



Transport
for NSW

Coffs Harbour Bypass

Sustainability Strategy

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Author:	Daniela von Rabenau and Emma Syrat, Circulr
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1 About the Strategy

1.1 Purpose

This Sustainability Strategy is a high-level document outlining how the Coffs Harbour Bypass Project (the Project) will achieve a minimum 'Excellent' Design and As-built rating under the Infrastructure Sustainability Council of Australia (ISCA) rating tool in accordance with the NSW Minister for Planning and Public Spaces Conditions of Approval (CoA).

After having completed the EIS approval phase, the Project is currently in the early procurement phase which includes the development of a high-level Sustainability Strategy. The CoA requires an updated Sustainability Strategy that is publicly available.

The following strategy demonstrates a commitment to:

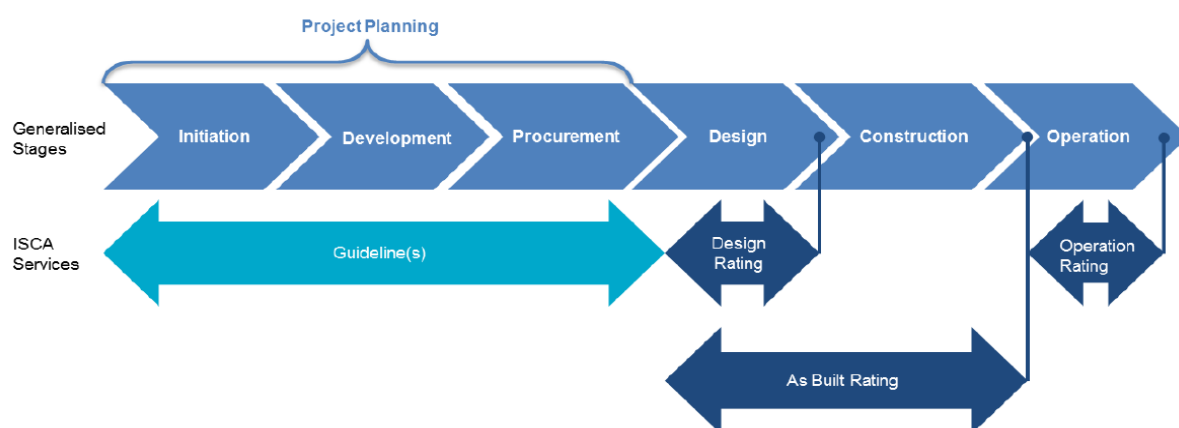
- Infrastructure sustainability—strategic aims and objectives are implemented in design, construction and operation of the Project. This is highlighted in Transport for New South Wales' (TfNSW's) commitment to managing traffic and transport, socio-economic factors, biodiversity, water, resource efficiency and climate change as well as demonstrating key achievements in these areas.
- Policy—there are many drivers for sustainability in the NSW Government's sustainability strategies and policy frameworks which the Project aims to address through delivery. The Sustainability Strategy sits under an umbrella of TfNSW's policies which relate to the development of sustainability principles and objectives adopted during the concept design of the Project.
- Accountability—sustainability management measures are in place including a commitment to a robust monitoring evaluation process which aims to deliver the sustainability objectives during design, construction and operation of the Project.
- Flexibility—the Sustainability Strategy will be adhered to regardless of the procurement and contract type and will be updated in key milestones.

1.2 What is ISCA?

ISCA is a member-based, not-for-profit public and private industry council. It is the peak industry body for advancing sustainability outcomes in infrastructure. ISCA specialises in the facilitation and development of industry-led, performance-based integrated governance and reporting frameworks, decision tools and rating tools.

ISCA has established and administrates an Infrastructure Sustainability Rating which has been widely applied to infrastructure projects in NSW. The Project will use Version 1.2 of the ratings tool. The ratings system evaluates sustainability across the planning, design, construction and operational phases of infrastructure programs, projects, networks and assets. Infrastructure sustainability evaluates the performance against the quadruple bottom line (governance, economic, environmental and social) of infrastructure development.

Figure 1 Infrastructure stages and Infrastructure Sustainability rating type (ISCA Technical Manual v1.2:16)



The ISCA Infrastructure Sustainability rating tool has six themes and 14 categories as indicated in Table 1

Table 1 Rating Scheme Framework (ISCA Technical Manual v1.2:16)

Themes	Categories
Management and Governance	• Management Systems • Procurement and Purchasing • Climate Change Adaptation
Using Resources	• Energy and Carbon • Water • Materials
Emissions, Pollution and Waste	• Discharges to Air, Land and Water • Land • Waste
Ecology	Ecology
People and Place	• Community Health, Wellbeing and Safety • Heritage • Stakeholder Participation • Urban and Landscape Design
Innovation	Innovation

2 About the Project

2.1 Why is it needed?

Following the completion of NorthConnex and the Pacific Highway duplication by late 2020, Coffs Harbour and Hexham/Heatherbrae will be the only two locations on the east coast corridor linking Brisbane, Sydney, Canberra and Melbourne where the route is an urban road with traffic signals.

