Roles and Accountability

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Roles and Accountability

RACI MATRIX

- **Responsible (R)**: The individual(s) who perform(s) an activity - responsible for action / implementation.
- **Consulted (C)**: The individual(s) to be consulted prior to a final decision or action being taken.
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- **Accountable (A)**: The individual who is ultimately accountable, including yes/no authority and power of veto.
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1.0 INTRODUCTION

1.1 PROJECT BACKGROUND
1.2 PROJECT SUMMARY
1.3 DOCUMENT PURPOSE
1.4 DOCUMENT STRUCTURE
1.5 METHODOLOGY
1.6 URBAN DESIGN FRAMEWORK
By 2025, the Level Crossing Removal Project (LXRP) will oversee the removal of 75 dangerous and congested level crossings across Melbourne and perform vital rail corridor upgrades, including rail extensions and duplication works (refer to Figure 1).

The Level Crossing Removal Program is designed to:
- Improve the reliability and efficiency of transportation networks, through reducing overall congestion;
- Enhance the urban amenity of local areas; and
- Create safer, better connected, liveable and thriving communities.

The LXRP was formed in May 2015 to oversee the delivery of the project and ensure that level crossings are removed in a coordinated and efficient manner. LXRP’s vision is delivering great change, by transforming the way Victorians live, work and travel. This vision is underpinned by 5 strategic objectives, including a commitment to creating great places.

The LXRP was formed in May 2015 to oversee the delivery of the project and ensure that level crossings are removed in a coordinated and efficient manner. LXRP’s vision is delivering great change, by transforming the way Victorians live, work and travel. This vision is underpinned by 5 strategic objectives, including a commitment to creating great places.

The LXRP and the AECOM-GHD Joint Venture (Technical Advisor), have led site investigations, functional and reference design packages, and the preparation of associated requirements and guidelines, to support the removal of level crossings at each nominated location. Stakeholder engagement and community consultation is an important part of this process, to ensure that stakeholder and community considerations are suitably addressed in the design and delivery of the project.

Further design development, construction and delivery works are now being delivered by LXRP through Program Alliance partnerships with leading industry specialists. Design and construction works for each site have been prioritised and staged to ensure that critical crossings are addressed as a priority and transport route delays and other impacts are minimised.

This project has the potential to set strong benchmarks and act as a catalyst for positive urban renewal that reinvigorates and reconnects communities. In order to create a lasting legacy, innovative and high quality urban design is key to the success of the project.

Figure 1: Level Crossing Removal - Project Map
This Urban Design Guidelines Report has been prepared for the Station Street/Bondi Road Level Crossing Removal Project in Bonbeach.

The level crossing is located approximately 80 metres south of Bonbeach Station on the Frankston rail line. The station sits within the Bonbeach Neighbourhood Centre. The broader area is predominantly residential and within the vicinity of the Port Phillip Bay foreshore.

The boom gates at Station Street/Bondi Road level crossing are down for an average of 45 minutes during the weekday peak (between 7:00am and 9:00am), impacting travel times for approximately 4,400 motorists who travel over this crossing each day. The existing level crossing also poses a danger to pedestrians moving along and through Bondi Road.

The Station Street/Bondi Road Level Crossing Removal project will be delivered by the Southern Program Alliance.

The purpose of this Urban Design Guidelines (UDGs) document is to illustrate and describe the key urban design objectives and outcomes sought for the Station Street/Bondi Road Level Crossing Removal Project.

The Urban Design Guidelines have been prepared to build on the principles, objectives, measures and benchmarks of the LXRP Urban Design Framework (UDF). It outlines site specific urban design requirements the design is to achieve by:

- Identifying key issues and opportunities for improving connectivity, amenity, functionality and place-making for the site and surrounding precinct;
- Articulating the broader urban design vision and strategic objectives for the site; and
- Establishing guidelines for the project, according to the urban design principles.

Further detailed urban design specifications also form part of the Project Requirements Specification (PRS).

The strategic objectives and guidelines set out by this document consider the management and mitigation of project risks that have been identified as part of the Environmental Management Framework (EMF) for the Edithvale and Bonbeach sites.

The EMF sets out a set of Environmental Performance Requirements (EPR) for the sites. EPR UD1 specifically references the Urban Design Guidelines and notes that it must consider the following:

a) identity  
b) connectivity and wayfinding  
c) urban integration  
d) resilience and sustainability  
e) amenity  
f) vibrancy  
g) safety  
h) accessibility  
i) resilience and comfort for the community in a climate change future  
j) vegetation replacement as a design and development component.

It is noted that items (a)-(h) form the principles of the LXRP Urban Design Framework (see Section 1.6). Items (i) and (j) fall within these principles.

The analysis of policy and the existing context areas contained within this document should be read in conjunction with other relevant EES reports.
1.0 INTRODUCTION

The Urban Design Guidelines document is structured in six (6) main parts, as outlined below:

SECTION 1: INTRODUCTION
Section 1 provides a summary of background information about the Level Crossing Removal Project and site.

SECTION 2: STRATEGIC PLANNING AND POLICY ANALYSIS
Section 2 identifies relevant state, local and project specific plans, policies and strategies, noting relevant implications for the site.

SECTION 3: CONTEXT ANALYSIS
Section 3 examines the existing site conditions, at a local and regional level and why this is important for the project.

SECTION 4: COMMUNITY AND STAKEHOLDER ENGAGEMENT
Section 4 presents the key considerations and themes that have emerged from stakeholder engagement and community consultation.

SECTION 5: ISSUES AND OPPORTUNITIES
Section 5 summarises issues and opportunities for the site and precinct, based on the preceding analysis and consultation outcomes.

SECTION 6: DESIGN GUIDELINES
Section 6 outlines the overall vision, strategic objectives and design guidelines for the project site which are site specific requirements that Alliance teams must address as part of their design response.

The methodology and approach that has been taken in preparing the following guidelines, is illustrated in Figure 3. A number of workshops, technical inputs and data sources have been used to inform the guidelines, including:

- Urban Design Advisory Panel (UDAP) and working group sessions;
- Council and key stakeholder workshops;
- Landscape and visual impact assessment (LVIA);
- Civil and transport engineering inputs, including traffic and movement analysis;
- Rail and structural engineering advice;
- Ground engineering and geotechnical engineering;
- Planning and environmental analysis; and
- Advice in relation to utility engineering, fire life safety and building services.

Periodic review and input from UDAP has been obtained throughout the development of the guidelines, to ensure the provisions satisfy the objectives and interests of the State.

This document has been prepared in conjunction with the LXRP Urban Design Advisory Panel (UDAP). UDAP comprises members from across government with specific professional expertise in architecture, urban design, strategic planning, transport planning and landscape architecture.

Figure 3: Methodology

![Methodology Diagram](image-url)

**INPUTS**
- Desktop land use and environmental analysis (inc. Rapid LVIA assessment)
- Site visit / survey
- Stakeholder / Council meetings
- Planning strategies and policies
- Landscape and visual impact assessment (LVIA)
- Engineering and technical inputs / standards
- Community engagement
- Network data
- Stakeholder / community engagement
- Engineering and technical inputs / standards
- Sustainability Policy
- Stakeholder / community engagement
- Engineering and technical inputs / standards
- UDAP endorsement
- Issues and opportunities analysis
- Vision and objectives
- Engineering and technical inputs
- Stakeholder / Council meetings
- Input / advice from UDAP
- Input from the EES process

**KEY TASKS**
- SITE AND POLICY ANALYSIS
- FUNCTIONAL DESIGN / OPTIONS TESTING
- ESTABLISH VISION AND KEY OBJECTIVES
- DRAFT DESIGN GUIDELINES
- REVIEW AND TEST PROVISIONS
- FINALISE GUIDELINES

**OUTPUT**
- URBAN DESIGN ANALYSIS
- DRAFT URBAN DESIGN GUIDELINES
- FINAL URBAN DESIGN GUIDELINES
- EES SUBMISSION
1.6 URBAN DESIGN FRAMEWORK

The LXRP Urban Design Framework outlines the expectations for achieving high quality, context sensitive urban design outcomes for each project. The document plays a dual role by informing the design process as well as providing a basis for the evaluation of design solutions.

