SWAN RIVER CROSSINGS: Annual Project Sustainability Report 2021

Prepared by the Fremantle Bridges Alliance

This annual report covers the period from 11 February 2021 to 30 June 2021

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About this Report

This report has been prepared by the Fremantle Bridges Alliance on behalf of Main Roads Western Australia. This report forms part of Main Roads' annual sustainability reporting which is integrated into its Annual Report. The report content is prepared in accordance with Global Reporting Initiative (GRI) principals. Material topics reported in this report have been determined through a materiality process that adheres to the Infrastructure Sustainability Council of Australia (ISCA) framework and the United Nations Sustainable Development Goals (SDGs).

The Swan River Crossings Project (the Project) has adopted the ISCA Sustainability framework based on version 2.0 of the Infrastructure Sustainability (IS) Rating Tool. The IS Rating Tool provides a framework for the implementation and evaluation of sustainability across design, construction and operation of infrastructure assets. This framework provides benchmarks and guidance to allow independent assessment of sustainability performance on infrastructure projects. The framework will be used to evaluate and improve sustainability performance across all aspects of the Swan River Crossings Project.

Introduction

Sustainability is the commitment to creating lasting benefits through an integrated consideration of social, environmental and economic aspects in all that we do. The Fremantle Bridges Alliance is committed to delivering a project that achieves the best sustainable outcome aligned with the United Nations Sustainability Development Goals (UN SDGs), Main Roads' strategy ('Keeping WA Moving'), and the Sustainability Policies of each Alliance Participant organisation.

Fremantle Bridges Alliance will deliver the Swan River Crossings Project in a way which seeks to improve the overall transport system and connectivity by ensuring the social, environmental and economic aspects of the Project are delivered in the most sustainable and practicable manner possible. This is reflected in a Project objective to maximise sustainability through economic, social and environmental responsibility.

Our targets for the development phase, which are further described in the Sustainability Targets section, reflect the most material topics for the Project, both in terms of addressing the UN SDGs and the Global Reporting Index. The priority issues for the Project include, but are not limited to, stakeholder values, heritage (European and Aboriginal), environmental impacts and opportunities, as well as leaving a lasting legacy long after the asset becomes operational.

Overview

The Swan River Crossings Project involves the replacement of Fremantle Traffic Bridge, the construction of a new rail bridge, and the provision of improved pedestrian and cyclist connections over the Swan River. The Project aims to deliver improved safety for road users, modern standard pedestrian and cycling facilities, increased rail efficiencies, and improved river navigation, whilst acknowledging the history of this place as a key crossing point of the Swan River. This includes scope for associated public realm improvements and heritage interpretation works.

The Project is jointly funded to $230million by the State and Commonwealth governments and is being delivered by the Fremantle Bridges Alliance. The Alliance was appointed in February 2021 and comprises Main Roads WA, Laing O'Rourke Australia Construction, Arup Australia and WSP Australia. Leading architectural firm Woods Bagot and a heritage consultant have been included in the Fremantle Bridges Alliance team to prioritise heritage interpretation, urban landscape, and design for this significant Project.

The Project has two key stages:

1. Stage 1, which involved the initial scoping phase, with constraints considerations, a first round of community consultation and heritage and urban landscape design priorities – by Main Roads (2019-2020)
2. Stage 2, which commenced in early 2021, involves the refinement and finalisation of the design and commencement of construction towards the start of 2022, subject to statutory approvals – by Fremantle Bridges Alliance.

The figure below demonstrates the two key stages of the Project.

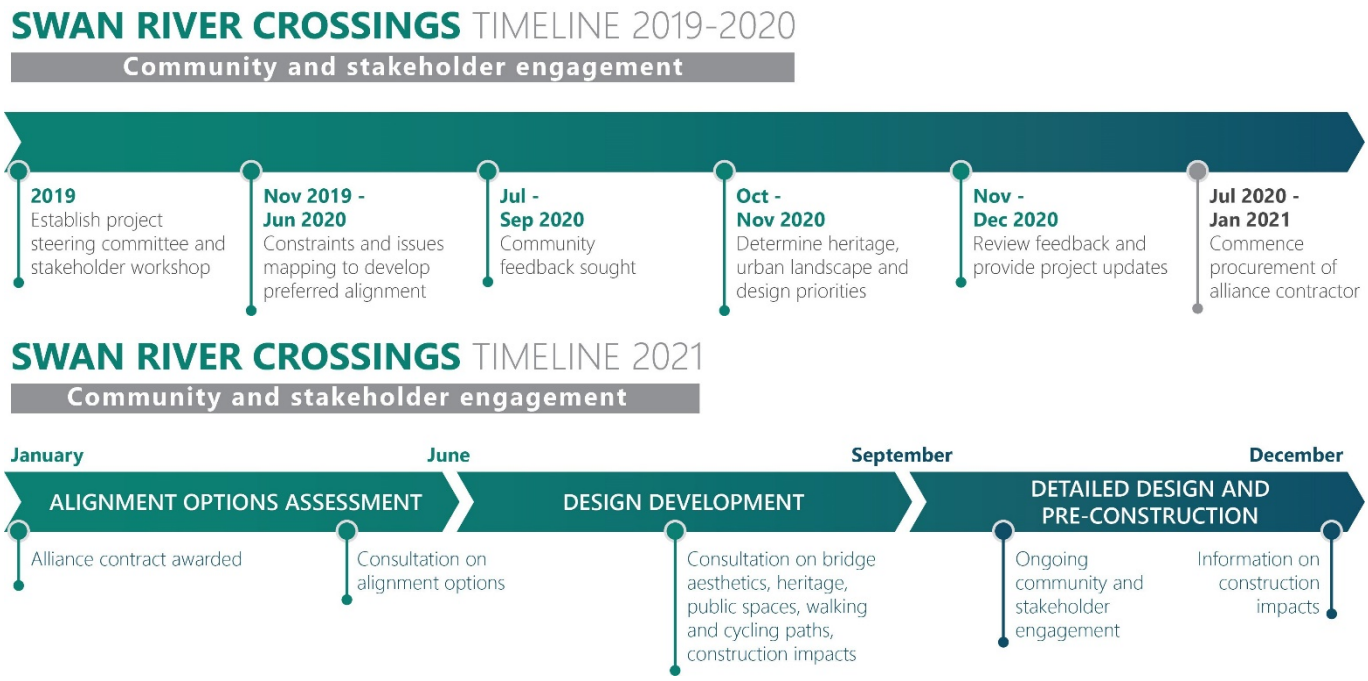

Figure 1 Swan River Crossings consultation timeline

Early works are expected to start by late 2021 and will support 1,400 jobs over the life of the Project as stated in the media statement available at: https://www.mediastatements.wa.gov.au/Pages/McGowan/2020/08/Joint-media-statement-Swan-River-Crossing-reaches-new-milestone.aspx

The project website can be found at: https://www.mainroads.wa.gov.au/projects-initiatives/projects/metropolitan/Swan-River-Crossings/

Project Location

The Project is located within the City of Fremantle and forms part of the North Fremantle Locality and the Rous Head and Fremantle City Centre, on the City of Fremantle Town Planning Scheme No. 4 District Scheme (refer to Figure 2).

Figure 2 Swan River Crossings Project location

Project Overview

The existing Fremantle Traffic Bridge was opened in 1939 as a temporary structure. However, recent investigations have identified that the State heritage listed bridge has reached the end of its useable life, despite extensive strengthening and maintenance works (including a highly disruptive closure in 2016). This places the bridge at risk of closure due to structural issues, which would significantly increase traffic pressure on Stirling Bridge to the east. Refer to the factsheet at https://www.mainroads.wa.gov.au/globalassets/projects-initiatives/projects/metro/swan-river-crossings/swan-river-crossings-fremantle-traffic-bridge-condition-fact-sheet.pdf).

In addition, freight and passenger rail connectivity in the locality is also constrained by the shared nature of the Fremantle Rail Bridge, on which passenger services are given operational priority. This has the effect of limiting freight rail capacity and impacts on the timely and efficient provision of important freight rail services to the northern side of the harbour.

Whist these works have been considered over many years, delivery of the Project was brought forward as part of the economic response to the COVID-19 pandemic. The Project will:

- Replace the deteriorating traffic bridge like for like - the Fremantle Traffic bridge (Figure 3) is currently two lanes in each direction and the new traffic bridge will also be two lanes in each direction.
- Build paths for pedestrians and cyclists to replace the current two metre path. Cyclists and pedestrians will be separated.
- Build a new rail bridge dedicated to passenger rail. The current rail bridge will remain and service freight only. Providing a new passenger rail bridge will separate freight and rail passenger train lines, ensuring adequate freight rail capacity into the future.

Figure 3 Fremantle Traffic Bridge piers

Project Considerations

Figure 4 has been used by Main Roads during early public consultation to demonstrate some of the key environmental, heritage and infrastructure considerations associated with the Swan River Crossings Project. This provided the public with additional context to support early consultation and demonstrated the complex working environment.