The existing highway through Coffs Harbour forms part of the Sydney–Brisbane freight corridor and carries between 30,000 and 35,000 vehicles per day. Road users including through and local traffic, pedestrians, cyclists and heavy vehicles need to navigate 12 km of low speed arterial road with 12 sets of traffic signals, a major roundabout and 26 other intersections. Additionally, conflict between pedestrian, passenger and freight traffic through the Coffs Harbour urban centre has resulted in a high crash rate and will continue to be a substantial safety issue as traffic volumes continue to increase with population growth. This means the existing highway through Coffs Harbour experiences:

- motorist, cyclist and pedestrian casualty rates more than three times higher than those expected of a road of this class
- increased travel time and inefficient on-road freight operation
- loss of economic development opportunities
- decreased amenity of Coffs Harbour central business district (CBD).

Over the next 20 years, almost 77 per cent of population growth on the North Coast of NSW will be in regional cities, including Coffs Harbour (DP&E 2017a). The area is already experiencing high levels of congestion, and traffic volumes are expected to increase over time in line with population growth.

2.2 Benefits to the local community

The Coffs Harbour Bypass (the Project) will support the objectives and broader rationale of the Pacific Highway upgrade program which seeks to enhance the capacity and quality of the Pacific Highway by improving safety, travel times and reliability.

The Pacific Highway upgrade program is one of the largest road infrastructure projects in NSW. It will connect Sydney and Brisbane and is a major contributor to Australia's economic activity. Since 1996, the Australian and NSW governments have been jointly upgrading the Pacific Highway to provide a four-lane, divided road from Hexham to Queensland.

The Project includes a 12 km bypass of Coffs Harbour from south of Englands Road to Korora Hill in the north and a 2 km upgrade of the existing highway between Korora Hill and Sapphire. The Project will provide a four-lane, divided highway with a posted speed limit of 110 km/h that bypasses Coffs Harbour, passing through the North Boambee Valley, Roberts Hill and then traversing the foothills of the Coffs Harbour basin to the west and north to Korora Hill.

2.2.1 Specific objectives relating to the Project

Socio-economic benefits

- Improved transport efficiency will result in improvements to accessibility and amenity, enabling wider economic benefits for the Coffs Harbour area.
- Travel time will be lessened for through and local traffic and business vehicles/freight.
- Increased amenity of Coffs Harbour CBD will positively contribute to the health and wellbeing of the surrounding community.
- Increased community and local stakeholder involvement will ensue in the Coffs Harbour region.

Functional benefits

- The road will support and integrate with the broader transport network.
- Sufficient road capacity will meet traffic demand on the Pacific Highway.
- The road conditions will be safer for all road users on the new and existing road.