The Framework identifies eight key principles inherent to successful major infrastructure projects [see Figure 4]. Stemming from these principles are the urban design objectives which outline what the project should achieve in relation to the broader principles.

Performance measures and benchmarks are also identified in the Framework. They describe more specific requirements that the design must meet and include qualitative benchmark examples that illustrate the level of quality, materials and finishes that are expected.

The measures and benchmarks section of the Framework shall apply in addition to requirements set out in this guidelines document.

Figure 4: Urban Design Framework

**Principle 1
IDENTITY**
A well-defined identity and sense of place is key to creating strong and vibrant communities.

**Principle 2
URBAN INTEGRATION**
A well-integrated environment is a sound framework for the successful development of a great place.

**Principle 3
CONNECTIVITY & WAYFINDING**
A well connected and legible environment contributes significantly to a strong economy and an integrated community.

**Principle 4
ACCESSIBILITY**
A highly accessible and inclusive environment provides a positive user experience and contributes to health, wellbeing and the perception of care in a community.

**Principle 5
SAFETY**
A safe environment is essential for a strong, connected and happy community.

**Principle 6
AMENITY**
High quality urban amenity associated with access to services and the experience of a great public place contributes to a successful, equitable and prosperous community.

**Principle 7
VIBRANCY**
Animation and diversity in the experience of a great public place supports a prosperous and healthy community.

**Principle 8
RESILIENCE & ENVIRONMENTAL SUSTAINABILITY**
Places must be sustainable, enduring and resilient in order to support and nurture current and future generations.
2.0 CONTEXT ANALYSIS

2.1 REGIONAL CONTEXT
2.2 HISTORICAL CONTEXT
2.3 LOCAL CONTEXT
2.4 DEMOGRAPHICS
2.5 PHOTOGRAPHIC SURVEY
2. CONTEXT

2.1 GEOGRAPHIC CONTEXT

The Station Street/Bondi Road site sits within the City of Kingston, approximately 33 kilometres south-east of Melbourne’s CBD along the Frankston Rail Corridor. Travel time via rail from Bonbeach Station is approximately 55 minutes to the city, and 12 minutes to Frankston Station. The rail corridor runs parallel to Nepean Highway from Mordialloc to Carrum, creating a barrier for east-west movement. A number of arterial roads intersect the corridor providing road access to surrounding residential areas, and key employment destinations via the Mornington Peninsula Freeway and Eastlink.

The Frankston Rail Corridor runs through an urbanised area with a mix of building types varying in height and setbacks. The area saw an increase in development during and after the Second World War. Buildings are typically of a suburban scale and style with recent infill redevelopment introducing subdivided properties, town-houses, and small apartment buildings.

The southern end of the Frankston Rail Corridor predominantly comprises of residential housing and industrial estates. The Edithvale-Seafield Wetlands are located to the east of the rail corridor and are listed as internationally important. There are over 100 different species of birds regularly spotted in the wetland systems, including species of migratory birds from the northern hemisphere.

The corridor traverses a mix of open space amenities including parklands, narrow linear reserves, sport fields, playgrounds, and golf courses. Vegetation mitigates visual impacts and provides green links along most of the rail corridor contributing to the local landscape character. From Mordialloc, the rail corridor is located within close proximity to the coast line, where topography is flat and views to the beach are prominent. Shrubby, low lying coastal vegetation is predominant in the area.

The southern end of the Frankston Rail Corridor predominantly comprises of residential housing and industrial estates. The Edithvale-Seafield Wetlands are located to the east of the rail corridor and are listed as internationally important. There are over 100 different species of birds regularly spotted in the wetland systems, including species of migratory birds from the northern hemisphere.
2.2 HISTORICAL CONTEXT

The traditional owners and custodians of the land in and around Bonbeach are the Bunurong people, members of the Kulin Nation. Europeans began farming the area in the 19th century and displaced local inhabitants. The land was used by holiday-makers settling in tents or shacks, before gradually being occupied by more permanent residents.

From 1918 until the late 1940s sand was quarried on the east side of the railway line and used in the manufacture of glass. This land was sold in 1948 and developed into residential blocks, spreading Bonbeach’s permanent population from the coastal strip across to the other side of the railway line.

PATTERSON RIVER CHANNEL
Artificial channel cut to release water from wetlands.

1879

BONBEACH RAILWAY STATION
Bonbeach station opened in 1926 to improve accessibility from Melbourne to the beach.

1926

PATTERSON RIVER BRIDGE
Collapsed wooden bridge replaced with a concrete bridge to improve northern commutes.

1938

RESIDENTIAL GROWTH
Population increase post WWII and subsequent opening of local schools.

1950

RECREATIONAL FACILITIES
Establishment of four ovals, golf course, and the Patterson River Country Club, providing a number of recreational facilities to locals and Melbourne residents.

1950

BONBEACH LEVEL CROSSING
Commencement of project to remove the level crossing at Bondi Road /Station Street and create a new station at Bonbeach.

2016

The population in Bonbeach grew considerably post WWII leading to the opening of primary and high schools, as well as the expansion of the Patterson River Country Club and recreational facilities in the 1950s.

Prior to European settlement in the 19th century the geography of the area consisted of large sand dune complexes on the coast, and wetland areas inland.

In 1879 a channel was created, later called Patterson River, cutting the Point Nepean Road to allow trapped water to escape from the swamp, marking the southern boundary of Bonbeach. A wooden passenger and rail bridge was constructed to connect north and south of the channel.

Image 1: Edithvale-Seaford Wetlands
Prior to European settlement in the 19th century the geography of the area consisted of large sand dune complexes on the coast, and wetland areas inland.

Image 2: Patterson River Artificial Channel
In 1879 a channel was created, later called Patterson River, cutting the Point Nepean Road to allow trapped water to escape from the swamp, marking the southern boundary of Bonbeach. A wooden passenger and rail bridge was constructed to connect north and south of the channel.

Image 3: Bonbeach Station
The station at Bonbeach opened in 1926, the last to be opened in the group from Aspendale to Carrum. The new station improved accessibility to the beach at Bonbeach, a popular destination for Melbourne beach-goers and people with holiday houses.

Image 4: Patterson River Bridge Upgrade
In 1938 a concrete bridge was constructed to replace the collapsed wooden bridge. This improved transport connections and removed the necessity to travel north via Dandenong.

Image 5: Residential Growth
The population in Bonbeach grew considerably post WWII leading to the opening of primary and high schools, as well as the expansion of the Patterson River Country Club and recreational facilities in the 1950s.
2.3 LOCAL CONTEXT

LAND USE AND ACTIVITY

RESIDENTIAL
The land use immediately surrounding the Station Street/Bondi Road level crossing site is predominantly residential land. Lots are generally 500-700 square metres in size, developed in the post war era (1960s). There has been limited recent redevelopment and no significant intensification of housing in the area, which retains a predominantly low lying coastal residential character.

COMMERCIAL / MIXED USE
The Bonbeach Neighbourhood Centre sits in close proximity to the larger Chelsea Activity Centre to the north and the Carrum Activity Centre and the Frankston Metropolitan Activity Centre to the south. The Neighbourhood Centre is located along Nepean Highway with a few retail shops, comprising exclusively of small tenancies. Locals services and uses range from cafes, small shops, and personal and professional services, however many shop fronts are currently vacant.

Nepean Highway forms a continuous 'high street' environment for the small Neighbourhood Centre with active street frontages of retail shops and overhead canopies.

COMMUNITY FACILITIES
There are a number of community facilities located in the local area. Approximately 450 metres south of the station, along Station Street, is Bonbeach Residential Care and Nursing Home. There are two local schools south-east of the station, Bonbeach Primary and Bonbeach Pre-School. The Bonbeach Life Saving Club is a key community focal point, located approximately 300 metres south-west of the station, and includes a community room and cafe.

OPEN SPACE AND RECREATION
The level crossing site is located within close proximity to a suite of regional recreational destinations including the Port Phillip Foreshore and Patterson River Country Club (part of the Edithvale-Seaford Wetlands open spaces). The Bonbeach Sports Reserve is also in close proximity to the station and provides passive and formal sporting facilities. The area has few smaller, local level open spaces.