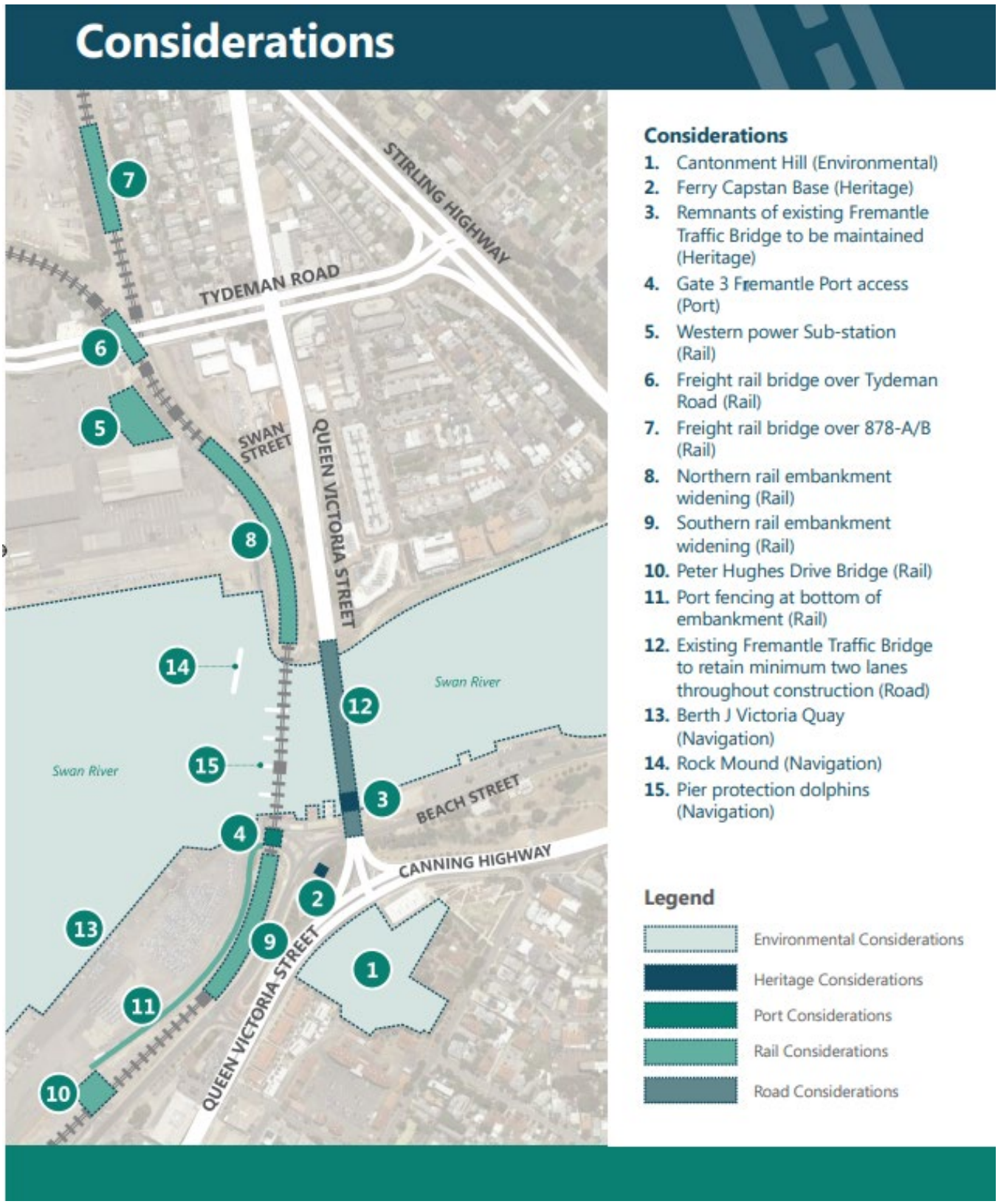

Figure 4 Project constraints and key features

Alignment Options Assessment

Main Roads commenced a community and stakeholder consultation program for the Swan River Crossings Project in August 2020, which indicated a high level of public interest in the bridge alignment, heritage values and place making opportunities.

Following the establishment of the Fremantle Bridges Alliance, a comprehensive Alignment Options Assessment was undertaken, with significant input from the community and stakeholders. The Alliance reviewed four bridge alignment options (refer to Figure 5) to determine which alignment responded most suitably to community and stakeholder sentiment, addressed all technical challenges, and delivered value for money. The process involved extensive community and stakeholder consultation with multiple briefings and workshops with key stakeholders; qualitative multi-criteria assessment; and value-for-money assessment considering the cost, program, benefits, trade-offs, risks and opportunities.

Note that there have been a number of previous options and alignments considered by Main Roads, prior to the establishment of the Fremantle Bridges Alliance (refer to previously considered alignment option maps available at https://www.mainroads.wa.gov.au/globalassets/projects-initiatives/projects/metro/swan-river-crossings/swan-river-crossings-forum-alignment-maps.pdf).

FREMANTLE BRIDGES ALLIANCE

OPTION 1	OPTION 2	OPTION 3	OPTION 4
Option 1 proposes to build two new bridges between the existing rail bridge and the existing Fremantle Traffic Bridge. The new passenger rail bridge includes two tracks, to the east of the current rail bridge.	Option 2 proposes to build two new bridges between the existing rail bridge and the existing Fremantle Traffic Bridge. The new passenger rail bridge includes one track, to the east of the current rail bridge.	Option 3 proposes to build the new traffic bridge to the east of the existing Fremantle Traffic Bridge and includes a new passenger rail bridge with two tracks, to the east of the current rail bridge. This is the alignment that was presented by Main Roads last year.	Option 4 proposes to build the new traffic bridge on the same alignment as the existing Fremantle Traffic Bridge and includes a new passenger rail bridge with two tracks, to the east of the current rail bridge.

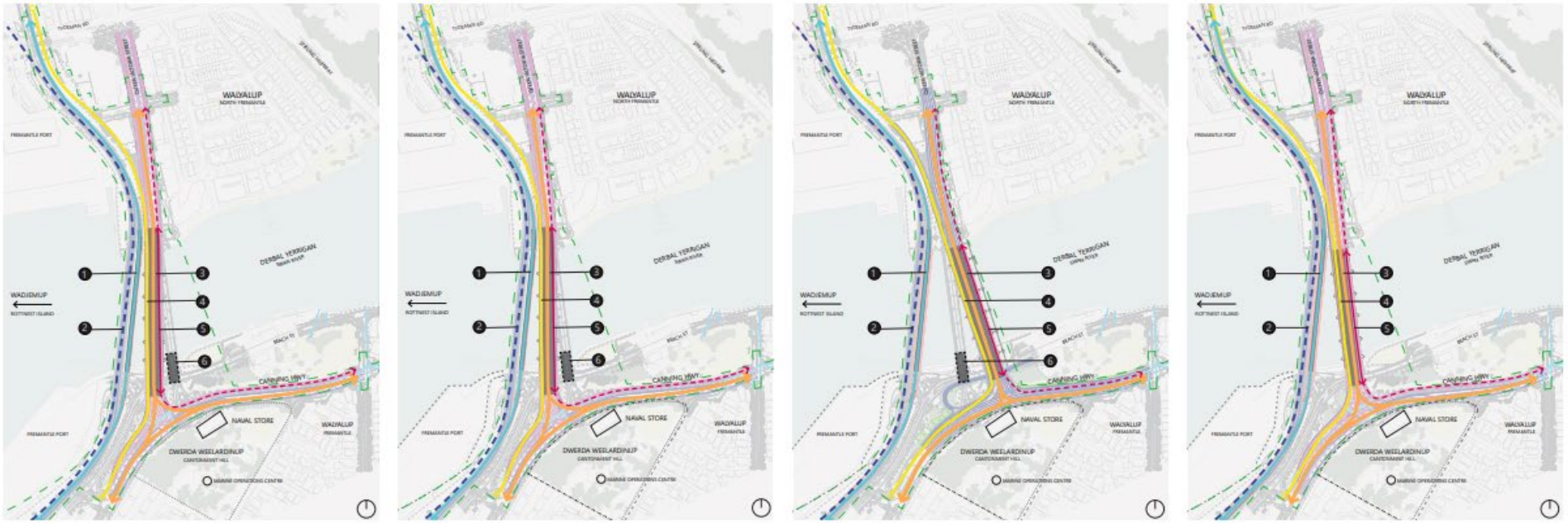

Figure 5 Bridge alignment options

Highlights

The consultation and engagement program demonstrated a genuine commitment to seeking input from community and stakeholders to deliver sustainable infrastructure that meets the needs of our community today, and into the future.

Through forums, workshops, pop-up information stands, written updates and dozens of face-to-face meetings, Main Roads and the Fremantle Bridges Alliance team amassed almost 6,000 unique users of an online visualisation tool which showcased the alignment options in a 3D visual setting (https://au.opencitiesplanner.bentley.com/WSP/swanrivercrossings), and almost 1000 survey responses.

The public consultation period was delivered concurrently with detailed key stakeholder engagements, consisting of workshops and briefings, as well as a community forum with highly interested stakeholders and local community representatives.

Figure 6 Community and stakeholder consultation sessions

A detailed analysis of feedback showed that Option One had significantly more support from the community and stakeholders, particularly as it would improve connectivity and maximise opportunities for river foreshore activation (Figure 7). The location comes with design and construction complexities due to the constrained nature of the site, however the Fremantle Bridges Alliance has recommended the alignment preferred by the community.

Future consultation is now focused on seeking further input from community and other stakeholders on the aesthetic outcomes of the Project – such as placemaking, cycling and walking paths and landscaping.

