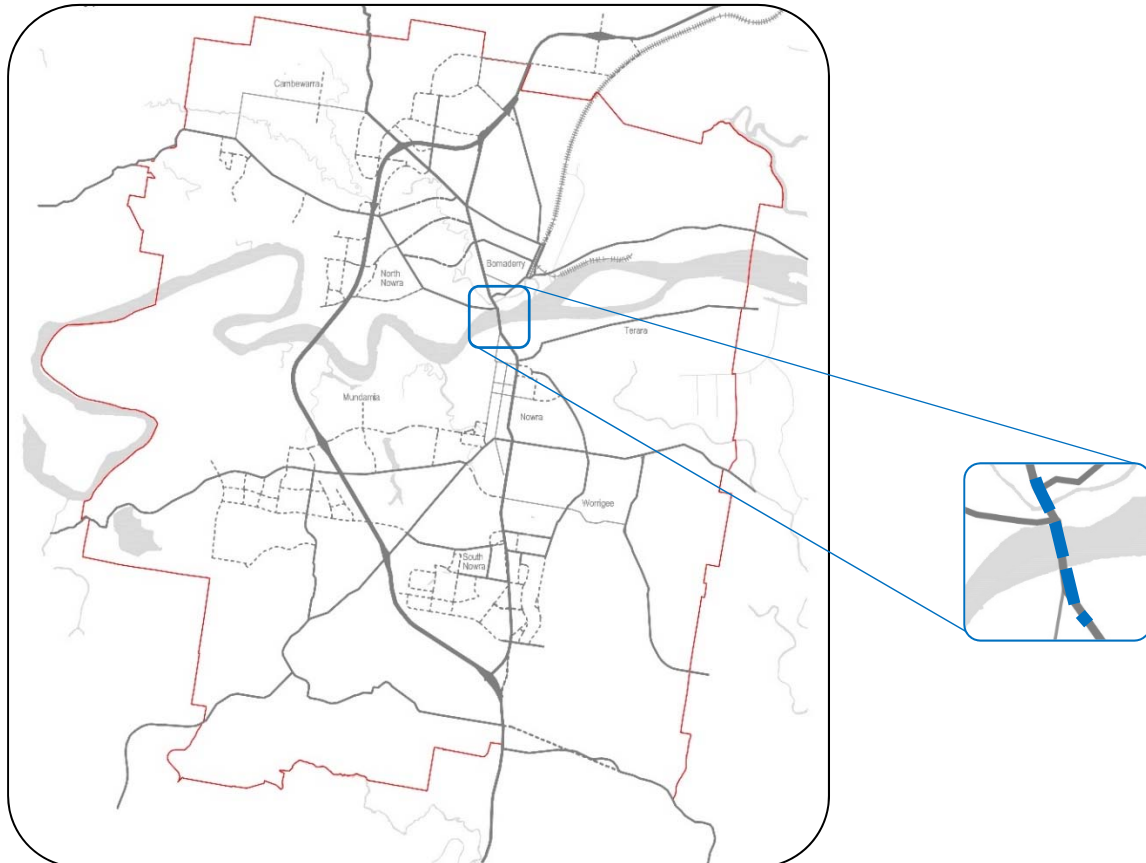
Project Location: Commencing at (or prior to) the intersection of Bolong Road in the north and continuing over the Shoalhaven River to Bridge Road in the south, including grade separation options at Bolong, Illaroo and Bridge Roads.

Approval and Construction Timeframes: Design process is ongoing. Approvals expected within 2 years and construction to commence within the short-term according to the Princes Highway Corridor Strategy (2021/2022).

AADT 2016: 50,000 2026: 58,000 2036: 68,000

Responsibilities: RMS / Commonwealth

Estimated Cost: To be advised



Highway upgrade - Shoalhaven River Bridge to Warra Warra Road

Strategic Need: To decrease Highway travel times and improve safety through Nowra/South Nowra there will be a progressive need to upgrade the highway to three lanes in each direction and signalise each of the major intersections to support projected traffic flows.