A number of beaches are within immediate walking distance of the station, to the west.
BUILT FORM AND HERITAGE

BUILT FORM CHARACTER

Retail and commercial development is clustered to the west of Bonbeach Station along the Nepean Highway. Built form is generally single or double storey in height and built to the front boundary. Existing zones and overlays maintain a maximum building height of two storeys between the railway line and the foreshore. The Kingston Planning Scheme does not specify a maximum building height for land east of the railway line. Nepean Highway and Station Street are predominantly one and two storey built form.

Residential housing predominately interfaces the rail corridor at Bonbeach. Constructed during the 1950s-1960s, dwellings are generally detached and single or double storey in height, even where redevelopment has occurred. Side and front built form setbacks create a well-landscaped coastal suburban character.

Residential interfaces with the railway are exclusively indirect (facing a street that interfaces with the railway line). Nepean Highway is lined with residential frontages that largely address the road with high front fences.

The existing Bonbeach Railway Station building is functional in form. While the station is a local landmark along the Nepean Highway, the building itself is not identified as being of architectural or historical significance.

Small boat sheds and bathing boxes, that have existed since the suburbs earliest days line the nearby beach. While modest in scale, and not directly adjacent to the rail corridor, they are an integral part of the neighbourhood identity.

HERITAGE

There are few sites of local heritage significance within Bonbeach. This includes a residential property at 3 Lord Weaver Grove, the clubhouse at Patterson River Country Club and a Primary School and St Joseph’s Roman Catholic Church in Chelsea, north of the site.

It is noted that the above buildings and sites are protected by Heritage Overlays and are not listed on the Victorian Heritage Register.

ABORIGINAL CULTURAL HERITAGE

There are two extensive areas of cultural heritage sensitivity in Bonbeach. This includes coastal land within 200m of the high water mark, as well as the declared Ramsar Edithvale wetlands and 200m surrounds buffer area.

Image 9: 3 Lord Weaver Grove

Image 10: Patterson River Country Club

Image 11: Bonbeach Boat Sheds
Figure 9 - Built Form and Heritage Analysis Plan

Figure 10 - Built Form and Heritage Analysis Enlargement
TRANSPORT NETWORK AND ACCESS

STATION ACCESS
Bonbeach Station is an unstaffed station on the Frankston railway line and connects to Melbourne CBD and other activity, employment, and education centres, including Caulfield and Frankston. Services run at approximately 4-16 minute intervals during the AM peak period and at approximately 5-22 minute intervals during the PM peak period. Travel time from Bonbeach to the CBD is approximately 54 minutes.

In 2012, the average weekday patronage at Bonbeach Station was 1,162 passengers. Of these passengers 64.8% walk to the station, 34.2% travel by car, and 1.0% by bicycle.

BUS MOVEMENTS
Bonbeach Station has no connecting bus services; however, the 857 metropolitan bus service stops at the adjacent Chelsea Station and Carrum Station. There are single rail replacement bus stops (both north and south-bound) on Station Street.

VEHICULAR MOVEMENTS AND PARKING
Station Street is a major road with a single traffic lane running in each direction. It runs parallel to the Nepean Highway, north-south from Mordialloc to Carrum and provides a localised connection for cars, buses, and cyclists. It is bisected by Patterson River to the south. Bondi Road is a local traffic street that intersects west at Station Street and Nepean Highway.

The station currently accommodates 35 commuter car spaces to the east of the rail reserve. There are more informal car park spaces on the east and west side of the rail reserve on surrounding roads and streets. Car parking for the Neighbourhood Centre is on-road along Nepean Highway.

ACTIVE TRANSPORT
VicRoads’ Principal Bicycle Network (PBN) is designated along Nepean Highway. The PBN connects the site to the Dandenong Creek Trail and runs alongside the Patterson River. Nepean Highway is used by cyclists even though there are no dedicated bicycle lanes.

Currently there is no dedicated Shared Use Path located within the rail corridor. Station Street has some painted on-road cycling/parking lanes and no dedicated cycling space is provided along Nepean Highway.
2.0 CONTEXT ANALYSIS

LANDSCAPE AND PUBLIC REALM

GEOMORPHOLOGY

The geomorphology along the railway line at Station Street/Bondi Road features Coastal Dune Deposits consisting of sand and silt. Dune blowouts are eroding a series of low unconsolidated ridges along the coast, remnant of a large barrier wetland complex. Drainage schemes and residential development have greatly modified the wetland and barrier terrain. This is the second largest barrier system in Victoria and is an important area for studies of dune, barrier and barrier morphology and evolution.

TOPOGRAPHY

The topography is generally flat within the local area and along the rail corridor, which is characteristic of the coastal character of the area. Bonbeach Station sits 5 metres above sea level. The area gradually slopes down east and west of the rail corridor to Port Philip Bay.

LANDSCAPE CHARACTER

The project would have direct and permanent interactions with the low-lying coastal landscape, potentially emphasising the existing line of separation between the beach side western area and the main eastern area of Bonbeach. Vegetation entails a significant landscape value for the project area in that it reflects the broader low, endemic coastal landscape character associated with the Frankston rail line.

For a more detailed analysis of the landscape character of the site, refer to the Landscape and Visual Impact Assessment prepared as part of the EES.

OPEN SPACE NETWORK

Existing local public space is limited to the Bonbeach Sports Reserve which provides for some passive recreation opportunities and facilities for organised sport. Public space within the Bonbeach Neighbourhood Centre is limited to footpaths used by retail/commercial built form. Bonbeach Beach/Port Phillip Foreshore provides passive recreation opportunities for the local community and broader public.

There is no station forecourt at Bonbeach Station and there is limited circulation space around the station entry. Some landscaping is present along Nepean Highway.

NATURAL ENVIRONMENT

The rail corridor is intermittently planted with canopy tree vegetation and under-storey planting, screening views of the corridor from residential and retail/commercial interfaces. The streetscape of the local area has limited canopy vegetation.

Located within the Gippsland Plains Bioregion, established planting and vegetation along nature strips and within the railway corridor provides a green buffer to adjacent residential streets.

There is no ecological vegetation system at the Station Street/Bondi Road, Bonbeach level crossing site. Within the local area, Coastal Dune Scrub can be found predominantly along the foreshore of Bonbeach. The Patterson River Country Club contains Plains Grassy Wetland and Damp Sands Herb-rich Woodland vegetation provide open-grassland/herbland of up to 1m in height along the rail corridor to the north and south.

The Edithvale-Seaford Wetlands are located to the east of the rail corridor. Listed as a Wetland of International Importance under the Ramsar Convention, it is recognised as an important natural habitat for a range of flora and fauna species. This includes over 190 bird species and 14 plant communities, with many of these being of State and regional significance.

Coastal Dune Scrub is predominant along the foreshore of Bonbeach Beach. This indicates deep, uniform textured siliceous and calcareous sands subject to high levels of salt spray, wave action and disturbance from onshore winds, with a structure that is comprised of scrub up to 5 metres in height. Coast Banksia Woodland, also listed as vulnerable, can be found throughout the Edithvale-Seaford Wetlands.

Figure 13: Geomorphological map of area

Image 15: Patterson River Country Club Golf Course

Image 16: Edithvale - Seaford Wetlands

Figure 13: Geomorphological map of area
Figure 14 - Landscape and Public Realm Analysis Plan

LEGEND
- Major Roads
- Railway & Station
- Level Crossing Removal Site

Figure 15 - Landscape and Public Realm Enlargement

LEGEND
- Level Crossing Removal Site
- Railway & Station
- Built Form
- Public Realm
- Active Frontages & Interfaces

Conservation Reserves
Reserves & Open Space
Waterbodies

Key Sightlines
Mature Vegetation
Vegetation Buffer Zones
Streetscape and Corridor
Landscape & Vegetation

5m Contour Line
Conservation Reserves
Reserves & Open Space
Waterbodies

5m Contour Line
Conservation Reserves
Reserves & Open Space
Waterbodies

2019 | LEVEL CROSSING REMOVAL PROJECT - LX31 | 44 - STATION STREET/BONDI ROAD, BONBEACH | URBAN DESIGN GUIDELINES

2.0 CONTEXT ANALYSIS
2.4 DEMOGRAPHICS

The following infographics represent a summary of the demographic characteristics for the Bonbeach Statistical Area (SSC20277). The data has been derived from the 2011 and 2016 Australian Bureau of Statistic, Quick Stats and future population forecast data from the City of Kingston Profile id.