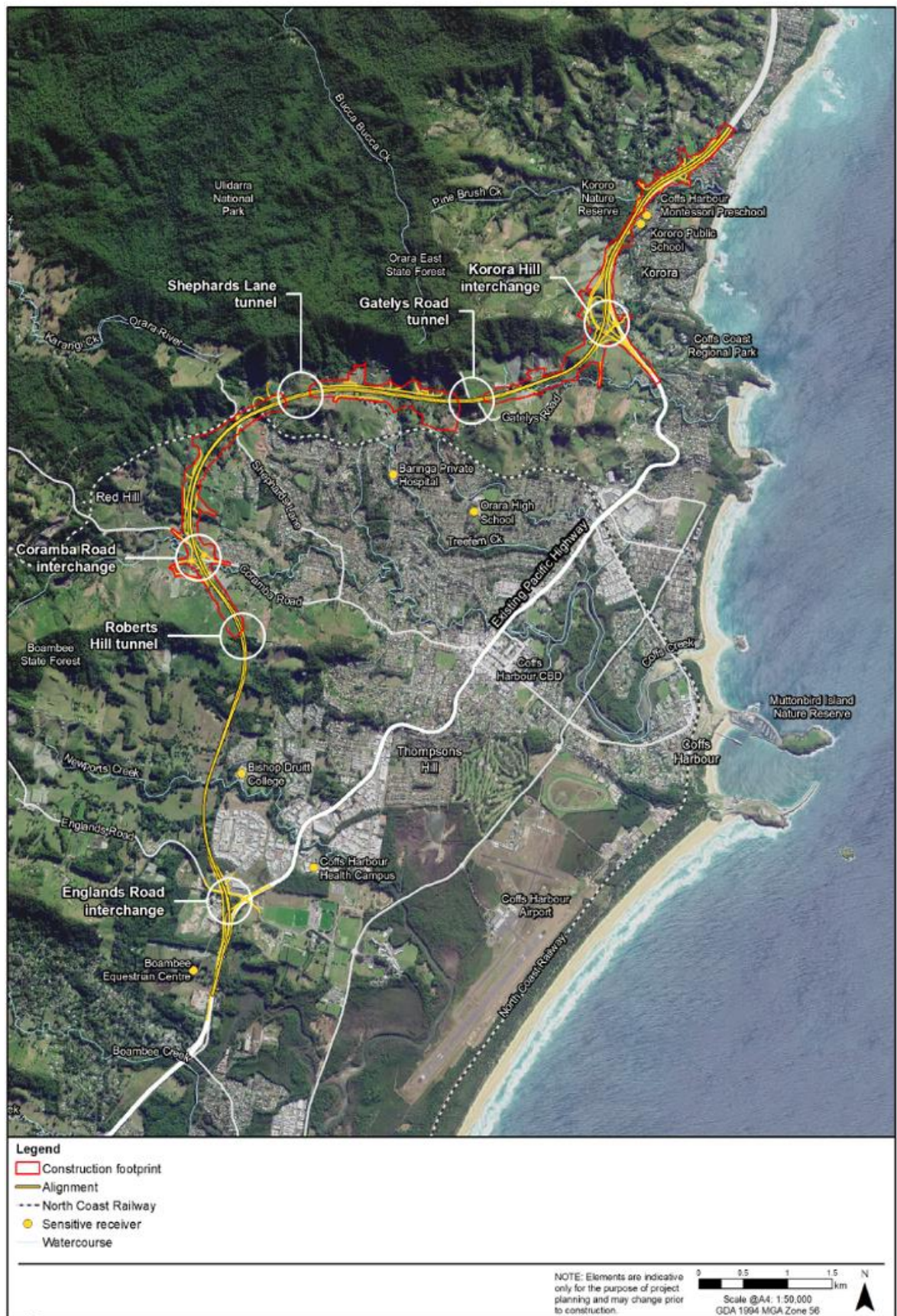
Environmental benefits

- Reduced traffic on the existing road network will improve air quality to the Coffs Harbour CBD.
- The approved alignment in comparison to the original concept design will have less impacts on biodiversity and lower potential impacts on flooding, soils, water quality and groundwater. More detail is provided in Section 4.2.3.

Figure 2 Coffs Harbour Region



Figure 3 Coffs Harbour Bypass



3 Policy Framework

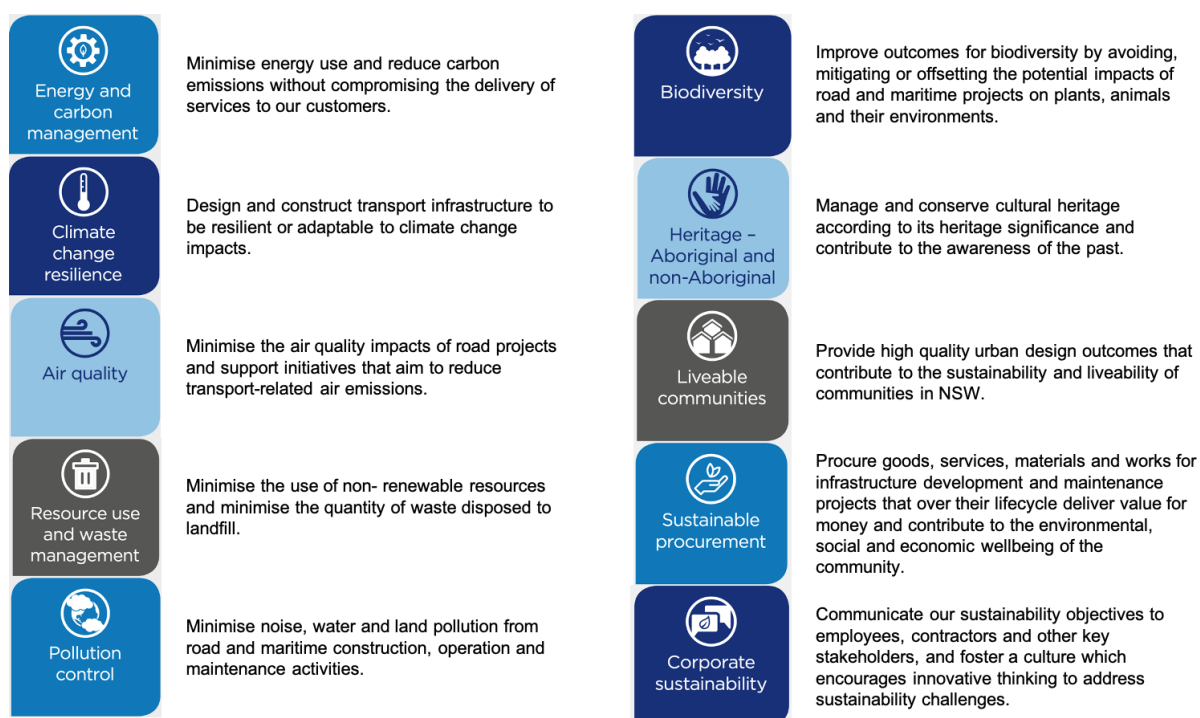
This section outlines the sustainability principles that inform the design of the Project and its sustainability performance criteria.