Figure 7 Example community and stakeholder feedback

Overall approach to Sustainability in Project Development

Main Roads has registered the Swan River Crossings Project with ISCA for a Planning rating under the Infrastructure Sustainability (IS) v2.0 framework, with a target to achieve a Bronze IS Planning Rating.

Fremantle Bridges Alliance has an integrated sustainability team consisting of Infrastructure Sustainability Accredited Professionals (ISAPs) from each member organisation, led by a Senior Environment & Sustainability Manager within the Alliance Management Team.

The Project has developed a Sustainability Management Plan (SuMP) aligned with the Sustainability Policies from Main Roads and each Alliance Partner organisation. The SuMP captures the vision and objectives that set the strategic direction for sustainability for the Project and focus on these areas will allow the Project to achieve sustainability outcomes beyond business as usual.

The Keeping WA Moving strategic objective is to "provide world class outcomes for the customer through a safe, reliable and sustainable road-based transport system." In the context of the Swan River Crossings Project, this requires alignment of all phases of a project's life cycle with the UN SDGs.

The outcome to be achieved for sustainability is to "develop a sustainable transport network that meets social, economic and environmental needs". To achieve this outcome the following objectives have been adopted by the Project:

- Replace Fremantle Traffic Bridge
- Improve passenger and freight rail safety, efficiency and productivity
- Improve passenger rail capacity, efficiency, and productivity by constructing a new, standalone rail bridge over the Swan River.
- Improve pedestrian and cycling connectivity over the Swan River and to North Fremantle Station.
- Maximise sustainability through economic, social, and environmental responsibility.
- Improve amenity and sense of place for the community, tourists, and road users.
- Create value through the provision of affordable infrastructure.
- Deliver and procure the works in a timeframe that supports the State Government's COVID-19 economic recovery.

Material Sustainability Issues

Following the Materiality Assessment undertaken during the Kick-Off Sustainability, the UN SDGs (Figure 8) assessed as material to the Project include:

- UN SDG 3: Good Health and Well-Being
- UN SDG 6: Clean Water and Sanitation
- UN SDG 8: Decent Work and Economic Growth
- UN SDG 9: Industry, Innovation and Infrastructure
- UN SDG 11: Sustainable Cities and Communities
- UN SDG 12: Responsible Consumption and Production
- UN SDG 13: Climate Action
- UN SDG 14: Life Below Water
- UN SDG 15: Life on Land
- UN SDG 17: Partnership for the Goals

It should be noted that omission of the rest of the UN SDGs from the above list will not result in the Project neglecting the potential positive impact it can have on achieving those omitted goals, rather they have been assessed to be less material. This assessment feeds directly into the Project's Sustainability Management Plan (SuMP), which provides guidance on the work to be undertaken during the Project's Development Phase, timing and dependencies for facilitating successful integration of sustainability into the design, and other activities during construction.

Figure 8 United Nations Sustainable Development Goals

Sustainability Targets

The Fremantle Bridges Alliance strives to integrate sustainability throughout the Project and had embedded social, environmental, governance and economic sustainability into the governance processes through the development of sustainability targets for the planning, design, delivery and operation of the asset.

These targets were developed as part of a multi-disciplinary team and key stakeholders. Design, Delivery and Operational targets will be further defined as the Project progresses; however the following targets have been approved by the Alliance Management Team for the Planning stage:

- Share sustainability knowledge and achieve at least two knowledge-sharing initiatives
- Leave a lasting positive impact in the Fremantle community and identify at least one possible positive legacy initiative that reflects community or environmental values
- Acknowledge heritage in the area through identification of at least two opportunities to incorporate heritage values and/or artwork within the Project's design and by undertaking at least one engagement session with relevant stakeholders to review heritage interpretation
- Build a diverse and inclusive working environment by producing an Indigenous Participation Plan
- Develop plans to ensure the safety of vessels, road users, rail passengers, cyclists and pedestrians during construction

- Minimise community impacts through the development of plans to ensure connectivity for vessel, road, rail, cycling and pedestrian movements is maintained during construction
- Undertake baseline studies and establish goals to minimise community impacts from noise, vibration, air quality and light pollution
- Identify and quantify at least three opportunities for reducing energy and carbon consumption across scopes 1, 2 and 3 for the construction and operation phases
- Investigate at least three renewable energy opportunities to be considered within Project design
- Develop a Water Reduction Strategy to reduce water usage during construction and investigate at least three opportunities to minimise or avoid water usage during construction and operation
- Investigate at least two green infrastructure strategies/opportunities to incorporate green infrastructure into the Project area
- Investigate at least two opportunities to enhance the site's ecological value
- Investigate at least three innovative materials and/or treatments to achieve a positive environmental, social or local economic benefit
- Engage with local business owners impacted by construction to establish mitigation strategies to minimise the impact of construction.

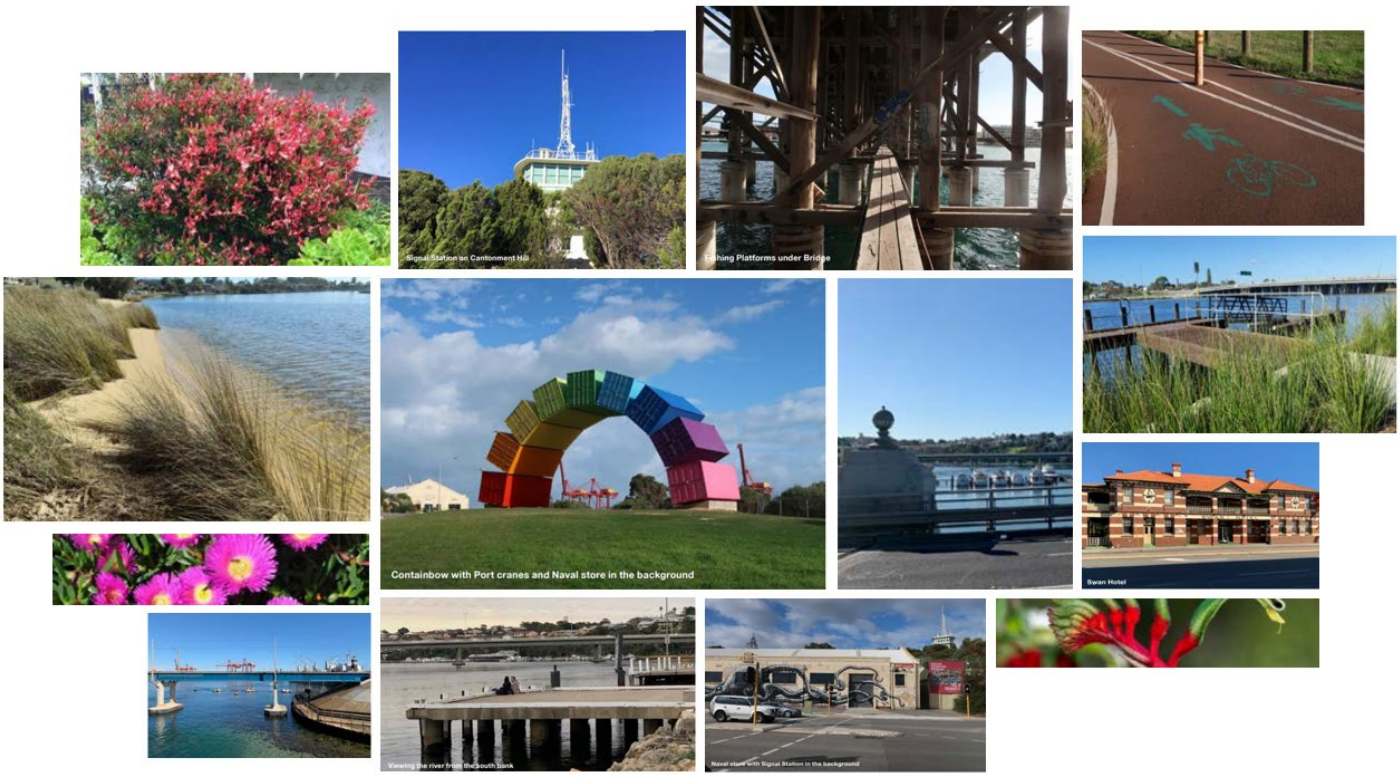

Figure 9 Images of the local surroundings that will influence urban design, landscaping, and heritage opportunities (Woods Bagot, 2020)

Environmental Aspects

This section provides a summary of the Project's environmental context and key challenges during the development phase.

Environmental Context

The site is heavily disturbed having been cleared of natural vegetation and has limited ecological value, with the exception of the Swan River, a Conservation Category Wetland. The Swan River is protected under the *Swan and Canning Rivers Management Act 2006* and is managed by the Swan River Trust and the Department of Biodiversity Conservation and Attractions. The Swan River flows into the Indian Ocean approximately 2.7 km south west of the Fremantle Traffic Bridge (Figure 10).