At the time of the 2016 Census, Bonbeach had a population of 6,416 people. The area has recorded a consistent increase in population from 2006 to 2016. While the area is predicted to continue growing up to and past 2036, the rate of growth is lower than present.

In 2016, the population had a relatively even proportion between male (48.4%) and females (51.6%). The median age was 40, corresponding to the largest age group of 25 - 44 year olds. In comparison to Greater Melbourne, Bonbeach has a smaller portion of younger populations within the 0 - 14 and 15 - 24 year old age groups. Other age groups are larger than Greater Melbourne, with the biggest difference occurring in the 25 - 44 year old age group of 7.9%. Suggesting that Bonbeach has a slightly higher proportion of older individuals than is seen throughout Melbourne.

Between 2006 and 2016 all age cohorts increased at a relatively similar rate. However, the 0 - 14 and 25 - 44 year old age groups are predicted to represent a lower proportion of the future population estimates in 2036. All other age groups are slowly increasing in relative share, with a larger jump in population above 65 years old from 2016 to 2036.
DWELLING CHARACTERISTICS

A high percentage of private dwellings within the Bonbeach Statistical Area are occupied (90.7%). The number of dwellings has increased by 335 from 2006 to 2016. While dwelling growth is predicted to increase by 2036, the rate is much lower with only 304 new dwellings over the 20 year period.

Of the occupied private dwellings within Bonbeach, 37.4% of dwelling structure were separate houses, 14.8% were semi-detached terrace houses or town-houses, and 8.3% were flats, units or apartments, with 5.7% classified as other dwellings. This has shown a significant change in dwelling types with dense low storey built form increasing. The volume of separate houses from 2011 decreased by 12.6% (from 50.0%) and flats, units or apartments decreased by 13.6% (from 21.9%), while semi-detached, terrace or town-houses saw a considerable increase of 26.7% (from 21.6%).

The dwelling profile of Bonbeach differs from Greater Melbourne, with semi-detached, terrace, or town-houses having the largest volume. In comparison to Greater Melbourne, Bonbeach has smaller differentiations between volumes of dwelling profiles. Bonbeach has a smaller distribution of separate houses. Within Greater Melbourne the volume of semi-detached terrace or town-house, and flat, unit, or apartments are much closer at 16.8% and 14.7% respectively.

Figure 18 - Dwelling Profile and Growth Projections

Mode of Travel

Of the population within Bonbeach, 68.7% of people on an average weekday drive to work. Of these, 3.2% are passengers suggesting that the majority of vehicles are solo-occupied. A further 15.3% travel by public transport, including train, bus, and taxis, while only 0.6% cycled, and 1.1% walked as their only mode of travel.

In comparison to Greater Melbourne, a larger proportion of people catch public transport to work. While slightly smaller proportions drive, it is still significantly the largest mode of transport. Less people use active modes of travel with under 2% cycling and walking in Bonbeach, while percentages are 2 to 3 times higher in Greater Melbourne.
2.5 PHOTOGRAPHIC SURVEY

Figure 21 - Key Map - Bonbeach Photographic Survey

Image 17: Nepean Highway Looking South

Image 18: Nepean Highway Looking North

Image 19: Harding Avenue towards Port Phillip Bay

Image 20: Station Street Looking North

Image 21: Station Street Looking North
2.0  CONTEXT ANALYSIS

Image 22: Bonbeach Station pedestrian ramp, Station Street looking south
Image 23: Bonbeach Station, Nepean Highway Looking South
Image 24: Station Street Looking South at Level Crossing

Image 25: Station Street looking north from station
Image 26: Existing Level Crossing, Looking East
Image 27: Commercial Development along Nepean Highway
3.0 STRATEGIC PLANNING AND POLICY ANALYSIS

3.1 STATE PLANNING POLICY
3.2 LOCAL PLANNING POLICY
3.3 OTHER STRATEGIES
3.4 RELEVANT PROJECTS
3. STRATEGIC PLANNING AND POLICY ANALYSIS

3.1 STATE PLANNING POLICY

PLAN MELBOURNE

Plan Melbourne 2017-2050 sets out the Victorian Government’s strategy to manage the long term growth of metropolitan Melbourne and its population. The strategy identifies the infrastructure, services and major projects that are required to support growth, including the level crossing removal project.

Plan Melbourne recognises that the level crossing removal project will improve the efficiency and safety of the arterial road network across Melbourne and will better connect people to job opportunities in key areas, particularly in Melbourne’s west and south-east. It is also identified that the project will create opportunities for urban renewal and development.

The Station Street/Bondi Road, Bonbeach level crossing is located within Melbourne’s Southern Subregion, as identified in Map 13 of Plan Melbourne. The Southern Subregion contains some of Melbourne’s most important activity, economic and employment centres, including the Frankston and Dandenong Metropolitan Activity Centres, the Dandenong National Employment and Innovation Cluster.

The population within the Southern Subregion is expected to increase from 1,340,000 people in 2014 to approximately 1,540,000 in 2031.

SOUTH EAST GROWTH CORRIDOR PLAN

The South East Growth Corridor is identified as a substantial economic region in Melbourne that will eventually accommodate a population of 230,000 or more people and has the capacity to provide for at least 86,000 jobs. The South East Growth Corridor Plan recognises the need to enable improved access to important activity and employment areas within the region and to central Melbourne by improving arterial road and public transport connections.

The level crossing removal at Station Street/Bondi Road, Bonbeach will support the South East Growth Corridor Plan by improving the road, public transport and freight network.

STATE PLANNING POLICY FRAMEWORK

The State Planning Policy Framework (SPPF), contained in Clause 9 to Clause 19 of all Victorian Planning Schemes seek to ensure that land use and development policies in Victoria meet the objectives of planning as set out in the State’s Planning and Environment Act 1987. The SPF provides direction on matters to be considered in all planning decisions and seeks to ensure that the needs of existing and future communities are properly planned having regard to a range of factors.

The Clauses which are considered to be relevant to the level crossing removal at Station Street/Bondi Road, Bonbeach include Clause 9 (Plan Melbourne), Clause 11 (Settlement), Clause 11.06 (Metropolitan Melbourne), Clause 15 (Built Environment and Heritage), Clause 17 (Economic Development) and Clause 18 (Transport).

3.2 LOCAL PLANNING POLICY

KINGSTON PLANNING SCHEME

The policies and controls contained in the Kingston Planning Scheme apply to the Station Street/Bondi Road level crossing removal.

Clause 21.02 – Location

Clause 21.02 recognises that Kingston is one of the most diverse municipalities in Melbourne that combines substantial residential uses with activity centres, agricultural and non-urban uses, as well as an industrial sector which forms one of the largest and most concentrated manufacturing regions in Melbourne. Transport corridors in Kingston, including the Frankston railway line and important north-south and east-west arterial routes are recognised as important connections to the regions industrial and commercial areas to local, interstate and international markets.

Clause 21.03 – Land Use Challenges for the New Millennium

Clause 21.03 recognises key land use issues which Council has identified which are likely to challenge the future growth and development within Kingston, including protecting and enhancing ecological values.

Clause 21.04-2 – Key Land Use Themes

Clause 21.04 recognises that Kingston’s vision for future land use planning and development is expressed around a number of key land use themes, including retail and commercial land use, environment, wetlands and waterways, transport, movement and access and heritage.

Clause 21.06 – Retail and Commercial Land Use

Clause 21.06 seeks to protect and strengthen the hierarchy of activity centres and their different built form character and function by creating opportunities to strengthen the role of public transport, walking and cycling as a means of accessing centres. Bonbeach is not recognised as a activity centre within the Retail and Commercial Land Use Framework Plan. The closest recognised activity centres are located at Chelsea and Carrum.