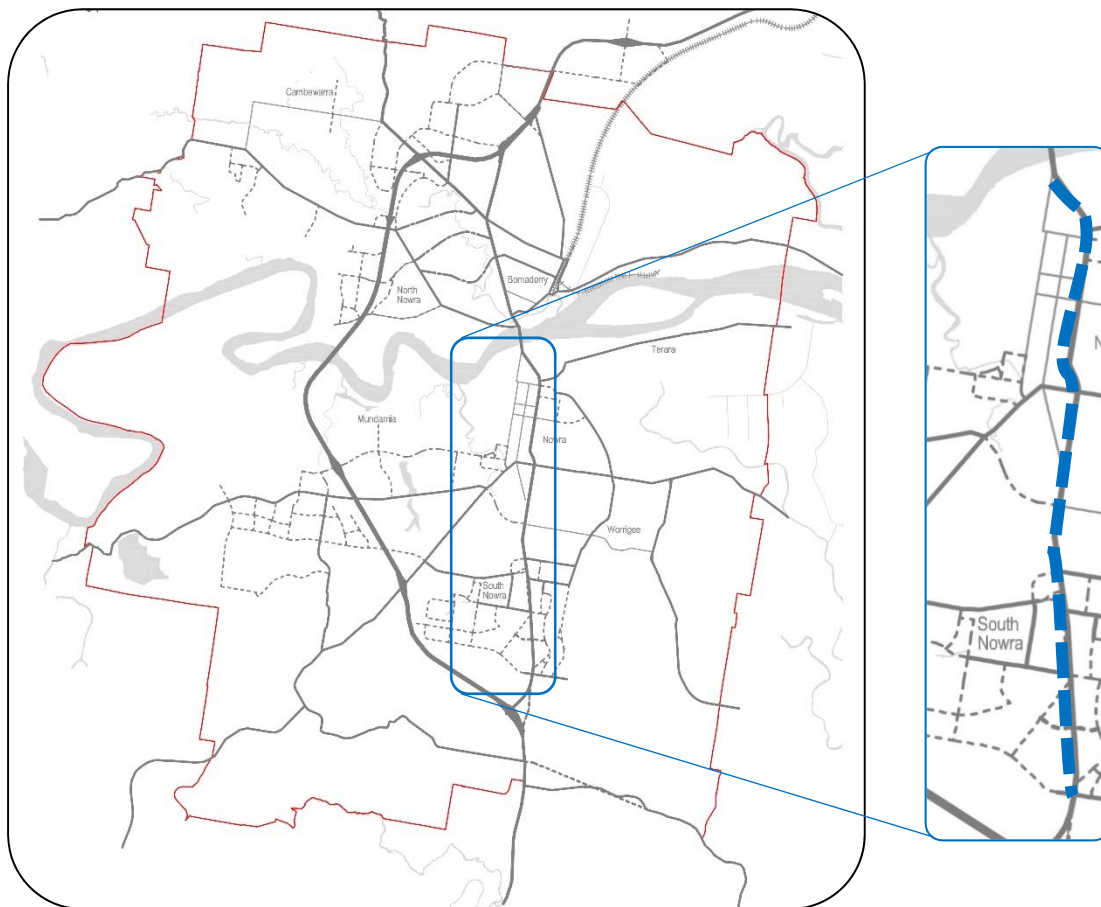
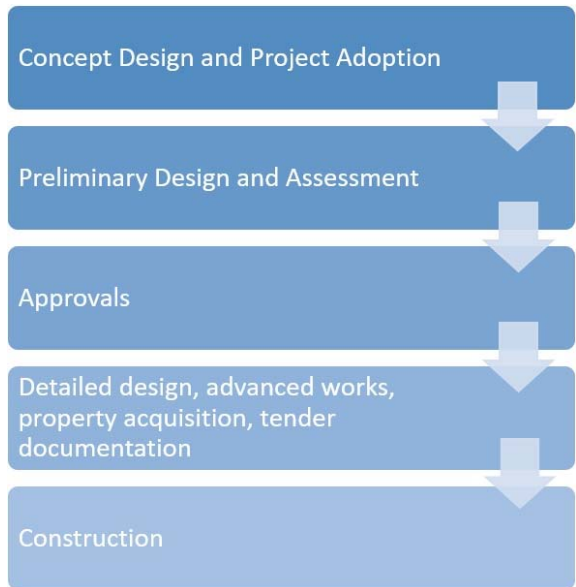
Project Location: Commencing at the Shoalhaven River bridge in the north to Warra Warra Road in the south.

Approval and Construction Timeframes: No approvals or construction timeframes have been identified.

AADT 2016: 20,000 2026: 27,000 2036: 36,000

Responsibilities: RMS

Estimated Cost: To be advised



East Nowra Sub-Arterial

Strategic Need: Will reduce congestion on Highway by providing access between the Nowra CBD and the growing East Nowra / Worrigeer residential area by way of accessing a direct signalised Highway crossing.