3.1 Roads and Maritime Services' Environmental Sustainability Strategy 2019–2023

Environmental sustainability is an essential aspect of TfNSW's corporate responsibility—this means considering the impacts of how we plan, deliver, operate, maintain and regulate NSW's road and maritime networks.

The 2019–2023 Environmental Sustainability Strategy identifies 10 focus areas to embed into the delivery of our infrastructure and services.

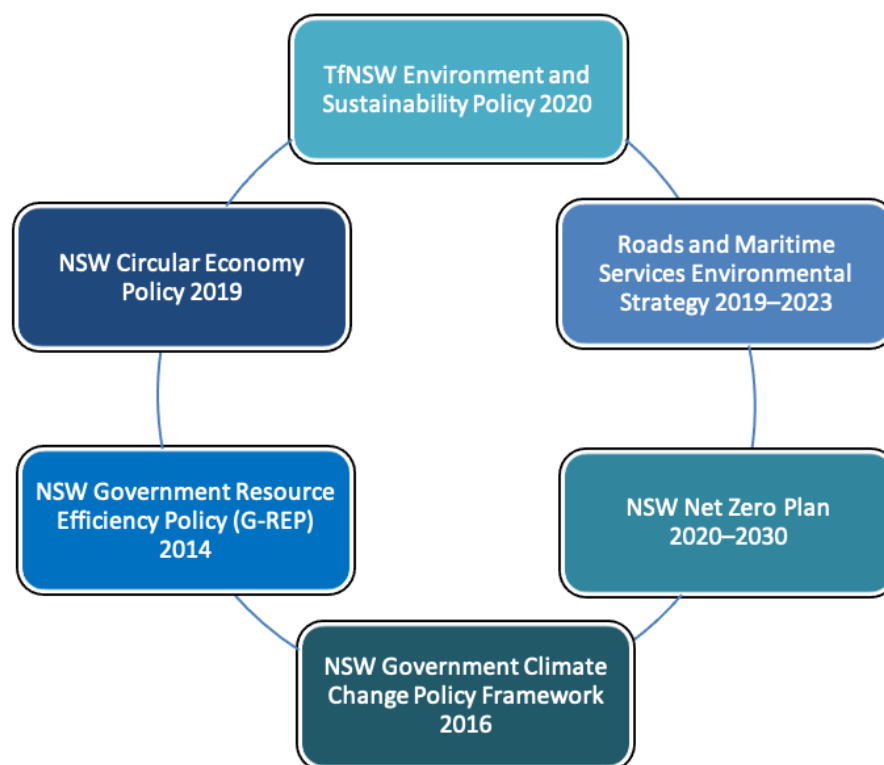
Figure 4 Ten Focus Areas (Road and Maritime Services', 2019–2023, Sustainability Strategy)



3.2 Sustainability policies

There are many drivers for sustainable infrastructure in the NSW Government's sustainable policy framework including but not limited to the documents listed in Figure 5.

Figure 5 Key policy drivers in NSW



4 Our Commitment to Sustainability

4.1 Commitment Statement

Our Sustainability Vision is to achieve excellent environmental, social and economic outcomes across all phases of the Coffs Harbour Bypass Project in order to deliver an integrated Project that connects the community in an environmentally sustainable manner.

4.2 Key focus areas

In line with the policy framework in Section 3, the Project has highlighted the following key focus areas due to their significance in the surrounding environment.

4.2.1 Traffic and transport efficiency

By providing a bypass around Coffs Harbour, the Project will address declining transport efficiency, urban congestion and road safety issues caused by the interaction of local traffic and through traffic including freight. Improvement to the operation of the road network will be positively characterised by the following:

- The Project will complement the Pacific Highway upgrade program by providing free-flowing, dual carriageway conditions between Hexham and the Queensland border.
- Road safety will increase by removing through traffic (light and heavy vehicles) and some local traffic from the existing road network which will reduce conflicts and improve safety for all road users. The total crash rate is estimated to reduce on the existing Pacific Highway by 15 crashes per year in 2044.
- Incidents associated with conflict between pedestrian, cyclist, passenger and freight traffic through the CBD will reduce, with around 60 per cent of heavy vehicles predicted to divert from the existing highway to the Project by 2044 (about 3,000 fewer vehicles daily at the Pacific Highway north of Orlando Street).
- Travel time for through and local traffic will reduce by up to 20 minutes for those travelling southbound by 2044.
- Transport efficiency along the existing Pacific Highway through Coffs Harbour, will increase relieving congestion on the wider Coffs Harbour road network and providing an alternative route for some local trips. This will also support accessibility and amenity to the Coffs Harbour CBD and will likely result in wider economic benefits for the Coffs Harbour region.
- Freight efficiency for heavy vehicles will improve by providing a high standard, dual carriageway road to complement the National Land Transport Network, Future Transport Strategy 2056 and the recently upgraded Pacific Highway.
- Additional routes and connections will be provided above predicted flood levels resulting in potentially more effective flood evacuation procedures.