Clause 21.08 – Foreshore

Clause 21.08 establishes Council’s commitment to the ongoing protection of the social, ecological and environmental values of the Kingston foreshore. A key strategy identified by the policy is to provide fair and equitable access to coastal areas by encouraging a range of transport and access options, such as public transport, cycling and walking. This may be supported by pedestrian and cycling trails along the coast and to inland areas including public transport nodes.

Clause 21.09 Environment Wetlands and Waterways

Clause 21.09 acknowledges that the environmental landscape of the City of Kingston is recognised for its diversity and significance in both a local and regional context. It specifically recognises the role of the Edithvale-Seaford wetlands as an internationally significant wetland area and seeks to protect the physical and habitat diversity of the wetlands and maintain the diversity of flora and fauna habitats within Kingston.

Clause 21.12 – Transport, Movement and Access

Clause 21.12 seeks to create a safe, convenient and efficient road network which meets the transport and freight needs of Kingston’s residents, businesses, and through traffic. In addition, it aims to integrate public transport, road, pedestrian and cycle systems with activity centres and social and community infrastructure, as a means of providing equitable and safe vehicular, pedestrian and cyclist movement and access for the community.

It recognises the existing road capacity issues causing conflicts between high traffic volumes, activity centres and residential areas in the City of Kingston. Strategies to address this include the establishment of a functional hierarchy of local and regional road networks to improve efficiency and safety; the integration of public transport, road, pedestrian and cycle networks with activity centres, schools, and community facilities to provide equitable access for the community; and the protection and enhancement of amenity of sensitive areas through the appropriate management of transport networks.

Clause 21.13 – Heritage Policy

Clause 21.16 seeks to identify, protect, conserve and manage places or elements of cultural heritage significance within Kingston.
ZONING AND OVERLAYS
Planning Zones
A number of zones affect the area surrounding the project. These are identified below and the relevant zoning map is shown in Appendix C.

The Bonbeach Railway Station and the rail corridor are affected by the Public Use Zone 4 -Transport (PUZ4). The application of this zone recognises the use of this land for transport purposes.

Nepean Highway is affected by the Road Zone Category 1 (RDZ1). The zone identifies significant existing roads or land that has been acquired for a significant proposed road. Road reservation affected by this zone is managed by VicRoads, who are also the referral authority under the zone.

The land to the north-east, south-east and south-west of the level crossing removal site is located within the General Residential Zone – Schedule 2 (GRZ2). The GRZ2 provides for moderate housing growth up to a maximum of 11 metres, as well as educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations.

The land to the immediate north-west of the level crossing removal site is located within the Commercial 1 Zone (C1Z). The C1Z seeks to create vibrant mixed use commercial centres for retail, office, business, entertainment and community uses by providing for a variety of retail, office, business, entertainment, education and community uses. Residential uses at densities complementary to the role and scale of the commercial centre are also encouraged.

A number of zones affect the land beyond the immediate surrounds of the level crossing removal site, including: General Residential Zone – Schedule 3 (GRZ3), Mixed Use Zone (MUZ), Neighbourhood Residential Zone (NRZ), Public Parks and Recreation Zone (PPRZ), Public Use Zone – Service & Utility (PUZ1), Public Use Zone – Education (PUZ2), Road Zone Category 2 (RDZ2) and Special Use Zone (SUZ1).

A detailed analysis of the land use zones can be found in the Land Use report prepared as part of the EES.

Planning Overlays
A number of overlays affect the area surrounding the project. These are identified below.

Design and Development Overlay - Schedule 1 (DDO1) and Design and Development Overlay – Schedule 7 (DDOT7) applies to land immediately north-west and south-west of the level crossing removal site, between Port Philip and the Frankston rail corridor. DDO1 seeks to protect and enhance the visual and aesthetic appearance of the Port Phillip foreshore area by ensuring that building heights, bulk and setbacks are compatible with surrounding buildings and natural features, and are sympathetic to the surrounding natural landscape and environment. In addition to these objectives, DDOT7 seeks to ensure that new buildings and works are appropriately setback from the Port Philip foreshore reserve boundary.

A number of overlays affect the land beyond the land in the immediate surrounds of the level crossing removal site, including: Environmental Audit Overlay (EAO), Environmental Significance Overlay (ESO), Development Plan Overlay – Schedule 6 (DPO6), Heritage Overlay (HO), Land Subject to Inundation Overlay (LSIO) and Special Building Overlay (SBO).

A number of overlays affect the area surrounding the project. These are identified below.

SMARTROADS (VICROADS)
SmartRoads is a policy designed to manage the increasing number of trips taken on roads in Victoria. It aims to address the competing interests for limited road space by giving priority to certain transport modes at particular times of the day. SmartRoads recognises the increasing importance of public transport, walking and cycling as transport modes, and has therefore established a set of guiding principles for the priority use of roads by transport mode, time of day, and place of activity. This ensures that decisions about the operation of the road network support integrated land use and transport planning. Nepean Highway is identified within the policy as an existing arterial traffic route.

PRINCIPAL BICYCLE NETWORK (VICROADS)
The Principal Bicycle Network (PBN) is a network of existing and proposed bicycle routes identified to help people ride to major destinations around Melbourne. It was developed in 1994, it was recently reviewed to focus more on getting people into activity centres and to make more use of local roads and off-road paths. The current plan was released in 2012. Nepean Highway, the Patterson River shared use trail and the Edithvale–Seaford Wetlands shared use trail is identified within the policy as part of the PBN.

NETWORK DEVELOPMENT PLAN (PTV)
The Network Development Plan is a strategy to address the rapid growth in train patronage across Melbourne’s metropolitan network forecast for the next 20 years and beyond. Key strategies of the plan include expanding the capacity of the existing network, the redesign of train services to maximise opportunities for the seamless coordination with buses and trains; and to extend the network into new growth areas. The strategy includes the introduction of a metro-style train system for Melbourne to provide more high capacity and high frequency services.

FRANKSTON CORRIDOR URBAN DESIGN STRATEGY
An Urban Design Strategy for the Frankston Railway Line corridor is currently being prepared by the LXRP. The purpose of the strategy is to identify the urban design opportunities for all level crossing projects undertaken along the Frankston Railway Line by the LXRP and ensure a coordinated approach to the design of the level crossing removal projects.

The Strategy identifies potential actions across State government departments, authorities, agencies, and local government that impact upon or should be considered in the planning and implementation of level crossing removals.
4.0 COMMUNITY AND STAKEHOLDER ENGAGEMENT

4.1 OVERVIEW
4.2 STAKEHOLDER ENGAGEMENT
4.3 COMMUNITY CONSULTATION
4. COMMUNITY AND STAKEHOLDER ENGAGEMENT

4.1 OVERVIEW

Community and stakeholder engagement plays an important role in developing and shaping the Station Street/Bondi Road, Bonbeach level crossing removal project. The LXRP has undertaken an extensive engagement program to ensure the Bonbeach community and stakeholders are informed, involved and are able to actively contribute to the development of the level crossing removal project.

Figure 22 - Engagement Phases

4.2 STAKEHOLDER ENGAGEMENT

KINGSTON CITY COUNCIL

Kingston City Council was directly engaged by the LXRP consultation program in meetings, briefings, attendance at information sessions and representation on the Technical Reference Group (TRG). The TRG was formed for the purposes of the EES.

Kingston City Council maintains an interest in supporting and promoting a wider mix of commercial, residential and retail uses in Bonbeach Neighbourhood Centre and encourages a consistent built form as the centre develops.

Council have been engaged throughout the development of the station and have been a strong advocate for prioritising and promoting walking and cycling through the provision of safe, attractive and functional infrastructure for active transport users.

METRO TRAINS MELBOURNE AND PUBLIC TRANSPORT VICTORIA

MTM and PTV are responsible for rail infrastructure in metropolitan Melbourne and have developed preliminary patronage forecasts and a range of policies that influence design of the station and the wider station precinct. These include vertical transportation, station layout, car parking provision and service vehicle standards.

Other elements that affect the urban design quality of the project include landscape guidelines, fence and barrier and other safety requirements along the rail corridor developed by MTM. Both MTM and PTV have been actively involved in the development of Bonbeach Station and have provided advice throughout its development.