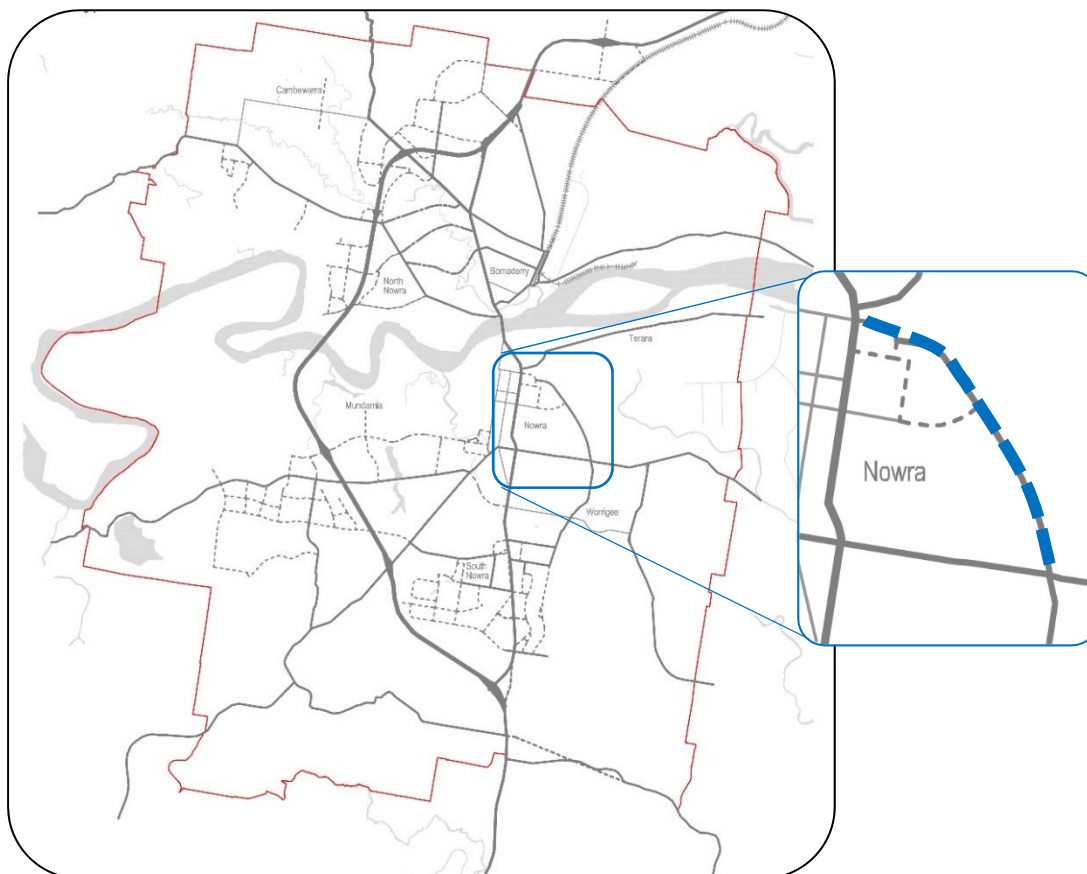
Project Location: Commencing in the Nowra CBD at North and Junction Streets, and continuing south east to meet Greenwell Point Road at the intersection of Old Southern Road.

Approval and Construction Timeframes: Project approval could be achieved in around 12 months. Construction is likely to need to be staged with pre-loading requiring a 12 month construction and settlement period, followed by an 18 month road construction period.

AADT 2016: n/a 2026: 7,000 2036: 10,000

Responsibilities: Council / RMS.

Estimated Cost: \$15 - \$25 million depending on flood level (1:20 or 1:100).



Kalandar Street / Princes Highway Upgrade

Strategic Need: Potential grade separation of Princes Highway at Kalandar Street, improving Highway efficiency. An east-west crossover links residential and commercial areas extracting most vehicles from highway traffic.

Project Location: Intersection of Kalandar Street and Princes Highway, with Highway rising to the north and re-joining the existing highway alignment to the south.

Approval and Construction Timeframes: No approvals or construction timeframes have been identified. Could be deferred by implementation of the East Nowra Sub-Arterial and Yalwal Road to Highway projects.

AADT 2016: 16,000 2026: 19,000 2036: 22,000
(*volumes assume no other improvements)

Responsibilities: RMS.