- Greater safety outcomes will be evident through relocation of the existing school bus interchange at Kororo and the public school from the Pacific Highway to James Small Drive.
- Construction of service roads and one-way local access roads along the southern end (south of Englands Road interchange) will reduce the number of conflict points along the existing Pacific Highway by removing direct access to the Pacific Highway through unsignalised intersections.

4.2.2 Socio-economic

Engagement activities with stakeholders and the community have been carried out since 2001. Following the release of the concept design to the community, there was a high-level of concern expressed around the impacts of the deep cuttings at the major ridges along the bypass route. After extensive consultation with stakeholder groups, an alternative design including tunnel solutions was developed.

The Project is expected to divert traffic away from the CBD to make it more liveable and safer. The decreased traffic through the town and improvement in the liveability, safety and tranquillity is expected to attract more visitors to the region which could create more business and job opportunities.

TfNSW is committed to engaging with the community and stakeholders. Ongoing engagement is paramount in understanding actual and/or perceived impacts and benefits of the Project and to communicate sustainable objectives.

TfNSW will continue to communicate its sustainability objectives through consultation and will update the Sustainability Strategy in line with the development of the Project and feedback from stakeholder groups and community members.

Key highlights:

- A Community and Stakeholder Engagement Plan for the EIS and the concept design phase of the Project was prepared and implemented (Arup, 2017, EIS Chapter 7). This Plan includes TfNSW's engagement approach, engagement objectives and stakeholder identification. This is a live document and will be updated to be relevant to the construction phase of the Project.
- The Project is committed to other TfNSW policies in regard to Aboriginal participation in construction and infrastructure skills legacy programs. Local service providers, when practicable, will be engaged.
- Key engagement activities have been rolled out to incorporate issues raised by stakeholders; these included: stakeholder and landowner meetings, community drop-in sessions, community update newsletters, advertisements, Project email and phone calls, letters and email updates and regular updates to the Project website.
- 2019—Community Information sessions sought feedback on the revised concept design with tunnels at key ridgelines at Shephards Lane and Gatelys Road.
- 2018—Community Information sessions explained the Project concept design with cuttings at key ridgelines at Shephards Lane and Gatelys Road.
- 2016—initial Community Information sessions were held to reintroduce the Project to the community and seek early feedback to inform the concept design and EIS phase of the Project.

- 2004—feedback from the consultation on shortlisted route options informed the preferred route as part of the Coffs Harbour Highway Planning Strategy (CHHPS).
- 2001–2005—the outcomes of the community information and consultation for CHHPS were considered in developing the shortlist of route options.

4.2.3 Biodiversity

TfNSW aims to implement environmental controls to ensure any vegetation or ecological value on the sites is enhanced if possible.

A biodiversity assessment was carried out during the EIS which presents an assessment of impacts to terrestrial and aquatic biodiversity associated with the construction and operation of the Project. This included a review of ecological records, datasets and GIS maps. Field surveys were also conducted to capture the broad range of vegetation, flora, fauna and aquatic habitats located within the study area. The development of a detailed design will target further avoidance or minimisation of potential impacts to biodiversity values (Arup, 2017, EIS Chapter 10).

Construction activities will be managed in line with the mitigation measures outlined in the EIS to avoid and/or minimise impacts to biodiversity. Throughout the refinement of the design, a number of elements have been included to avoid and minimise impacts on biodiversity during construction and operation including:

- loss of connectivity for terrestrial fauna by providing 16 locations where terrestrial fauna crossings have been included in the design such as the provision of bridges over creeks supporting giant barred frogs and movement structures for koalas
- an earthworks strategy and design that includes batters with low shallower slopes to allow for revegetation with native species and connecting patches of native vegetation along the wider road corridor.

Key highlights:

- Tunnel crossing key ridgelines at Roberts Hill, Shephards Lane and Gatelys Road will maintain key fauna crossing/habitat connectivity.
- Timber cleared for the Project will be utilised by community groups in creek and river restoration projects to improve fish habitat.
- A Biodiversity Offset Strategy has been developed for the Project in accordance with the NSW Biodiversity Offsets Policy for Major Projects (OEH, 2014d).

4.2.4 Water and waste

Management measures relating to water and waste will aim to minimise resource consumption.

Mitigation measures for waste will be captured in the preparation and implementation of the Waste Management Plan. These measures will ensure appropriate management of waste to minimise the potential for impacts to the community and environment during construction. The Project will seek to maximise material and resource efficiency by investigating opportunities for recycling and reuse through construction and operation.

Key highlights:

- The Project will consider locally sourced materials and promote material sourcing from suppliers in the ISCA ISupply Directory. The ISupply Directory connects sustainable products and services with projects and assets undertaking an Infrastructure Sustainability rating.
- The introduction of recycled glass into the concrete/asphalt manufacturing process will be investigated.
- Concrete reuse will be investigated with options looked at both on-site and off-site.
- The use of non-potable water over potable water will be prioritised during construction.
- Where reasonable and feasible, water captured within the construction footprint will be prioritised for reuse as construction water or dust suppression.
- Soil binders may be used to minimise dust generation and hence reduce water application requirements.
- Spoil would be beneficially reused as part of the Project before alternative spoil disposal options are pursued.