VICROADS

VicRoads is responsible for the management of the metropolitan road network, with specific responsibility for Nepean Highway as an arterial road and any associated road signals. Strict standards exist for road alignment design, maximum gradients, traffic visibility and height clearances.

Standards that strongly influence the urban design opportunities include minimum clearances between the traffic lanes and roadside hazards, traffic barrier requirements, and the separation of intersections and signals along arterial routes. VicRoads has been actively engaged throughout the design process.

OTHER STAKEHOLDERS

Other key stakeholder groups, whose particular interests and needs have been considered in the development of options, include:

- Chelsea and Bonbeach Station Group;
- Local residents;
- Local traders;
- Local schools;
- Service Authorities;
- Pacific National (freight rail operator),
- Department of Environment, Land, Water, and Planning (DELWP);
- Victorian Planning Authority (VPA); and
CONSULTATION PROCESS
Community members have been invited throughout the project to review, discuss and share their feedback in relation to the level crossing removal project. Four phases of engagement have been undertaken to date.

From February 2016 to June 2016, awareness-raising and feedback gathering activities created opportunities for local communities to learn about the level crossing removal project and to share what is important to them in their local area.

During this period, nine community information sessions were held with 500 community feedback forms, 4,500 pieces of online feedback and over 200 phone/email enquiries received from local residents, community groups and traders.

The initial feedback, alongside the technical investigations, helped to identify two viable options for the level crossing removals – a rail bridge under Station Street/Bondi Road and a rail bridge over Station Street/Bondi Road. Community feedback on the two options was sought through the next phase of consultation, which was carried out in September/October 2016.

In November 2016, the recommended rail under road option was presented to the community. Further feedback and local knowledge was also sought to shape the details of the option ahead of the tender process. This included a community workshop to capture local ideas and views about the project, undertaken in September 2017.

In addition to the formal engagement activity, LXRP staff spoke with concerned residents to discuss the project design solution, answer questions, hear concerns and capture views on the detailed aspects of the projects at Bonbeach.

EMERGING THEMES
A number of themes have emerged from the community consultation exercises undertaken to date. These include:

- Importance and value of the landscape character and further enhancement along the whole of the rail corridor;
- Desire to balance user needs so that all users and all transport modes are catered for equitably to ensure that the solution benefits a broad cross section of the community;
- The need for the design and materials to respond to and reflect the valued natural coastal setting and emerging architecture.

Community and stakeholder feedback will be used as part of the EES process. It will also be used during the project’s tender and detailed design phase to further shape the project and deliver positive outcomes for the Bonbeach community.
5.0 ISSUES AND OPPORTUNITIES
5. ISSUES AND OPPORTUNITIES

Figure 24 - Issues and Opportunities Analysis
Based on the preceding analysis presented in this document, a number of issues and opportunities for the project site have been identified. These are summarised below:

It is expected that design teams may identify further issues and opportunities through their own further analysis.

**ISSUES**

1. Proximity of residential uses along the length of the rail corridor, which may be sensitive to visual and noise impacts.

2. The narrow configuration of Station Street and Nepean Highway either side of the rail line which restrict the amount of space available for all modes of transport, particularly pedestrians.

3. Limited pedestrian access between residential housing to the east of the rail corridor and local destinations to the west.

4. Poor pedestrian crossing amenity and safety at existing road intersections.

5. Limited space available within the rail corridor to accommodate significant planting.

6. Discontinuous and low grade planting along the rail corridor.

7. Operational and design standards of road and rail infrastructure that may limit additional planting opportunities.

8. Protection of landscape values related to the Edithvale-Seaford Wetlands.

9. Unsafe car parking along Nepean Highway which encourages pedestrians to informally cross the road.

**OPPORTUNITIES**

1. Provision of better local access to the Neighbourhood Centre along Nepean Highway and recreational and foreshore spaces opposite the station.

2. Better visual and physical integration of the station precinct with the foreshore.

3. Enhancement of the existing streetscape and public realm character of the area that is considered of the existing built form and streetscape of the Neighbourhood Centre.

4. Opportunity to provide a built form outcome that responds to heritage and civic elements in the area and strengthens the quality of the local built form character.

5. Improved views towards the rail corridor from surrounding uses on parallel streets.

6. Provision of additional pedestrian crossing opportunities over the rail corridor.

7. Improvements to the Station Street/Bondi Road and Nepean Highway intersection to provide additional crossing opportunities.

8. Improvements to the customer and public transport facilities at Bonbeach Station.

9. Provision of safe and improved walking and cycling infrastructure along the length of the rail corridor.

10. Improvements to the safety, location, access and number of car parking spaces.

11. Enhance visual and physical links to open space and recreational amenities.

12. Provision of planting to support the landscape and character of the local area.

13. Provision of a localised bus route and services connecting at the station precinct.
6.0 DESIGN GUIDELINES

6.1 GUIDELINES STRUCTURE
6.2 VISION
6.3 DESIGN GUIDELINES
6.4 DESIGN GUIDELINE PROJECT SECTIONS
6. DESIGN GUIDELINES

6.1 GUIDELINES STRUCTURE

The design guidelines set out in this section, are structured in three main parts, as illustrated in Figure 26. The guidelines set out site specific performance outcomes and design requirements, that must be achieved for the Station Street/Bondi Road level crossing. The guidelines structure is described further for each key section below:

1) VISION

The vision statement (set out in Section 6.2) puts forth the ambition of the level crossing removal for the Edithvale site. It is site specific and has been developed based on the preceding analysis, as well as, advice and input from the Urban Design Advisory Panel (UDAP).

2) STRATEGIC OBJECTIVES

The strategic objectives are high level performance outcomes underpinning the vision and drafted for each principle, which must be achieved through the design response.

3) DESIGN GUIDELINES

The design guidelines outline the requirements for how the objectives are achieved, in addition to the objectives, measures and benchmarks of the Urban Design Framework. The guidelines are not based on a single preferred option, but rather are intended to inform the design options. Further design innovation is encouraged, to better achieve the project objectives and vision.

ROLE OF THE GUIDELINES

While the guidelines have been prepared as a briefing document to direct the Alliance’s design response, it is not intended to preclude further design innovation.

The guideline provisions address urban design matters, primarily built form, movement and landscaping elements. It covers requirements for three urban contexts, including the site and the Bonbeach Station precinct, the transition zone between the station and the wider precinct, and the corridor and wider precinct area (Refer to the UDF).

The design guidelines have been shaped by the preceding analysis, community and stakeholder engagement, and broader urban design principles, objectives and standards set out in the Urban Design Framework.

6.2 REVIEW AND GOVERNANCE

The LXRP Urban Design Advisory Panel (UDAP) has been established to champion and guide urban design processes and the design quality of Level Crossing Removal Projects. Design review by UDAP is intended to be a positive and iterative process, to influence major decisions and achieve site responsive, high quality integrated design outcomes in line with aspirations articulated for activity centres and abutting neighbourhoods. Design review and advice is based on the UDF and site specific Urban Design Guidelines.

UDAP INVOLVEMENT

UDAP meetings provide an opportunity to respond in a focused, time efficient manner to meet specific project needs, including:

- Conducting site visits at key project milestones - from inception to realisation as well as post occupancy reviews.
- Evaluating proposals and providing expert urban design advice to support evaluation process.
- Providing design advice at regular design review sessions throughout the design and construction process.
- Evaluating urban design solutions and outcomes against KRA and/or project requirements during design stages and at practical completion.
- Transfer key learnings back to the broader level crossing removal program and larger UDAP meetings.

PROCESS

Alliance teams are expected to attend regular UDAP sessions to discuss work in progress, particularly at key milestones - Concept Design, Preliminary Design, Detailed Design and Final Design (Refer to Figure 30). It is anticipated that fortnightly meetings would be required, however the exact frequency of UDAP sessions will be determined by the UDAP Chair, in consultation with the project team.

UDAP meetings shall be held in conjunction with the formal design drawing review by the LXRP-Technical Advisor team (Refer to Figure 24).

Any issues noted during the drawing review process shall be raised at UDAP and where possible, resolved during these regular meetings prior to submitting updated drawing packages.