Estimated Cost: \$50 million.

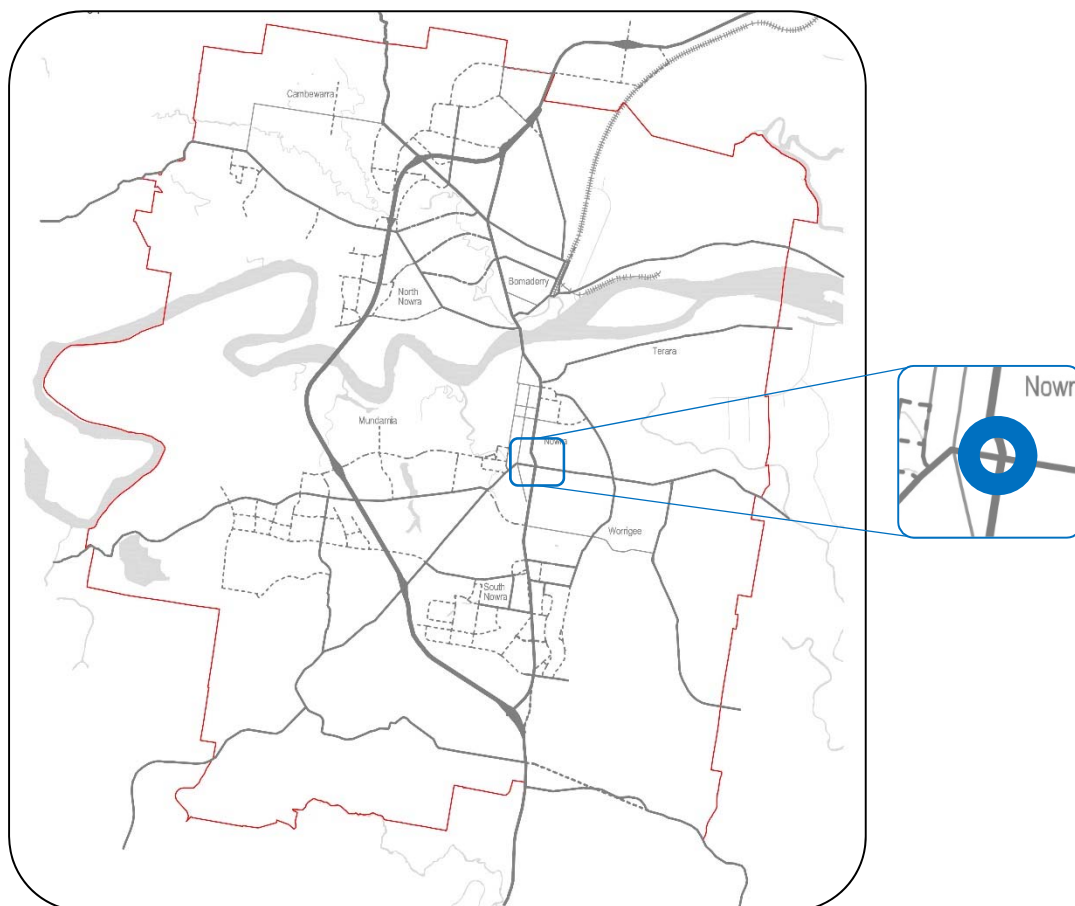
Concept Design and Project Adoption

Preliminary Design and Assessment

Approvals

Detailed design, advanced works, property acquisition, tender documentation

Construction



Yalwal / Albatross Rd to Princes Highway

Strategic Need: Provides an additional east west access across the Nowra urban area between areas of significant residential growth and employment / education precincts. Facilitates greater highway flows due to alleviating congestion at Kalandar Street and at Flinders / Browns Road.