Figure 10 Aerial image of the existing Fremantle Traffic Bridge and rail bridge (looking west to Indian Ocean)

Environmental Management

Approach to Environmental Management

The environmental significance of this Project is widely understood by Main Roads and the Fremantle Bridges Alliance and is a fundamental priority for the local community and stakeholders. The Project has adopted Laing O'Rourke Australia Construction's ISO 14001-certified Environmental Management System and Policy. Project Environmental Objectives are linked to the Environmental Policy and have been developed to improve environmental performance. The key environmental issues considered include:

- Sustainable use of resources
- Minimising impacts to water, air and land from operations
- Meeting or exceeding the environmental performance objectives of clients
- Meeting or exceeding stakeholder expectations of our environmental performance
- Understanding and delivering on compliance obligations

The Project has also developed a draft Environmental Management Plan (EMP) which describes the overall objectives and priorities for the Project, and will apply to all personnel, suppliers and subcontractors engaged on the Project. The draft EMP will be finalised on completion of all environmental investigations and studies and outlines the Project-specific approach to enable environmental obligations to be addressed. The EMP will be presented to State and Local authorities during the Project approvals process.

Approvals and Permits

The following environmental or heritage approvals, permits or licences are needed for implementation of the Project:

- *Environmental Protection Act 1986* - Section 38 referral to the EPA
- *Aboriginal Heritage Act 1972* - Section 18 consent (received May 2021)
- *Swan and Canning Rivers Management Act 2006* (received for investigation works)
- *Heritage of Western Australia Act 2018* - Disposal of a heritage asset (Fremantle Traffic Bridge)
- *Port Authorities Act 1999* - Development Approval Local Planning Scheme (environmental factors)
- *Rights in Water and Irrigation Act 1914* - Licences to construct bores and abstract water

Due to the potential for environmental impacts, the Project has been referred to the WA Environmental Protection Authority (EPA) for assessment. Careful consideration has been given to avoiding and minimising impacts to these environmentally sensitive areas and heritage aspects in the early development phase, and the Project is liaising with State environmental and heritage agencies to ensure that the appropriate approvals are in place prior to commencing works.

At the time of writing this report, an EPA decision on whether to assess the Project is pending. A Section 18 consent under the *Aboriginal Heritage Act 1972* has been obtained.

All other approvals are ongoing and are anticipated for next financial year, noting that development approval will be obtained by the Western Australia Planning Commission (WAPC) through the State Development Assessment Unit.

Key Environmental Factors and Management Strategies

Flora and vegetation

There is no remnant native vegetation within the Project area. To the north of the river, there is a limited amount of landscaping and streetscaping of low aesthetic quality. To the south of the river, the area between the existing bridges has been landscaped with a mix of planted native species. Bush Forever Site 490 (Cantonment Hill) is adjacent to southern edge of Project area but will not be impacted by the works.

The Inner Harbour has a low level of benthic habitat and communities, due to historical disturbance of the area in its use as an active port and episodic dredging. Some benthic habitat and associated communities may be present around the piers of the existing bridges.

Clearing activities associated with this Project will be limited to areas that are necessary for construction and will be restricted to non-native or planted vegetation. The Project's Urban and Landscape Design Strategy will identify opportunities to enhance vegetation and wildflower corridors through landscaping, and opportunities for foreshore rehabilitation are under review with environmental stakeholders.

Fauna

The Swan River contains a mix of marine and estuarine species at the Fremantle Traffic Bridge, including dolphins, turtles, swans, seals, sharks and bony fish (Figure 11). The Fremantle Inner Harbour is an important route for the migration of fish, crabs and prawns between the Swan River and the ocean, and a resident group of Indo-Pacific Bottlenose Dolphins use the Inner Harbour daily year-round.

Although there is no significant habitat for these species, a number of threatened aquatic fauna species have the potential to occur within the Project area, including Great White Shark (*Carcharodon carcharias*), Grey Nurse Shark (*Carcharias taurus*) and Loggerhead Turtle (*Caretta caretta*).

The Project has commissioned various scientific studies relating to fauna, including an underwater noise and vibration assessment. Due to the impacts from piling and other marine works, observations zones and exclusion/shut-down zones will be established during construction to minimise impacts on marine fauna. The Project is also exploring opportunities for habitat creation and providing support to broader scientific research in the area.

No significant habitat for terrestrial fauna occurs within the Project footprint, with no natural and little artificial habitat remaining for terrestrial fauna. Waterbirds may utilise the area, but there is no significant foraging or nesting habitat present.

Figure 11 Local environmental aspects

Water Management

Water Quality

The Swan River Estuary is a 'Conservation' category geomorphic wetland. Conservation category wetlands are the highest priority wetlands, with management having the objective of preserving and protecting existing conservation values. Removal of the existing bridges and construction of a new bridge to modern design standards has the potential to improve the drainage water quality during operation by replacing open scuppers with adequate drainage.

The Project area lies within a Proclaimed Groundwater Area as defined under the *Rights in Water and Irrigation Act 1914*. Depth to groundwater varies with the ground topography, and groundwater level throughout the Project area is 0-1 mAHD. Groundwater throughout the Project area is likely to be saline due to saltwater intrusion to the surficial aquifer. However, this may still be suitable for construction purposes, but it is unlikely to be suitable for irrigation. Groundwater is likely to be saline south of the

Project area. Groundwater to the north of the river has the potential to be contaminated by historical land uses.

In consideration of the area in which the development is occurring, the Alliance will closely manage, monitor and mitigate environmental impacts related to receiving water through detailed baseline investigations and identification of water quality goals for design, construction and operation of the asset.

Consultation with the Fremantle Port Authority (FPA), Department of Biodiversity, Conservation and Attractions (DBCA) and Department of Water and Environmental Regulation (DWER) will continue through project development to ensure that construction impacts are mitigated and appropriate licenses are obtained.

Water Consumption

A demand assessment of significant water use for the Project will be undertaken to provide reasonable estimates or predictions of all key activities requiring water use over the life of the asset, including construction and operation. The Fremantle Bridges Alliance will also undertake an analysis of water reduction opportunities and develop a Water Reduction Strategy, with identification of at least three opportunities to minimise or avoid water use during construction and operation.

Available water sources will be identified to determine risks and opportunities of each water source and the potential lifecycle impacts on the environment or community.

Materials and Recycling

The Project is committed to resource efficiency through use of the Waste Hierarchy and Circular Economy principles. A Resource Efficiency Strategy will be developed in the Planning phase to guide the Design, Construction and Operation of the asset.

The document will define the resource efficiency expectations for Project delivery and operation and outline Project-specific resource efficiency targets through each phase of the infrastructure life cycle. Included in the strategy will be performance targets demonstrating circular economy outcomes, potential partnerships and strategic logistics to achieve resource efficiency targets. The following opportunity areas will be considered in the strategy, as a minimum:

- Minimisation of resource output generation
- Maximised onsite reuse of reusable resource outputs material
- Maximised offsite reuse of reusable resources where onsite solutions cannot be identified
- Deconstruction/disassembly/adaptability of the asset
- Beneficial reuse of existing onsite resources
- Beneficial reuse of resource outputs by nearby projects/assets
- Optimisation of overall resource use
- Minimised use of virgin resources
- Maximised use of local resources
- Maximised use of resources that can be reused or recycled
- Beneficial reuse of resource outputs from nearby projects/assets
- Maximised use of resource inputs (materials) with recycled waste content
- Minimised environmental and social impact of logistics (transport and handling).

A Resource Efficiency Action Plan will be developed in the detailed design stage to ensure the strategy expectations are achieved and promote all resource efficiency initiatives to be considered.

Contaminated Sites

The western extent of the site is bordered by land allocated to the Fremantle Port and railway reserves. The Department of Water and Environmental Regulation (DWER) contaminated sites guidelines list such land uses as having the potential to cause contamination, and land within this area has previously been classified as contaminated or potentially contaminated with metals and hydrocarbons.

The rail embankment material and railway line, especially on the northern side of the river, is likely to contain asbestos or other contaminants. Spills and dust deposition from rail carting (e.g. lead or nickel ore being transported to port in open carriages) may also lead to contamination. The river sediments are likely to contain levels of contaminants due to historical port activities and accumulation of contamination from upstream contaminating activities.

The area within the river between the bridge abutments is a "high to moderate risk" (risk class 1) of encountering Acid Sulfate Soils (ASS). The southern foreshore is a "moderate to low" risk of encountering ASS. All surficial river sediments are expected to be ASS.

A Preliminary Site Investigation was completed in 2020, and a detailed soil and groundwater contamination investigation, including ASS, is planned for August 2021. Geotechnical investigations have also further assessed the risk of ASS within the Project footprint (Figure 12). A management plan will be developed to ensure that any contaminated material is appropriately treated, remediated, re-used and/or disposed. The Project targets for contaminated soils and ASS align with the ISCA Technical Manual.

Figure 12 Swan River Crossings in-river geotechnical investigations

Noise and Vibration

The Fremantle Traffic Bridge and the rail bridge are currently in operation, and there is an existing level of road traffic noise that affect adjacent noise sensitive receivers.

The permanent works constitute a "major upgrade" of the road network, as defined in State Planning Policy 5.4 (SPP 5.4), as they involve modifications that "may improve road capacity, performance or function" within 200m of noise sensitive receivers. Similarly, the rail works constitute a "major upgrade" of the railway as defined in SPP 5.4 as it involves realignment of the freight rail within 200m of noise sensitive receivers, and realignment of the passenger rail within 100m of noise sensitive receivers.

A noise assessment was carried to inform the alignment selection process. The modelling showed that Option One generated less noise impacts on nearby sensitive receivers than the current Fremantle Traffic Bridge. Nevertheless, further detailed noise and vibration modelling will be undertaken to identify additional noise mitigation measures that can be integrated in the design. The noise assessment is being provided to both the EPA and the WAPC as part of the Project approvals process.