The guideline provisions address urban design matters, primarily built form, movement and landscaping elements. It covers requirements for three urban contexts, including the site and the Bonbeach Station precinct, the transition zone between the station and the wider precinct, and the corridor and wider precinct area (Refer to the UDF). The guidelines are not based on a single preferred option, but rather are intended to inform the design options. Further design innovation is encouraged, to better achieve the project objectives and vision.
6.3 VISION

The Station Street/Bondi Road, Bonbeach Level Crossing Removal Project will create a high quality and lasting local landmark that will strengthens the landscape character of the rail corridor. Upon completion, the project will connect the surrounding public spaces, enhance the attractiveness of the Bonbeach Neighbourhood Centre, and improve transport access and amenity across Bonbeach.
6.4 DESIGN GUIDELINES

PRINCIPLES 1 AND 3: IDENTITY + URBAN INTEGRATION

STRATEGIC OBJECTIVES
1. STRENGTHEN THE LOCAL NEIGHBOURHOOD CHARACTER
   The design response should respond to and complement the existing built form and public realm character of Bonbeach to create a cohesive neighbourhood centre.

2. PROTECT AND STRENGTHEN COASTAL LANDSCAPE
   The local landscape character should establish a sense of place that is specific to Bonbeach by reinstating or referencing and integrating existing species found along the rail corridor and on the foreshore.

3. INTEGRATE THE STATION WITH THE NEIGHBOURHOOD CENTRE
   Create a cohesive station precinct and neighbourhood activity centre through design detail and visual cues.

4. MINIMISE POTENTIAL VISUAL IMPACTS
   The design should minimise or address visual amenity impacts to sensitive interfaces along the rail corridor and ensure that the station design and landscaping maintain and enhance key viewsheds from adjacent public places and from key streets.

GUIDELINES
1. The scale, materials, textures and colours of the station building must respond to and complement the prevailing low scale, modest, coastal character of the surrounding area. The use of natural materials, colours, and textures should be used prominently as appropriate.

2. Explore opportunities to extend elements of the project’s public realm design into Williams Grove, Harding Avenue and/or Lord Weaver Grove that further integrates with the key elements of the coastal identity of Bonbeach (including the beach boxes and the Surf Life Saving Club).

3. Maintain some continuity of design detail, materials and forms used in other Frankston Railway Line projects, especially the Edithvale, Carrum and Seaford Level Crossing Removal projects.

4. Provide an integrated design response to fencing, barriers and pedestrian overpasses along the rail corridor that are consistent with the character and quality of the station building, and provides visual interest at both pedestrian and passing vehicle scales.

5. High quality public realm materials, details and landscaping should be incorporated into the design of the station plaza.

6. Provide a high quality terminus view of the rail corridor from local streets that intersect with Station Street and Nepean Highway through landscaping or public realm/form detailing, particularly Broadway, Williams Grove, Harding Avenue, Bondi Road, Lord Weaver Grove, and Cannes Avenue.

7. Avoid additional road barriers through the considered location and specification of any built form and significant canopy trees outside of VicRoads prescribed clear zones along Nepean Highway and Station Street, or securing any possible waivers and exemptions.

8. Ensure any advertising signage within the rail corridor does not dominate the public realm or detract from the architectural design intent and landscaping of the station precincts and rail corridor, particularly at the terminus of views from local streets.

9. Minimise or manage light spill from station buildings and car parking to sensitive land uses adjacent to the rail corridor such as housing and retail within the Bonbeach neighbourhood centre.

10. Maximise opportunities to reinstate or establish coastal tree species, shrubs and other landscaping along Nepean Highway and Station Street to provide a visual buffer to the built form elements.

11. Provide an integrated landscape strategy that uses planting opportunities along both sides of Station Street and Nepean Highway as a way of strengthening the landscape character of the corridor and provide high quality and positive visual outcomes.

12. Minimise pavements along the Nepean Highway interface where continuous cycling and pedestrian movement is not required in order to maximise the landscape potential of this part of the corridor.

13. Provide dedicated roadside car parking arrangements along both Station Street and Nepean Highway kerbs where car parking is provided in order to accommodate street tree planting.

Figure 28 - Identity and Urban Integration Guidelines Enlargement
A well-defined identity and sense of place is key to creating strong and vibrant communities.

A well-integrated environment is a sound framework for the successful development of a great place.

Figure 29 - Identity and Urban Integration Guidelines Plan
**6.4 DESIGN GUIDELINES**

**PRINCIPLES 2 AND 8: CONNECTIVITY AND WAYFINDING + ACCESSIBILITY**

**STRATEGIC OBJECTIVES**

1. **IMPROVE CONNECTIVITY TO THE STATION**
   The design response should improve and establish connections that provide safe, direct movements to and from the station with the broader area from existing networks for all modes of transport establish safe and direct inter-modal connections.

2. **PRIORITISE ACTIVE TRANSPORT MODES**
   The design and arrangement of the precinct shall prioritise the safety and amenity of pedestrians and cyclists over private vehicles to encourage use of active transport modes to access the station.

3. **PROVIDE A UNIVERSALLY INCLUSIVE DESIGN**
   Ensure the design provides universal access within the station and wider corridor and the station and promotes equity for all users.

**GUIDELINES**

1. Integrate the network plans for all modes of transport in the station precinct, with a priority for pedestrian movement in proximity to the station and the neighbourhood centre.

2. Provide dedicated walking and cycling infrastructure along the Station Street side of the rail corridor that provides for safe management of pedestrian and cycling movements along this corridor as well as to the station and the neighbourhood centre from the broader precinct.

3. Establish clear and direct pedestrian linkages between the station entrances to bus bays, commuter carparking, and bicycle storage locations.

4. Reinstall pedestrian crossings over the rail corridor with DDA compliant overpasses at Golden Avenue and The Glade and incorporate stair access where in order to maximise their accessibility from all directions.

5. Provide clear, intuitive and suitably wide paths at accessible slopes that allow for ease of movement for pedestrians around the station to car parking and pedestrian crossing/overpass locations and provide an adequate clearance from traffic lanes.

6. Maintain and enhance sightlines to the foreshore from the station precinct to assist the orientation of users, particularly via Williams Grove, Harding Avenue and Lord Weaver Grove.

7. Allow for the future provision of bus bays on Station Street and locate these to be clearly visible and identifiable from both station entrances and the Bonbeach neighbourhood centre.

8. Locate commuter car parking and bus bays in close proximity to a station entrance.

9. Provide suitable wide and functional pedestrian and cycle pathways around the station precinct that address key desire lines to station amenities, local streets, and adjacent destinations.

10. Locate all bicycle parking to be visible and have direct access from the station entrance and cycling infrastructure along Station Street.

11. Orient and locate pedestrian overpasses to maximise impacts on existing pedestrian journey times to key local features.

**Figure 30 - Accessibility, Connectivity and Wayfinding Guidelines Enlargement**
Figure 31 - Accessibility, Connectivity and Wayfinding Guidelines Plan

A well connected and legible environment contributes significantly to a strong economy and an integrated community.

A highly accessible and inclusive environment provides a positive user experience and contributes to health, wellbeing and the perception of care in a community.

PRINCIPLES
6.4 DESIGN GUIDELINES

PRINCIPLES 5 AND 7: AMENITY + SAFETY

STRATEGIC OBJECTIVES

1. ESTABLISH A SENSE OF SAFETY
   Design the station precinct to feel safe through passive surveillance opportunities and eliminate conflicts between modes and users.

2. IMPROVE USER COMFORT
   Incorporate measures across the station precinct to enhance user enjoyment such as shade, wind protection, and public amenities in appropriate locations.

GUIDELINES

1. Maximise visual connections and transparency between the station platform to the station concourse and to pedestrian activity along Station Street and Nepean Highway.

2. Ensure a large proportion of the platform is open to the sky to provide natural sunlight and passive surveillance opportunities over the station platform from Station Street and Nepean Highway.

3. Ensure well-lit platforms that provide high-levels of illumination and reduce the contrast between day-lit and artificially lit areas of the platform to assist visibility of users and improve the sense of safety.

4. Ensure walking and cycling infrastructure and any highly pedestrianised areas are designed to minimise conflicts issues between users through clear delineation of spaces and traffic management measures, particularly at the station entrance.