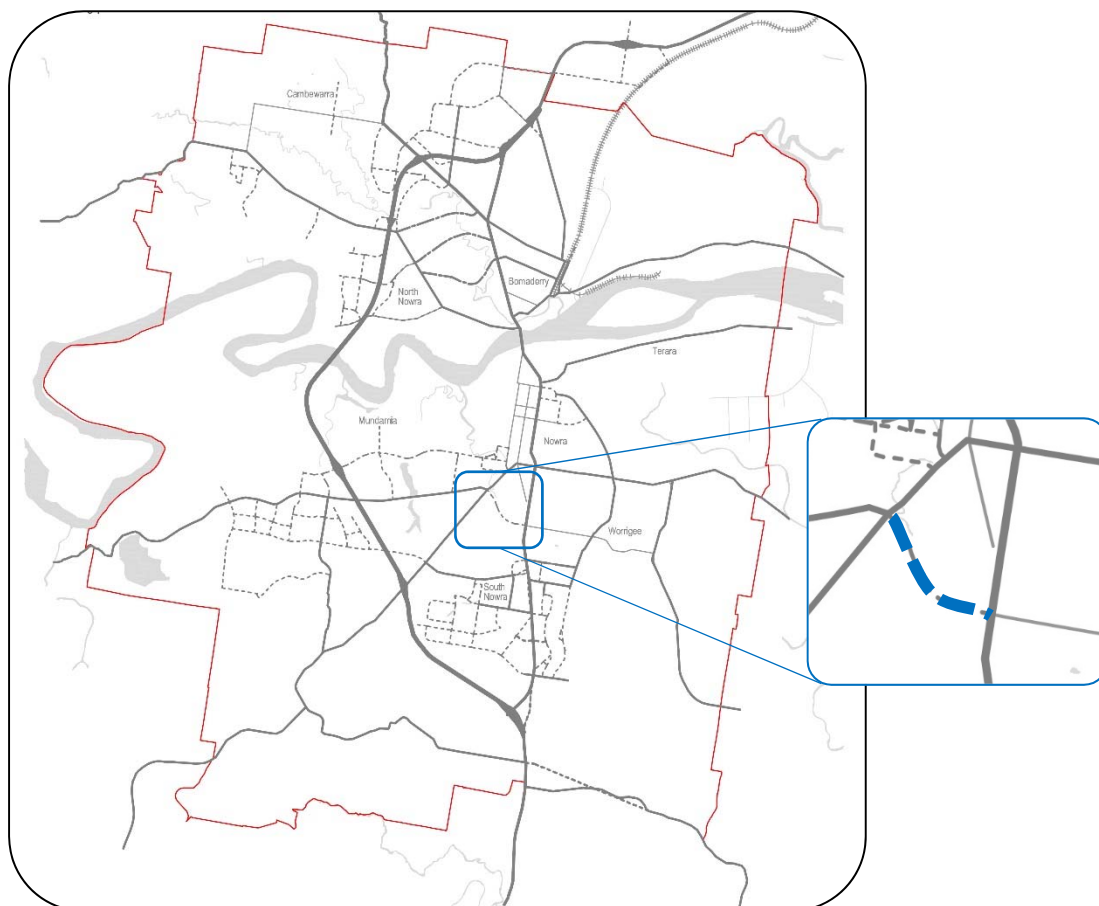
Project Location: Commences at Albatross / Yalwal Road (west of highway), continuing through existing vegetated / vacant land to the Highway at or near to the Hillcrest Avenue roundabout.

Approval and Construction Timeframes: Basic planning undertaken, with landowner negotiation and resolution of Aboriginal land claims required. Protracted approvals likely to be experienced. 18 month construction period would be expected.

AADT 2016: n/a 2026: 6,000 2036: 8,000

Responsibilities: Council / RMS.

Estimated Cost: \$15 million



Yalwal Road Widening

Strategic Need: Provides access to urban release areas at Mundamia from Albatross Road. Also services the University of Wollongong’s Shoalhaven Campus and industrial quarries to the west.