Construction noise is likely to affect nearby noise sensitive receivers. Piling in particular will have a noticeable impact, especially if piling is conducted out-of-hours. Vibration will have a nuisance effect on nearby sensitive receivers during construction and may affect the structural integrity of some buildings. A Construction Noise and Vibration Management Plan will be developed by acoustic specialists to minimise disruption on nearby receivers.

Carbon Emissions and Energy

Laing O'Rourke, a non-owner participant in the Alliance, has recently released ambitious targets related to carbon emissions and energy use:

- Achieve Net Zero Operational Carbon Emissions (Scope 1 and 2) by 2030
- Achieve Net Zero Scope 3 Emissions by 2050

The Fremantle Bridges Alliance will leverage this sustainability strategy and contribute to its success through implementation of energy reduction initiatives and investigation of renewable energy use.

A sustainability objective on the Project includes the reduction in energy demand and GHG emissions through the identification and quantification of at least 3 opportunities for reducing energy and carbon consumption across scopes 1, 2 and 3 for the construction and operation phases. The Project will identify opportunities, implement feasible options, monitor energy use and report on reductions. The Project will also push for renewable energy through investigation of at least three renewable energy opportunities in the design.

Economic Aspects

This section provides a summary of the Project's economic context and key objectives driving the Project development phase.

Figure 13 Aerial image of Fremantle Port (City of Fremantle Economic Development Strategy 2015-2020)

Economic Context

While Fremantle has serviced WA's trade needs for more than 120 years, the population and industries continue to grow, and the freight demands are growing too.

Road network links across the Swan River at Fremantle Harbour are serviced by two bridges, each performing complimentary transport tasks. The Fremantle Traffic Bridge crosses the Swan River upstream from the Port of Fremantle's Inner Harbour and the Fremantle Railway Bridge. Safe and reliable commuter and local transport access in the area surrounding the Port (as provided by Fremantle Traffic Bridge) is necessary for efficient movement of local people and vehicles and to ensure that freight routes are not congested with local traffic (freight routes are accommodated on the Stirling Highway bridge due to heavy vehicle restrictions on the Fremantle Traffic Bridge).

The Fremantle Traffic Bridge carries approximately 22,500 vehicles per day. It provides a connection for general vehicles and public transport services between North Fremantle (and areas further north) and Fremantle centre to the south. Ferries and private water vessels are required to pass under the bridge to travel into or out of Fremantle Port's Inner Harbour and further up the Swan River towards the Perth CBD. The Fremantle Traffic Bridge carries a number of utility services along the underside of the bridge deck, including Alinta Gas, BP Oil liquid hydrocarbon pipes, Telstra communication cables, Western Power cables, Water Corporation pipes and the Fremantle Bunkering Services pipeline.

To the east of the Fremantle Traffic Bridge is the Stirling Bridge which is a designated Strategic Road Freight Route connecting Canning and Leach Highways to the south with the Port of Fremantle's Inner Harbour to the north. The Stirling Bridge currently carries approximately 34,400 vehicles per day, of which approximately 16% are heavy vehicles.

Fremantle Rail Bridge to the west of the Fremantle Traffic Bridge operates two rail lines, one as a dedicated passenger line and the other which is shared between passenger and freight services. Constraints on the operation of freight services on the shared line are currently constraining the amount of freight on rail. Currently, passenger services are always given priority, freight services cannot run during peak times due to the higher passenger service frequencies. There are risks over the longer term with increasing demand for freight on rail and / or passenger services, which will put pressure on the shared rail line. This restriction on container rail freight movements is likely to have a more significant impact as the volume of freight transported to and from the Fremantle Port Inner Harbour by rail increases.

In parallel to the Swan Rivers Crossings Project, the Westport Taskforce (Westport) is developing a plan to manage the growing freight demands of Perth and surrounding regions for the next 50 years and beyond – essentially future-proofing Perth's freight network. With a particular focus on the existing port locations at Fremantle, Kwinana and Bunbury, Westport was tasked with undertaking a complete assessment of the ports, associated road and rail links, and intermodal terminals to determine the best long-term integrated freight transport plan to meet the State's needs.

Key Economic Outcomes

Business Case

The early stages of the Swan River Crossings business case outlined and quantified the significant impacts at both a National and State level to efficient freight movements in and out of Fremantle Port, which are associated with three key factors:

- The Fremantle Traffic Bridge has reached the end of its life and is at risk of closure due to unacceptable safety risks
- The closure of the Fremantle Traffic Bridge will result in significantly higher traffic volumes on the Stirling Bridge, causing delays and higher costs for heavy vehicles servicing Fremantle Port, and a lack of network resilience
- Constraints on the operation of freight services on the shared line along the Fremantle Rail Bridge have the potential to limit increased freight on rail mode share in the future.

The Swan River Crossings Project will replace the aging and load-limited Fremantle Traffic Bridge, and the capacity constrained Fremantle Rail Bridge with two new functional and fit for purpose structures. The Project will deliver a new road bridge with two lanes in both directions, a principal shared path for cyclists and pedestrians and a new rail bridge, consisting of two tracks for public transport services. The existing rail bridge will no longer carry these services and will be used to provide a dedicated freight rail connection to the Fremantle Port.

Alignment with Strategic Policies and Strategies

National policies

The Project aligns with the Australian Infrastructure Plan's theme of 'Productive Cities, Productive Regions', by supporting Connectivity and Productivity. The Project addresses some of the key challenges noted in relation to the aspiration of Productive Cities, Productive Regions. Furthermore, the Project meets the National Land Freight Strategy objective to improve the efficiency of freight movements across infrastructure networks, minimise the negative impacts associated with such freight movements.

State policies

Perth and Peel @ 3.5 Million Plan – Perth Freight Transport Network	The Project will support the movement and access objectives of the Perth and Peel @ 3.5 Million framework (the framework), which identifies a need to provide efficient and effective regional movement networks for people and freight. Furthermore, freight networks in the vicinity of Fremantle Port are also highlighted as a specific priority within the framework, in recognition of pre-existing constraints and congestion and the port's importance to the Western Australian economy.
WA Regional Freight Transport Network Plan	Strengthening connections between regional and metropolitan freight networks is a priority measure considered in the Regional Freight Transport Network Plan and whilst the Port of Fremantle is metropolitan based, its trade zone has a State-wide reach. This Project aligns with the regional plan's Direction 4 Priority to ensure growth in background traffic on inner metropolitan roads does not constrain freight performance.
Fremantle Inner Harbour Port Development Plan	The Development Plan identifies that most cargo shipped through Fremantle Port's Inner Harbour at present enters or leaves by road. Therefore, maintaining an adequate level of road access is vital to the efficiency of future port operations. The Project aligns with the Development Plan's objective of ensuring Stirling Bridge is prioritised as a key road freight link.
Main Roads Strategic Asset Plan 2018/19	Main Roads Strategic Asset Plan identifies and explains key investment requirements over the next 10 years. The Fremantle Traffic Bridge is listed as a high Priority Project Proposal requiring urgent attention.

Local plans and policies

The City of Fremantle's Strategic Community Plan (2015 – 2025) is consistent with the Perth and Peel @ 3.5 Million plan, with its focus on renewing activity centres in the Fremantle inner area and to the north, around Queen Victoria Street. The plan proposes an upgrade of existing river crossings, to create a strong sense of arrival, reinforce Fremantle's status as a waterfront city, and provide a vital connection for public transport services, active transport and general vehicles between the two centres.

Alignment with other projects

Westport (Port and Environs Strategy) is seeking to develop strategies to improve efficiencies in the Inner Harbour operations to meet trade needs. It is envisaged that Westport Project will guide planning, development and growth of the Port of Fremantle Inner and Outer Harbour and the required rail and road networks.

Figure 14 Fremantle rail bridge

Project Economic Benefits

Key benefits from the Project include the following:

- Assured 'last mile' road capacity for heavy freight vehicles servicing Fremantle Port as they cross the Swan River at Fremantle. The Project will avoid the significant congestion which would occur following the closure of the Fremantle Traffic Bridge, resulting in all traffic being required to use the Stirling Bridge.
- Assured safety for road users, through the continued separation of light and heavy vehicles offered by the two road bridges (new Fremantle Traffic Bridge and Stirling Bridge) at Fremantle. Heavy vehicles will continue to be restricted to using the Stirling Bridge, with new bridge providing a crossing for light vehicles only.
- Assured connectivity for road freight servicing the Port. The Project will avoid the significant detours which are required when an incident occurs on the Stirling Bridge, requiring its lanes to be closed in one or both directions. In these cases, heavy vehicles will be detoured across the new road bridge.
- Improved freight rail capacity for trains servicing Fremantle Port, which will enable a continued reduction in the share of freight transported by road. This will be achieved through a dedicated freight rail connection, which will remove the significant capacity limits which result from the shared freight and passenger rail connection across the Fremantle Rail Bridge.
- A new rail bridge with an expected life of around 100 years, able to support passenger rail services for years to come. This will avoid the need to replace the passenger rail connection in around 40 years' time when the Fremantle Rail Bridge reaches its end of life. This will be achieved by relocating the passenger services to the new rail bridge and utilising the existing rail bridge for rail freight only. This would potentially allow the existing rail bridge to be decommissioned once the container trade moves to a new facility at Kwinana.
- Significant improvements in safety for vessels navigating the river channel, through removal of the Fremantle Traffic Bridge, which is particularly hazardous for navigation (refer Figure 14).