4.2.5 Climate change resilience

Rainfall and sea level are the two predominant factors which determine the degree and severity of flood events. Climate change has the potential to significantly influence both factors by increasing sea levels and causing an increase in the severity of extreme weather events.

The Project includes mitigation and management measures to minimise short- and long-term impacts from flooding including consideration for future climate conditions. In many areas, the Project will reduce peak water levels downstream.

Key highlights:

- A climate change risk assessment will be carried out prior to the construction phase of the Project commencing. Climate change has been specifically considered in flood modelling as identified in the EIS (Arup, 2017, EIS Chapter 17).
- Potential climate change risks have been reviewed to identify risks and adaptation opportunities to improve the Project's resilience to future climate change.
- Potential climate change impacts on the Project related to sea level rise and increased rainfall intensity have been reviewed through flooding assessments. Further assessment during detailed design will confirm the requirements for any additional and/or refined design mitigation measures.
- Ancillary sites will be located above the 1:20 flood level to reduce impacts in the event of large storm events.

4.3 Sustainability commitments

Table 2 highlights our objectives and commitments according to ISCA's rating categories. It provides an approach to the overall sustainable strategy of the Project.

Table 2 CHB Sustainability Commitments

ISCA categories	Project objectives	Commitments
Energy	Minimise energy use and reduce carbon emissions without compromising the delivery of services to our customers.	• Minimise grade-line of the bypass. • The construction access routes must be included in the Traffic and Transport Management Sub-plan. • Monitoring and modelling of energy use and GHG emissions and actions taken to reduce them is undertaken.
Climate change	Design and construct transport infrastructure to be resilient to climate change impacts.	• Complete an assessment of climate change risk during both construction and operational phases. • Ensure climate change is considered and assessed as part of Detailed Design Phase. • Flooding assessment associated with the Project will consider rising sea levels as a result of climate change, including mitigation measures. • Bypass and associated traffic lights will improve road user/freight efficiency, improve travel times and reduce carbon footprint and impacts on climate change. • Flatten motorway grade-lines as much as practicable to improve freight efficiency and reduce carbon emissions.

ISCA categories	Project objectives	Commitments
Discharges to air, land and water	Minimise the air quality impacts of roadworks, and support initiatives that aim to reduce transport-related air emissions. Minimise noise, water and land pollution from road and maritime construction, operation and maintenance activities.	• Traffic will flow constantly and reduce transport-related air emissions. • A noise and vibration assessment has been prepared for the Project as well as an assessment of the Project's potential impact on soil and water (Arup, 2017, EIS Chapter 9). • An Air Quality Management Plan will be prepared and implemented to identify potential sources of air pollution, all dust sensitive receivers, air quality objectives, mitigation and suppression methods (including during strong winds and adverse weather conditions) and community notification procedures. • Stormwater and road runoff will be directed towards operational water quality treatment measures that will assist in the removal of pollutants from discharge water to protect ecosystem and human health. • Groundwater captured by cuttings and tunnels will be returned into the aquifer down gradient and within the same catchment from where it was intercepted where reasonable and feasible.
Waste	Minimise the use of non-renewable resources and minimise the quantity of waste disposed to landfill.	• Management of construction waste will include reuse, recycling and reprocessing of waste where possible. • A Waste Management Plan will be prepared and implemented to provide specific guidance on measures and controls to be implemented to support minimising the amount of waste produced and appropriately handling and disposing of unavoidable waste. It will also address the importation of recycled materials to site for use in constructing the Project. • Site-won materials will be used where possible rather than sourced from quarries external to the Project; for example, gravels for road construction and aggregates for concrete. • Recycled glass/manufactured sand will be used where possible to replace naturally sourced sands in concrete and asphalt. • Monitoring and modelling of materials' lifecycle impacts will be undertaken. • An investigation into supplementary cementitious materials in concrete will be undertaken.

ISCA categories	Project objectives	Commitments
Water	Monitoring and minimising water use as much as possible across the infrastructure lifecycle.	• A Construction Water Quality Impact Assessment, consistent with the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018) will be prepared prior to commencement of construction. • Water efficiency will be achieved through water saving initiatives, water recycling and reuse and maintaining a focus on monitoring and reporting of water consumption during construction. • An investigation of non-potable water sources (e.g. for dust suppression) will take place. • The Project will incorporate numerous waterway openings and crossing structures (such as bridges and culverts) as well as other flood mitigation design measures to minimise flooding impacts on the surrounding environment designed with the aim of meeting flood impact objectives to the greatest extent practicable. • A number of mitigation options are proposed to address the residual flood impacts and will be confirmed in consultation with Coffs Harbour City Council and other relevant stakeholders prior to construction. • Monitoring and modelling of water use will be undertaken so that some proportion of total water use is from non-potable sources.