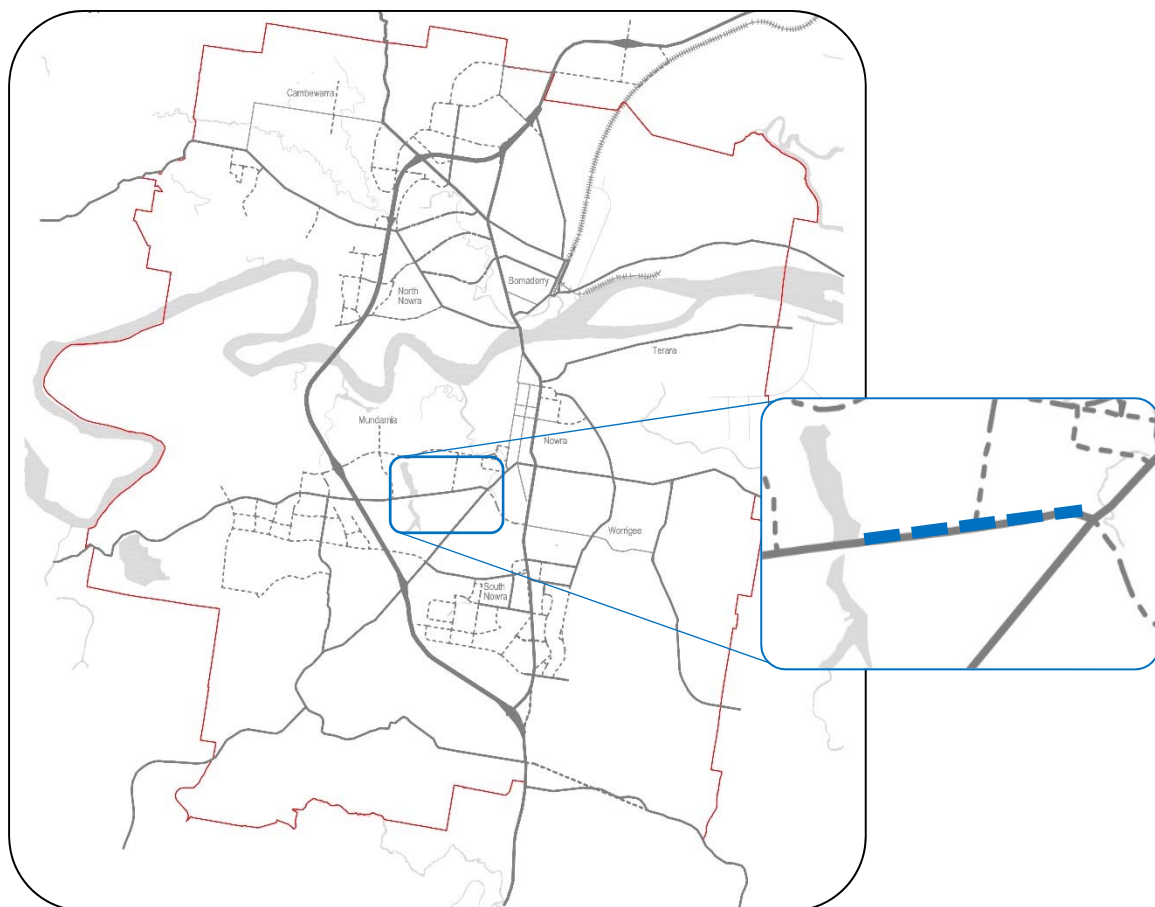
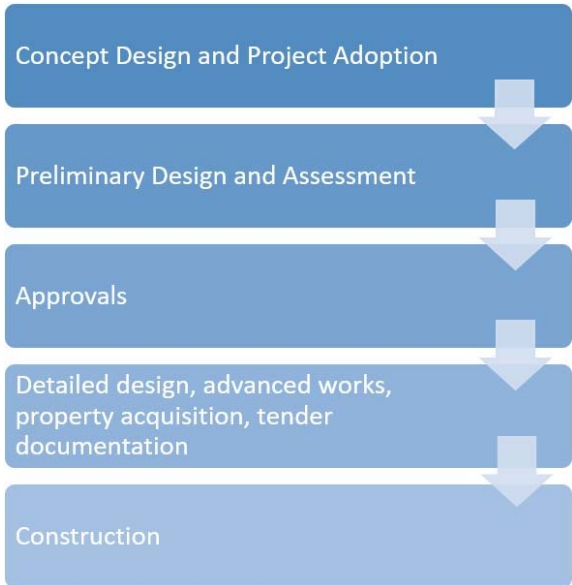
Project Location: Commences at Albatross Road intersection (west of highway), continuing through West Nowra urban area to the Flat Rock Dam bridge.

Approval and Construction Timeframes: No approvals or construction timeframes have been identified.

AADT 2016: 8,000 2026: 12,000 2036: 16,000

Responsibilities: Council / RMS.

Estimated Cost: \$10 million



Yalwal Road / Albatross Road intersection upgrade

Strategic Need: Localised issue with conflict between heavy vehicle movements and vehicles accessing residential/education and employment precincts. Intersection requires signalisation to create a safe and efficient operational state.