- Improved safety for pedestrians and cyclists through the provision of an improved principal shared path (PSP) across the new road bridge. This will be a significant improvement over the current pedestrian walkway which provides inadequate separation from vehicles.
- Supporting the WA economy and creating local jobs during the road out of COVID-19.

Sustainable Procurement and Buy local

The Project has committed to work constructively with Australian industry to identify and develop options for maximising local content in performing the work and delivering the Project.

Main Roads has developed an over-arching Industry Participation Plan (IPP) to help achieve this objective and to ensure consistency with the State Government's Building Local Industry Policy. The Industry Participation Plan details the strategies that will be undertaken to ensure Australian industry is provided a full, fair, and reasonable opportunity to participate in all aspects of the Works.

Furthermore, an Industry Sustainability Plan (ISP) is being developed for the Project to identify and award separate packages of works to a range of lower level prequalified (under the National Prequalification System) road and bridge contractors. The aggregate value of these packages must be a minimum of $15 million.

The Project will undertake a Supply Chain Risk and Opportunity Assessment to identify procurement packages that have material sustainability risks and/or opportunities. Further to this, a Sustainable Procurement Strategy will be developed to ensure procurement processes integrate with sustainable outcomes, especially for material subcontractors and supplier packages. Through early engagement with the supply chain, we will provide greater transparency on our sustainability targets and influence others to embed sustainability in their policies. All packages will be assessed on their sustainable practices as part of the non-price evaluation and unsuccessful suppliers will be notified of their performance.

All contracts will include sustainability objectives and targets, as well as audit and reporting requirements with monitoring of compliance through our contract management processes. Material subcontractors and suppliers will be required to develop a Sustainability Action Plan detailing their sustainability policies, objectives, initiatives, resource efficiency, innovations, and their commitment to sustainable procurement in their supply chains. They will also be asked to join the Sustainable Supply Chain School as members. Getting involved with the school will show commitment to supporting businesses to make better informed, sustainable, and cost-effective decisions.

An Aboriginal Participation Plan has been developed by the Project and provide employment to Aboriginal People and opportunities for Aboriginal Enterprises to tender for subcontract works to provide goods and/or services to the Project. The Project has implemented the following targets for Aboriginal participation:

- Aboriginal Employment Target – at least 20 Full Time Equivalent Aboriginal Persons.
- Aboriginal Business Procurement Target – works and/or services to a value of at least $5million are undertaken by Aboriginal Businesses.

All suppliers and subcontractors are required to subscribe to the relevant strategies in the Industry Participation Plan and Aboriginal Participation Plan and cascade them to all tiers of their supply chains.

Climate Change Assessments

A high-level qualitative assessment of the inherent levels of tolerance to climate change and natural hazards had been undertaken for all project options. The Fremantle Bridges Alliance will undertake a detailed Climate Change and Natural Hazards risk assessment during the Planning stage to inform design, delivery and operation of the asset. Direct and indirect risks will be considered for the Project option being implemented as part of a detailed, multi-disciplinary risk workshop, utilising appropriate climate change data and projections. Treatment options for all risks will be identified and all feasible treatments for high and extreme risks will be implemented during design development.

Sustainable Transport

Public Transport Authority, Department of Transport, City of Fremantle and Westcycle have been engaged in the Connectivity Assessment (cycling and pedestrian links) for the Project, and this work is continuing.

Figure 15 Fremantle Traffic Bridge – connectivity for freight, vehicles and pedestrians

Social Aspects

This section provides a summary of the Project's social context and key strategies for community and stakeholder engagement.

Social Context

A brief overview of the community context has been sourced from 2016 Census data and strategic plans from the City of Fremantle, and this information has informed the development of relevant communications, engagement and messaging on the Project. It also assists with identifying opportunities for local involvement in the construction phase, as well as management of construction impacts from a health perspective.

Community Snapshot

Fremantle, which is approximately 18 kilometres southwest of the Perth CBD, is bounded by the Swan River and the Indian Ocean. Fremantle is widely regarded as Perth's second city and is home to the state's busiest port, which handles approximately 30 million tonnes of cargo per year.

Fremantle's unique character is captured by its landscape, heritage architecture, music, arts, culture, festivals, retail stores, markets, cafés and restaurants, which all contribute to its village-style atmosphere. Fremantle has developed a reputation for being gritty, eclectic, and quirky as well as creative, musical and artistic. This experience is reflected in the City's four aspirational brand pillars: eclectic and quirky, culturally significant, vibrant: and welcoming and inclusive.

Figure 16 Fremantle Fishing Boat Harbour (City of Fremantle Strategic Community Plan 2015-25)

Local Demographic

The City of Fremantle Health and Wellbeing Profile 2019 notes a population of 28,893, of this, 48.3% are male and 51.7% are female with the average age of a person living within the City of Fremantle being 42 years old. (https://smhs.health.wa.gov.au/~/media/HSPs/SMHS/Corporate/Files/Hlth-prom/Fremantle-health-wellbeing-profile.pdf). A large majority of Fremantle residents are born in Australia. England, Italy, New Zealand, Scotland and Ireland are other common countries of birth. Aboriginal and/or Torres Strait Islander people made up 1.5% of the population.

Fremantle is home to a diverse range of industries all of which contribute to employment and attract residents and workers to the city. The growth of industry and resultant employment is a key indicator of economic growth within the region. Employment statistics within the City of Fremantle consists of residents working full-time (54%), part-time (33.4%), away from work (5.2%) and unemployed (7.4%).

During 2013-14, the City of Fremantle held a series of workshops and forums as part of the Fremantle 2029: Community Visioning Project. Almost 1,000 people attended the engagement sessions where community perceptions informed the seven themes (Figure 17) of the Fremantle Strategic Community Plan 2015-25:

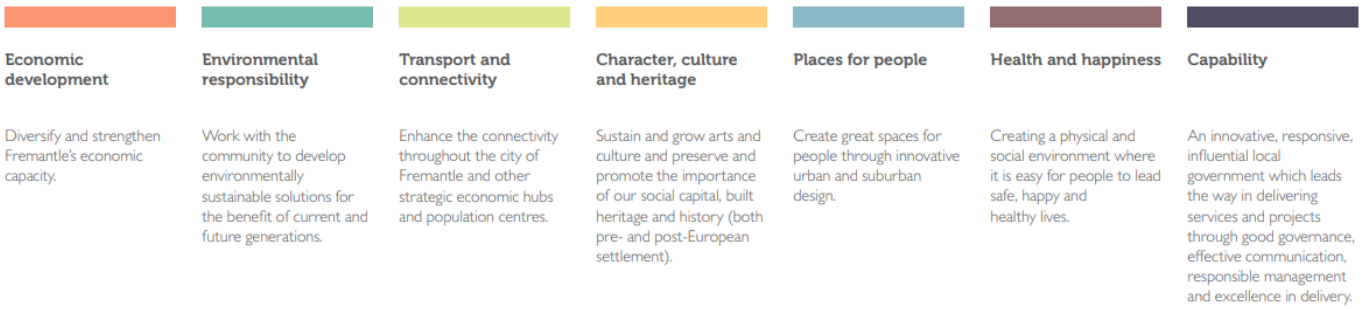

Figure 17 City of Fremantle Strategic Focus Areas (City of Fremantle Strategic Community Plan 2015-25)

The adjacent municipality, the Town of East Fremantle (the Town), covers an area of 3.2 square kilometres bounded to the north and west by the Swan River. The Project will extend into this municipality through road works and connections on the south-east.

According to the Town of East Fremantle Strategic Community Plan 2020 – 2030, the locality has a resident population of 7,860, which is projected to grow to 10,654 by 2036 at an average growth rate of 1.7% per annum. The Town has one of the highest population densities per square kilometre in Western Australia. In addition, the Town has an in-fill target of an additional 890 dwellings by 2031, which, once achieved, will reset the density per square kilometre.

Economic Prosperity

The following snapshot is from the City of Fremantle's Economic Development Strategy (EDS) 2015-2020, https://www.fremantle.wa.gov.au/sites/default/files/sharepointdocs/Economic%20development%20strategy%202015-20-C-000427.pdf

- Fremantle is currently experiencing unprecedented levels of investment and renewal with the combined levels of private and public investment in the pipeline totalling more than $1.3 billion
- The implementation of the previous economic development strategy included planning scheme amendments related to CBD height limits and improved development outcomes. This initiative built investor confidence in Fremantle and consequently, a number of new hotel, retail, residential and commercial developments have been approved
- The strategy included an extensive survey of businesses and several workshops with business groups. Ideas raised helped shape the strategy and were included in the implementation plan
- The EDS 2015-2020 focuses on Fremantle and the issues it addresses are local in nature
- The strategy places emphasis on people, the notion of authentic place management and the way local identity and character can enable Fremantle to further differentiate itself and compete more effectively to attract people, businesses and investment
- The strategy aims to accelerate the availability of large parcels of land that are suitable for redevelopment. Fremantle is primed for a residential-led recovery.