ISCA categories	Project objectives	Commitments
Ecology	Improve outcomes for biodiversity by avoiding, mitigating or offsetting the potential impacts of road and maritime projects on plants, animals and their environments.	• A Biodiversity Assessment has been prepared for the Project (Arup, 2017, EIS Chapter 10). • Koala habitat corridors at Roberts Hill and Gatelys Road are included in the Project design. • A Biodiversity Offset Strategy has been prepared (OEH, 2014d). • A Threatened Flora Translocation Plan will be developed as part of the Project Construction Environmental Management Plan (CEMP). • Local seed within the North Coast Bioregion will be collected to support the landscaping and revegetation outcomes of the Project. • A Threatened Species Management Plan and Flora and Fauna Management Plan will be prepared to identify detailed site-specific and species-specific mitigation measures, and management protocols will be implemented before, during and after all construction activities to further avoid or reduce impacts on threatened biodiversity. • Fauna connectivity structures will be designed and constructed to facilitate safe fauna passage across the Project, including maintaining fauna connectivity along key ridgelines due to tunnel construction. • Native vegetation and fauna habitat removal will be minimised through detailed design where reasonable and feasible. Particular focus will be given to avoiding and minimising the removal of: ◦ hollow bearing trees ◦ native vegetation in riparian zones ◦ native vegetation from known fauna connectivity corridors and near proposed fauna crossing structures.
Heritage	Manage and conserve cultural heritage according to its heritage significance and contribute to the awareness of the past.	• Impacts on Aboriginal and non-Aboriginal heritage significance have been minimised, avoided and mitigated where practicable, and management measures to be implemented throughout construction of the Project have been provided. • An Aboriginal Heritage Management Plan will be prepared and implemented in consultation with Registered Aboriginal Parties. Collection of surface artefacts and archaeological salvage excavation will be undertaken where impacted by the Project. • A Non-Aboriginal Heritage Management Plan (NAHMP) will be prepared and implemented to provide specific guidance on measures and controls to be implemented to avoid and mitigate impacts to Non-Aboriginal heritage.

ISCA categories	Project objectives	Commitments
Community, health, wellbeing and safety	Provide high quality urban design outcomes that contribute to the sustainability and liveability of communities in NSW. Remove traffic from Coffs Harbour CBD. Minimise Grade-line of the Bypass to reduce noise impacts. Promote local and Aboriginal employment on the Project.	- Facilitate improvements for pedestrian and cyclist connections. - Maximum Grade-line 3.5% with low noise asphalt pavement will be implemented during the construction phase of the Project to assist in reducing noise impacts associated with operation. - Local bus interchange facilities will be improved. - Infrastructure Skills Legacy Program will be mandated to Contractors and will be developed to upskill the local community and create employment opportunities locally. - Consultation will be undertaken with potentially affected residences prior to the commencement of and during work in accordance with the Community Liaison Implementation Plan that will provide specific information in relation to community involvement during construction. - Aboriginal Participation in Construction will be developed to target 4% Aboriginal Participation during the construction phase of the Project in accordance with NSW Govt. Guidelines. - TfNSW has adopted the 2020 People Plan and the 3-year Diversity Inclusion Plan that provide better collaboration and an inclusive culture (Roads and Maritime Services, 2020, Diversity and Inclusion Plan).
Urban and landscape design	Best practice urban design principles and design review.	- A Place Design and Landscape Plan will be prepared to inform the final design of the Project. - Mitigation measures have been embedded within the design and include elements such as tunnels, revegetation using native species to strengthen and respond to the existing character, using vegetation to screen views on adjacent properties, a noise wall designed to relate to local landscape and plans which will integrate proposed earthworks to respond to the character of the area. The urban design elements of the Project have been based on the natural landscape with the aim of integrating the Project with the existing landscape.
Procurement and purchasing	Provide goods, services, materials and works for infrastructure development and maintenance projects that over their lifecycle deliver value for money and contribute to the environmental, social and economic wellbeing of the community.	- An SMP and Infrastructure Sustainability Implementation Plan will be prepared. - Key sustainability roles will be mandated during procurement of construction contracts for the Project. - Procurement of materials from the ISCA ISupply Directory will be sourced where practicable. - The use of local content/suppliers where reasonable and feasible will be promoted.