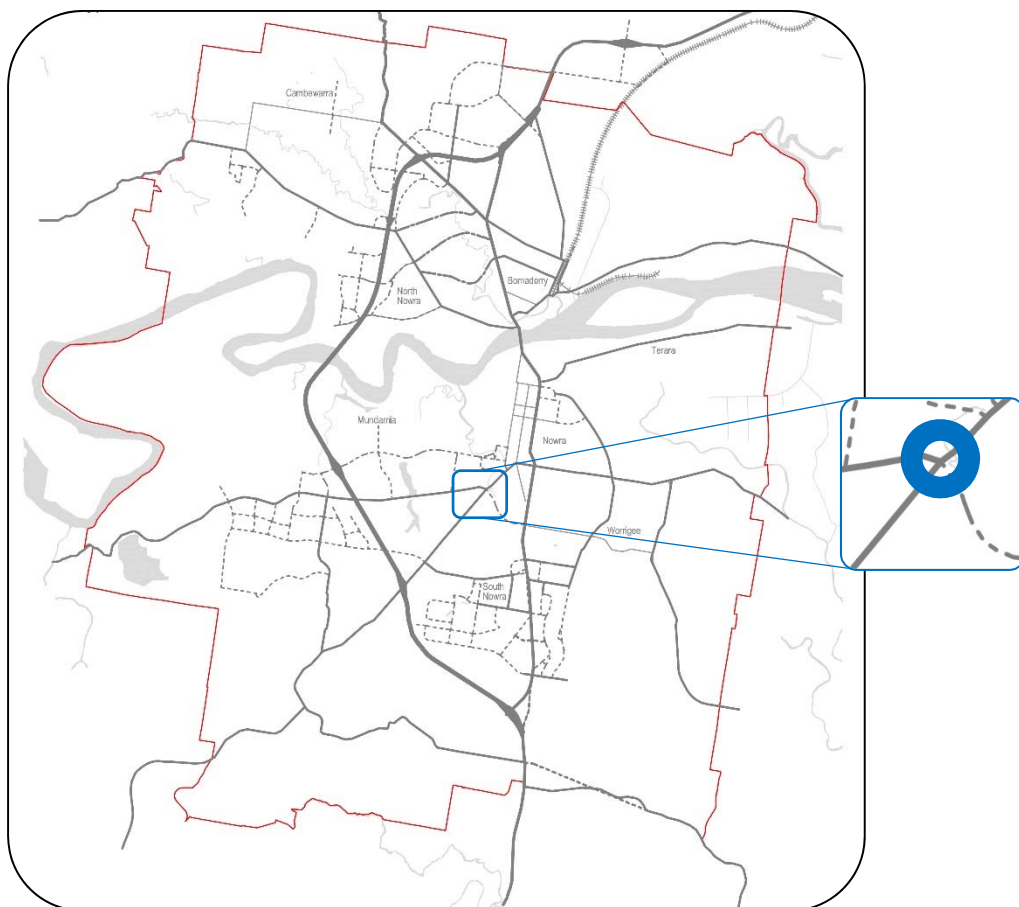
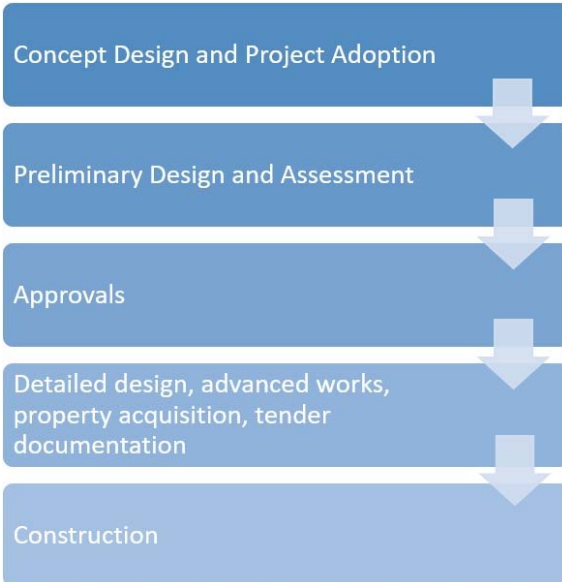
Project Location: Intersection of Yalwal Road and Albatross Road to the west of the existing highway.

Approval and Construction Timeframes: Approval and construction could be completed within 1 year.

AADT 2016: 8,000 2026: 12,000 2036: 16,000

Responsibilities: Council / RMS.

Estimated Cost: \$1 million



Registered Road Classification of Flinders Road

Strategic Need: Classification of Flinders Road to a higher level reflecting its status as primary link between the Princes Highway, Flinders Industrial Estate and Main Road 92. Provides the opportunity to direct heavy vehicles to the new highway connection at Browns Road. Is currently the designated B-double route.