Key points from this information relevant to the Project include providing safe and efficient transport for a growing population. Place management is a key consideration in the development of the new traffic

bridge, particularly in terms of preserving the heritage of what is an iconic, historical river crossing point.

Public Health

The City of Fremantle is developing a Health and Wellbeing Strategy to meet the City's legislative obligations under the *WA Public Health Act 2016*. The aim of this Strategy is to support the City's vision for a healthy community and enhance the community's ability to lead healthy, active and rewarding lives. See https://www.fremantle.wa.gov.au/residents/health-and-well-being.

The strategy acknowledges that health is impacted by a number of factors including socio-economic status, employment, income, education, housing, social support, access to health care, drug addiction, transport, food security and community safety.

This is relevant to the Project given modern walking and cycling facilities are included in the scope.

Community and Stakeholder Engagement

The Project is committed to building partnerships with the community, working with a wide range of identified stakeholders and communicating in a manner that is open, accountable, fair and flexible.

The strategic approach to engagement for the Project is based on the International Association of Public Participation (IAP2) Spectrum of activities, which supports open, transparent and inclusive engagement processes. The IAP2 Participation Spectrum is an internationally recognised framework which defines the public's role in any public engagement/participation process. Stakeholders are profiled and the engagement methodology tailored to provide the appropriate level of involvement in the decision-making process.

The approach is also consistent with the IS v2.0 Planning framework. Broadly speaking, the Stakeholder Engagement category within the IS framework drives the following key outcomes:

- Stakeholders are informed about a project
- Stakeholders have the opportunity to provide input to a project
- Stakeholder input is used in a project to guide decision-making.

These outcomes are relevant to all stages of a project life cycle, from planning through to design, construction and operations. This category focusses on the extent to which the outcomes outlined above are achieved, as well as the extent to which the principles of good engagement are incorporated into a stakeholder engagement strategy and its implementation.

The Fremantle Bridges Alliance has developed a Communications and Stakeholder Engagement Plan (CSEP), which builds upon the Swan River Crossings Communications and Stakeholder Engagement Strategy (the 'Strategy') developed by Main Roads in Stage 1 of the Project. The CSEP provides more detail around the early activities of the Fremantle Bridges Alliance including the Alignment Options Assessment.

Both the Strategy and the CSEP identify potential social, environmental and economic impacts and consider how engagement activities need to be incorporated. The documents identify the Project 'negotiables' and 'non-negotiables' and provide an Action Plan with targeted engagement activities for each key stakeholder.

In achieving the engagement objectives, the Fremantle Bridges Alliance will seek the following outcomes:

- stakeholder satisfaction with the engagement process – felt involved / had influence
- identify, address and resolve community and stakeholder issues
- positive reputation for Main Roads and its project management
- positive community relationships and social capacity for the future phases of the Project.

Addressing Community Concerns

Stakeholder Mapping

A detailed stakeholder mapping exercise has assessed the relative interests and influence of individuals and organisations (Figure 18). This Project has received a high level of interest from a variety of stakeholders and community members. A list of key stakeholders is provided in Appendix 1.

Figure 18 Swan River Crossings stakeholder mapping

Consultation Activities

In line with the Strategy and CSEP, which identified potential issues and engagement requirements, Main Roads and Fremantle Bridges Alliance has commenced an extensive consultation process.

Main Roads commenced community and stakeholder engagement in mid-2019 using targeted meetings with key stakeholder organisations between 8 August 2020 and 7 October 2020, including Public Transport Authority (Project partner), City of Fremantle, Heritage Council of WA, Department of Transport (Urban Mobility), Fremantle Ports, Department of Transport, Office of Government Architect, Westport and Town of East Fremantle.

In response to the range of issues identified, three working groups were established in addition to Technical Working Groups. These groups had representation from the stakeholders listed above and met at various times between April 2020 and November 2020:

- Communications Working Group
- Heritage, Movement and Place Working Group
- River Operations Working Group

A Project Steering Committee was also established in December 2019 and included Main Roads, Department of Infrastructure, Transport, Cities and Regional Development, Public Transport Authority, Department of Transport, Fremantle Ports and City of Fremantle.

Wider engagement started on 6 August 2020 with the release of the Minister for Transport media statement and social media post. Key engagement activities included the following:

- The online stakeholder engagement platform, MySayTransport was used to facilitate a survey. This included frequently asked questions, videos, links to Project information on the Main Roads website and an online survey (open for six weeks with more than 300 responses received).
- Letters were issued through Australia Post to directly impacted residents along Queen Victoria Street with details of the Project and advice as to who to contact for further information. There were 23,000 newsletters outlining the Project and methods to provide feedback and/or seek further information posted to Fremantle and surrounding areas in August 2020.
- A subscriber database was set up and advertised on all communication materials to encourage interested community members and stakeholders to subscribe and receive regular email updates regarding the Project. A stakeholder database of more than 100 stakeholders was established to receive regular communications about the Project.
- Three drop-in sessions were held in Fremantle on 17 and 29 August, 2 September 2020. Each four hours duration attracting over 140 people. Project briefings were also provided to a further seven stakeholder groups (refer to Appendix 1).

The Fremantle Bridges Alliance has continued the work undertaken by Main Roads and established an extensive program of consultation activities with key stakeholders and the community. Refer to the *Alignment Options Assessment* section of this report for an overview of the consultation process.

Heritage

The Project area contains both European and Aboriginal heritage, which has been detailed in the Heritage Interpretation Strategy developed by Main Roads and illustrated in Figure 19.

The Project comprises the road and rail bridges that cross the Derbal Yerrigan (Swan River) and connect North Fremantle to Fremantle proper. The site is on Whadjuk Nyoongar boodja Walyalup, which was named Fremantle by the British government after they colonised Western Australia in 1829, is a very important place in Nyoongar culture. It connects through songlines and stories to places to the South West, the Kimberley, to the wheatbelt and interior, and across the whole continent.

As the Swan River Colony was developed, bridges were built to cross at certain points of the rivers. The current road bridge, the fourth iteration of a bridge on this site, called the Fremantle Traffic Bridge, was built in 1939. It has a high level of integrity for its continuous use as the location for both vehicular and pedestrian traffic since 1866, when the first bridge was built during the convict era. Evidence of this bridge still exists; piles can be seen at low tide.

Earlier to this is a remnant base of a Ferry Capstan which is associated with the function of hauling river vessels by manual labour, a method no longer practised. Prior to these methods of transport, geographical formations of limestone and sand provided a crossing closer to the river mouth that was used by the traditional custodians for thousands of years.

Fremantle Traffic Bridge is a distinctive landmark that marks the crossing of the Swan River between Fremantle and North Fremantle. It demonstrates the continued use of timber in bridge building in Western Australia into the 1930s, when its cost was low relative to other materials. Its timber superstructure and decorative concrete pillars with bronze lanterns marks the transition between Fremantle Harbour and the Swan River and enhances its aesthetical values. The historical values of the 1939 bridge and the earlier bridges are an underpinning to the community's sense of place.