ISCA categories	Project objectives	Commitments
Management systems	Communicate sustainability objectives to employees, contractors and other key stakeholders, and foster a culture which encourages innovative thinking to address sustainability challenges.	• The SMP will be prepared to communicate sustainability objectives and foster a culture of sustainable thinking and innovation. • Infrastructure Sustainability will be monitored and scored in accordance with the ISCA Version 1.2 Scorecard. • TfNSW will ensure that all sustainability deliverables will be a condition of contract for the construction contractor, including management commitment, audit and review and general implementation to ensure an ISCA rating of 'Excellent'. • ISCA Version 1.2 scorecard will be used for the design and as-built rating for the Project. • The CEMP and sub-plans to be prepared for the Project include but may not be limited to: ◦ Traffic Management Plan ◦ Noise and Vibration Management Plan ◦ Flora and Fauna Management Plan ◦ Threatened Species Management Plan ◦ Urban Design and Landscape Plan ◦ Panama Disease Control Management Plan ◦ Aboriginal Heritage Management Plan ◦ Non-Aboriginal Heritage Management Plan ◦ Construction Flood Management Plan ◦ Soil and Water Management Plan ◦ Erosion and Sediment Control Plan ◦ Acid Sulfate Soils Management Plan ◦ Asbestos Management Plan ◦ Air Quality Management Plan ◦ Waste Management Plan ◦ Sustainability Management Plan ◦ Bushfire Management Plan.
Materials	To track and reduce use of materials such as aggregate, concrete, steel and wood.	Monitoring and modelling materials' lifecycle impacts will be undertaken.

ISCA categories	Project objectives	Commitments
Land	To maximise conservation of on-site resources, assess contaminated land and flooding risks.	• All reasonably practicable erosion and sediment controls will be installed and appropriately maintained to minimise water pollution. • A Site Contamination Report will be prepared and submitted to the Planning Secretary for Information prior to any commencement of work. • The Project will be designed so that the floodplain management objectives are not exceeded for events up to the 1% Annual Exceedance Probability (AEP). • For areas outside the Project boundary, the following flood afflux objectives must not be exceeded for events up to the 1% AEP: ◦ less than 10 mm for residential, commercial and industrial areas and buildings affected by existing Finished Floor Level inundation ◦ less than 50 mm for agricultural land ◦ less than 250 mm pastoral, forest and recreational areas.
Innovation	To foster innovative solutions to the Project's key challenges.	• Tunnels have been designed to go from bright to dark (depending on the position of the sun) with LED/smart lighting. • Consultation will be carried out with Local Government and relevant stakeholders to investigate the potential for using locally resourced glass. • TfNSW is working with biosecurity and assisting with the furthering of research and development and management of Panama disease (banana disease).
Stakeholder engagement	To develop a comprehensive stakeholder engagement strategy.	• A Community and Stakeholder Engagement Plan is in place for the Project and will guide future stakeholder engagement activities. • A complaints management system will be prepared and implemented before the commencement of any work, and it will be maintained for the duration of construction and for a minimum of 12 months. • A complaints register will be maintained recording information of all complaints received during the carrying out of any work, and it will be maintained for a minimum of 12 months following the completion of construction.

4.4 Governance actions

TfNSW will be accountable and transparent on sustainability performance and will manage the overall facilitation of achieving an 'Excellent' ISCA rating. Sustainability targets will be included in the contract delivery documents and identify all requirements with regard to ISCA commitments.

The overall approach to governance will be a senior management team that is engaged with sustainability performance. Performance will be driven by the Environmental and Quality Management System of the Project and the independent auditing that this requires. High-impact decisions will be guided by multi-criteria analysis, cost-benefit analysis and risk and opportunity assessment where relevant.

As part of the monitoring and evaluation of the Project, Key Performance Indicators (KPIs) will be identified, and reporting and review by senior management will enable continual improvement.

A number of management plans will be required to be developed by the contractor to address CoA and infrastructure sustainability criteria categorised in Table 1. In addition to these plans, the contractor would also be required to update and implement the Project's Preliminary Sustainability Management Plan or develop their own equivalent plan.

The SMP will establish governance structures, processes and systems that ensure integration of all sustainability considerations (vision, commitments, principles, objectives and targets), initiatives, monitoring and reporting during the detailed design and construction phases of the Project.

The SMP commitments will include but not be limited to:

- key sustainability management roles and responsibilities—the SMP will clearly assign responsibilities and roles for sustainability initiatives and outcomes to those appropriate within the company, including those at leadership level
- diverse and inclusive workforce participation and local employment opportunities
- an energy efficiency and greenhouse gas emissions strategy
- waste management and resource efficiency
- a sustainable procurement strategy—an assessment will be made of the contractor's initiatives to improve sustainability performance across their own supply chain, including addressing ethical sourcing requirements
- water savings initiatives
- monitoring and reporting requirements for sustainability initiatives and performance
- environmental and sustainability inductions for all personnel working on the Project.

Monitoring and evaluation will be undertaken per Theme of the Infrastructure Sustainability rating, and results will be communicated internally and externally via sustainability reporting. Data will be collated via activities including but not limited to auditing, inspections, surveys, meetings and workshops throughout the design phase of the Project.

As a minimum, the monitoring and measurement activities will include:

- one external Environmental Management System audit during design phase
- regular sustainability meetings which are recorded and guided by sustainability targets and objectives
- review of quarterly personnel KPIs or team KRAs which are developed in accordance with sustainability targets and objectives
- results from monitoring and evaluation collated into sustainability reports which will be provided to senior management regularly and reported publicly on an annual basis.