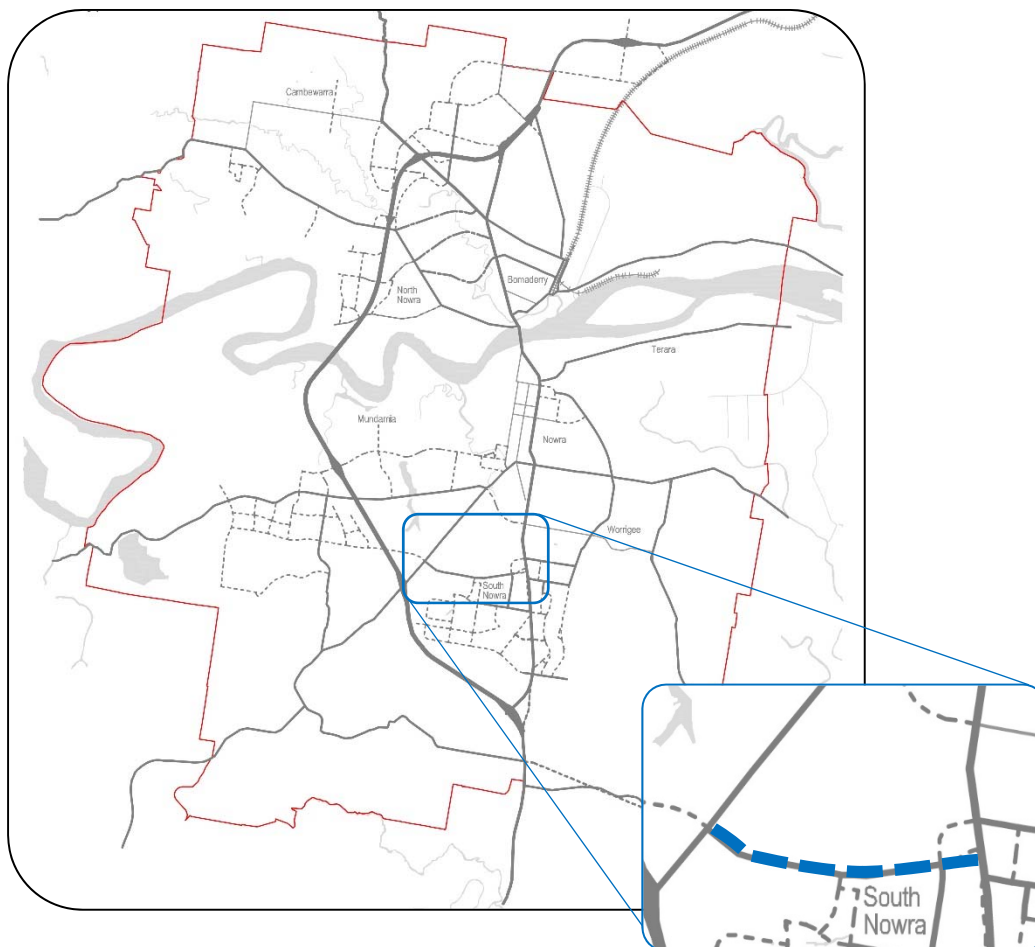
Project Location: Flinders Road extends from the Princes Highway in the east to Albatross Road in the west.

Approval: On completion of current works to upgrade Flinders Road

AADT 2016: 5,000 2026: 8,000 2036: 12,000

Responsibilities: Council / RMS.

Estimated Cost: N/A



Appendix C – Indicative Project Timing

Appendix D – Indicative Capital Expenditure by Council

Indicative Capital Expenditure by Council

It is acknowledged that there are financial implications of localised road projects for Council. An indication of these financial implications over the next 10 years which have been derived based on the following.

1. Identification of localised projects where Council has funding responsibilities, including their likely capital cost as follows:
 - o Yalwal/Albatross intersection \$1,000,000
 - o Far North Collector Road \$14,000,000
 - o East Nowra Sub-Arterial \$25,000,000
 - o Yalwal Road to Princes Highway \$15,000,000
 - o Yalwal Road Widening \$10,000,000
 - o Moss Vale Road Duplication \$50,000,000
2. Apportionment of costs during project stages and in accordance with the Indicative Project Timing. Apportionment has been undertaken as follows:
 - o Concept design and project adoption 5%
 - o Preliminary design and assessment 5%
 - o Approvals 5%
 - o Detailed design, advanced work, property acquisition, tender documentation 20%
 - o Construction 65%

Outcomes of these calculations provide the following indicative costs for Council over the next 10 years.