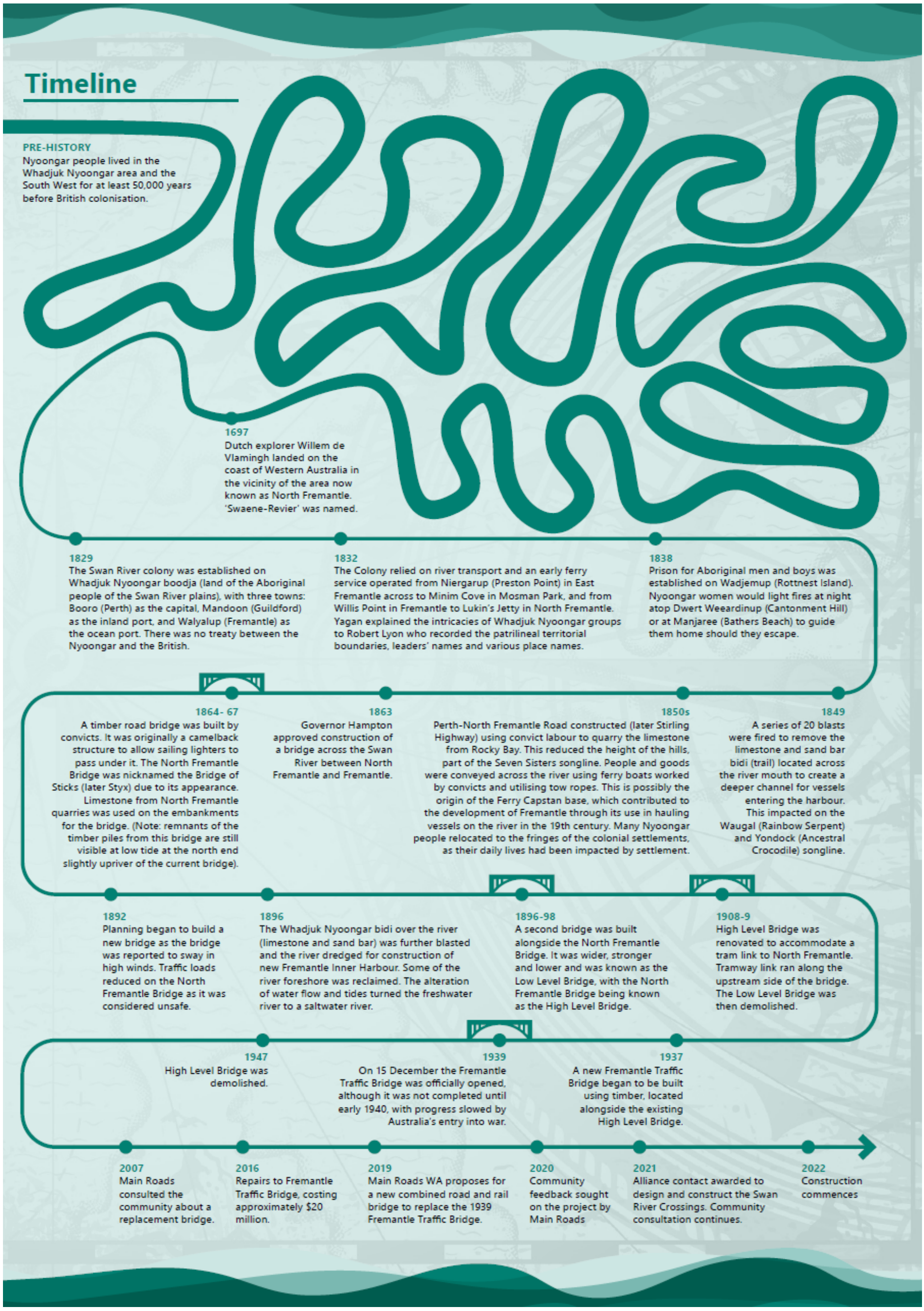

Figure 19 Swan River Crossings heritage mapping

Aboriginal Heritage

Fremantle Bridges Alliance acknowledges the Whadjuk Nyoongar People as the Traditional Custodians of the land and waters on which the Swan River Crossings Project is on.

There is one registered site within the proposal area (ID 3536 Swan River) which is a mythological site of significance to the Nyoongar people. Any impacts to the river are generally considered to have an impact on the mythological site.

Two Aboriginal Heritage sites abut the southern extent of the proposed works:

- ID 3419 Fremantle: Cantonment Hill (Registered Site) Cantonment Hill is a ceremonial, mythological and camp site.
- ID 3775 South Fremantle (Stored Data)

Workshops were held with Aboriginal Elders in 2020 to seek stories regarding the importance of the Project area to inform the design of the crossings. These workshops informed the Project's initial Heritage Interpretation Strategy, and opportunities to celebrate and enhance heritage aspects are currently being reviewed. The Project has established an Aboriginal Advisory Group to guide the development and implementation of an Aboriginal Heritage Management Plan, and to ensure cultural protocols are embedded within the team.

A Section 18 Consent under the *Aboriginal Heritage Act 1972* has been obtained by the Project for disturbance to the Swan River.

Figure 20 Swan River Crossings smoking ceremony

European Heritage

The Fremantle Traffic Bridge and ferry capstan base are listed on the Heritage Council of Western Australia's Register of Heritage Places (Figure 21). The stories and values associated with these European heritage sites have been recorded within the Heritage Interpretation Strategy, with input from community, key stakeholders, and heritage specialists.

The Fremantle Bridges Alliance is continuing to engage with the community and the Heritage Council of WA (HCWA) to ensure that heritage values are celebrated and respectfully integrated within the Project's urban design and the bridge architectural features. A Heritage Interpretation Plan will be developed and submitted to the HCWA for approval, and this will also be considered with the development application through WAPC.

View of the Bridge of Styx, c1880

Low level and High-level bridge, c1907

1885 plan showing rail and road bridge locations

Rowing regatta near the new bridge

Figure 21 Historic images of Fremantle Bridges (Element, 2020)

Road Safety

Previous engagement by Main Roads in 2006/07 showed that the most important consideration for the community and key stakeholders was the need to address safety. The following is an excerpt from the survey and forum results: *"The most important considerations for the community sample and for the deliberative sample were safety issues. Of 11 factors considered, the five safety issues were considered the five most important, ahead of appearance, cost / convenience, and then heritage issues. After deliberation, the biggest change was an increase in the importance of considering the impact during construction."* Road safety is still a material issue for the community and a road safety assessment has been scheduled for the concept design process.

Workforce Safety

The Project safety strategy is based on Next Gear which is a Laing O'Rourke approach to Safety. It is based on three principles and five tools (Figure 22):

Figure 22 Next Gear Principles and Tools

The Next Gear is publicly available and further details can be found on https://nextgearsms.com.

Workforce safety will be managed on the Project via the Safety and Health Management Plan in conjunction with the Rail Safety Management plan.

Community Amenity

Both the rail and traffic bridge have been in this location for more than 50 years and form part of the identity of the area. The road and rail on the landward side of the Project area currently runs in close proximity to residential properties.

The new bridge will change the visual amenity of the river in this location and removal of the existing bridges may be seen by some as a negative impact on visual amenity. However, it is unlikely that the amendments to the road and rail will result in an additional adverse visual intrusion impacts. The Project will greatly improve connections across the Swan River for all modes of transport, including walking, cycling, public transport, river users and private vehicles, resulting in a positive amenity outcome for both the local and wider community.

The Project also includes scope for supporting public realm improvements and activation, which will include interpretation of heritage elements for the benefit of both the local and wider community. Main Roads has developed an Urban and Landscape Design Framework (ULDF) and Heritage Interpretation Strategy (HIS) in consultation with key stakeholders, and with community feedback, to ensure that the visual amenity of the area is not poorly affected. The ULDF and HIS has been independently reviewed by the Office of the Government Architect (OGA) and the State Design Review Panel (SDRP) against the State Planning Policy 7.0 - Design of the built environment (https://www.dplh.wa.gov.au/spp7-0).

Architects, urban designers and heritage specialists form part of the Fremantle Bridges Alliance team and will continue to engage with stakeholders on aesthetics and heritage interpretation opportunities. Implementation plans will be developed with input from stakeholders and community, and will be independently reviewed by the OGA, SDRP and the Heritage Council of WA.

Appendix 1 – List of stakeholders to the project

Stakeholder snapshot

The following table identifies and provides an analysis of stakeholders who have had input to date or will have an interest in the project throughout the project. The list will continually expand and evolve as the project progresses through design and into construction.

Stakeholder	Relevance to Project
Federal Government	Providing 50% funding
State Government	Providing 50% funding
State Government Agencies ▪ Public Transport Authority ▪ Department of Transport ▪ Department of Planning, Lands and Heritage / Heritage Council of WA ▪ Office of the Government Architect ▪ Westport ▪ Fremantle Port Authority ▪ Department of Biodiversity, Conservation and Attractions ▪ Swan River Trust (via DWER) ▪ EPA ▪ Department of Fisheries ▪ Water Corporation ▪ ATCO ▪ Service providers ▪ Customs/ Border Force	Responsible for various elements of project Endorsement in line with existing and future planning requirements Approvals (i.e. DPLH) Cost implications (services relocation if required)
Other Emergency Services ▪ St John Ambulance ▪ Department of Fire and Emergency Services (DFES) ▪ WA Police	Emergency vehicle operations may be affected by construction of project
Federal Local Members	Federal Government funding
State Local Members	State Government funding
South West Aboriginal Land and Sea Council	Heritage, movement and place
Whadjuk Working Group / Project Aboriginal Advisory Committee	Heritage, movement and place
Local Government ▪ City of Fremantle ▪ Town of East Fremantle	Collaboration and engagement with LGA required around design development and communications
Art Centre Precinct	Interested community group
North Fremantle Precinct	Interested community group
Victoria Quay Working Group	Future planning
Freight and Logistics Council of WA WA Road Transport Association	Heavy vehicles impact: construction and final design
Inner Harbour Community Liaison Group	Port community reference group
Westport	Heavy vehicles impact: construction and final design
North Quay Tenants Group	Business impacts

Stakeholder	Relevance to Project
Fremantle Chamber of Commerce ▪ Queen Victoria Street tenants/ businesses	Local business group
Cycling groups: ▪ Westcycle ▪ DoT ▪ Melville Fremantle Cycling Group ▪ Perth to Port Cycle Group	Interest in PSP design Construction impacts on existing routes
Water Operations ▪ Ferry Operators (Captain Cook, Rottnest Express) ▪ Water Police ▪ Yacht Clubs ▪ Boating WA ▪ Boating Industry Association of WA ▪ Recreational boating community ▪ Recfishwest (recreational fishers)	Access/ construction impacts Members of River Operations Group
Businesses (construction related) ▪ The Kiosk Fremantle ▪ Rottnest Swim ▪ Port to Pub	Opportunities for involvement in construction
Sporting groups/ schools/ churches etc.	Opportunities to contribute to urban landscape and design
Local resident organisations ▪ Northbank Residents Association ▪ North Fremantle Residents Association (include north bank and south bank)	Impacts during construction Operational impacts after construction (noise/ amenity)
Fremantle Society	Community Interest group
Fremantle Inner City Residents Association	Community Interest group
Local landowners ▪ Landowners and residents along Queen Victoria Street ▪ Landowners and residents within locality	Impacted during construction
Environmental Groups ▪ Curtin University (dolphin monitoring) ▪ Other groups via Fremantle Ports	Management of potential environmental impacts
Tourism ▪ Tourism WA ▪ Marine Tourism (via DoT and Fisheries? ▪ Apache Charters	Construction impacts
Wider community	Commuting during construction Place – recreational space
Road users	Commuting during construction and associated delays