5. Ensure the platform environment is a comfortable, well-lit, and inviting space for users by eliminating concealed spaces and providing lighting, clear views and adequate shelter from weather conditions.

6. Provide light-reflective, high-quality materials on floor, wall and ceiling surfaces at the platform level that are commensurate with the quality of an internalised space.

7. Provide weather protection, lighting, comfortable seating and public amenities, such as waste bins and drinking fountains in appropriate locations in the station precinct.

8. Integrate generous shelters and awnings as part of the station building and entrances to provide weather protection for station users.

9. Provide treatments to the rail cutting that are high quality and visually interesting for rail passengers and station users, and establishes a positive sense of arrival into Bonbeach Station.

10. Use tree planting along the road and rail corridor to provide shade and shelter for pedestrian and cycling infrastructure, on both sides of both roads and to car parking.

11. Design and detail all pedestrian overpasses to maintain a high level of visibility of users from street level through transparent materials, wide pathways, and clear viewlines.

12. Maintain adequate clearances between pedestrian paths and overpasses to traffic lanes along Nepean Highway and provide landscaping and other treatments to provide users with a sense of safety.

Figure 32 - Amenity and Safety Guidelines Enlargement

LEGEND
- Railway & Station
- VicTrack Boundary
- Major Roads
- Station Precinct
- Significant Views
- New Forecourt/Plaza Opportunity
- Existing/Other Buildings
- Pedestrian and Bicycle Corridor
- Opportunity for Landscaping
- Barriers and Fencing
- Overpasses
- Substation
- Potential Future Parking Area
- Structural Void Over Platform
- Passive Surveillance

SCALE 1:2000 AT A3
0 16 32 48 50m
High quality urban amenity associated with access to services and the experience of a great public place contributes to successful, equitable and prosperous community.

A safe environment is essential for a strong, connected and happy community.
6.4 DESIGN GUIDELINES

PRINCIPLE 6: VIBRANCY

STRATEGIC OBJECTIVES

1. LINK THE STATION WITH NEIGHBOURHOOD CENTRE USES
   Enhance the precinct by better integrating the station with the existing uses contained within the neighbourhood centre and to the recreational amenities in the area.

2. PROVIDE A HIGH QUALITY AND FUNCTIONAL PUBLIC REALM
   Create an inclusive and people oriented public realm at the station that supports social interaction and accommodates a range of uses and movements.

GUIDELINES

1. Maintain the main station entry in its current location north of Bondi Road to maintain physical and visual links with the existing neighbourhood centre and key beach access point.

2. Orient station entry points to Station Street, where key cycling and pedestrian links are provided and vehicle traffic is less predominant, whilst maintaining visual links to activities along Nepean Highway.

3. Enhance pedestrian connectivity and infrastructure between the station precinct and the Bonbeach neighbourhood centre and the foreshore.

4. Ensure that any built form provides a positive address to the Bonbeach neighbourhood activity centre along Nepean Highway, to strengthen the functioning of this local shopping and community hub.

5. Minimise inactive and blank walls adjacent to highly pedestrianised areas, including the station plaza and car parking, and to any built form visible from the Bonbeach neighbourhood centre.

6. Minimise the visibility of utilities, infrastructure and back of house functions from the Bonbeach neighbourhood centre, main pedestrian through-paths and gathering areas.

7. Provide a suitably generous station plaza space that accommodates public amenities such as seating, lighting, and furniture, in addition to space required for pedestrian and cycle through-paths.

8. Orient and design the station kiosk and any staff and customer amenities to maximise passive surveillance over the station plaza, future bus bays, and to pedestrian activity along Station Street.

9. Maximise activity at the station entrance by co-locating uses such as kiss and ride, future bus bays, and pedestrian crossings, with the station plaza along Station Street.
Animation and diversity in the experience of a great public place supports a prosperous and healthy community.

**VIBRANCY**

**PRINCIPLE**

Figure 35 - Vibrancy Guidelines Plan
6.4 DESIGN GUIDELINES

PRINCIPLE 4: RESILIENCE AND SUSTAINABILITY

STRATEGIC OBJECTIVES

1. PROMOTE SUSTAINABLE DESIGN
   Ensure the station building and landscaping integrates sustainable design concepts that allow for efficient water, waste and energy use, conservation and re-use.

2. CREATE A SITE RESPONSIVE DESIGN
   Draw on a comprehensive site and context analysis to inform the design of the precinct and landscaping and building details.

3. CREATE A LASTING STATION PRECINCT
   Provide a design that demonstrates a high standard of architectural design and addresses the current and future needs of all users.

GUIDELINES

1. Select or incorporate a material palette for the public realm hardscape (footpaths, fences, barriers, walls, paved areas) that is high quality, durable, low maintenance, and minimises opportunities for graffiti and is resilient in the coastal setting.

2. Use landscaping species that are appropriate for the specific climatic and environmental conditions of the area such as soil types, wind, temperature, and rain conditions, and the type of physical environment created by the rail infrastructure.

3. Integrate Water Sensitive Urban Design (WSUD) into the stormwater management of the station precinct to maximise the viability of landscape and mitigate heat island effects, and explore opportunities to supply stormwater to the broader precinct.

4. Provide permeable ground surfaces within the station precinct, where possible, for absorption of rainwater and reduction of stormwater run-off.

5. Maintain and establish mature and significant landscaping along the rail corridor and in the station plaza to provide shading opportunities, enhance the local habitat and microclimate, and mitigate urban heat island effects.

6. Use plant species appropriate to the coastal climatic conditions of the area and the limited available root space along the rail.

7. Provide a high level of natural daylight to the platforms to minimise reliance on artificial lighting.

8. Ensure the design and treatment of the station, plaza area, and walking and cycling paths to allow for future growth in demand and patronage, and flexibility in the modes of transport that rail users will use to reach the station in the future.

9. Design for flexibility in the deck structures to accommodate potential changes to what they are used for in the future.
Figure 37 - Resilience and Sustainability Guidelines Plan

- Resilience and Sustainability

Places must be sustainable, enduring and resilient in order to support and nurture current and future generations.
**6.5 DESIGN GUIDELINE SECTIONS**

A rail under road design solution has been selected for the Bonbeach level crossing removal project. The two cross sections below have been included to illustrate the spatial opportunities and constraints of the rail corridor and the potential interface with the immediately adjacent streets and features.

The cross sections also demonstrate how a rail under road solution can deliver on the design guidance provided in this document.

Figure 38 - Typical Station Platform Section Rail Under

- **High quality landscaping and fencing treatments can provide positive visual amenity outcomes along Station Street and Nepean Highway.**
- **A large proportion of the platform can be open to the sky to provide passive surveillance opportunities from Station Street and Nepean Highway.**
- **Coastal tree species, shrubs and other landscaping can be reinstated or established along Nepean Highway and Station Street to provide a visual buffer to the built form elements.**
- **Visual connections and transparency between the station platform to the station concourse can be achieved.**
- **The platform environment can be comfortable, well-lit, and inviting and commensurate with an internalised space with high-quality materials on floor, wall and ceiling surfaces.**
- **Treatments to the rail cutting can be high quality and visually interesting for rail passengers and station users and establish a positive sense of arrival into Bonbeach Station.**
Pedestrian overpasses can be designed to maintain a high level of visibility of users from street level through transparent materials, wide pathways and clear viewlines.

Clearances between pedestrian paths and overpasses to traffic lanes along Nepean Highway can be provided through landscaping and other treatments to provide users with a sense of safety.

Significant canopy trees can be located outside of VicRoads prescribed clear zones along Nepean Highway and Station Street to minimise need for road barriers.

Landscaping along the corridor can provide shade and shelter to pedestrian and cycling infrastructure and to car parking.

Indented roadside car parking arrangements along both Nepean Highway can accommodate street tree planting.

The Station Street side of the corridor can accommodate safe and improved walking and cycling infrastructure along the length of the rail corridor.

Fencing, barriers and pedestrian overpasses located along the rail corridor can be designed to contribute to the character and quality of the station building.

Figure 39 - Typical Overpass Section Rail Under
APPENDIX

A: GLOSSARY AND REFERENCE LIST
B: STRATEGIC PLANNING BACKGROUND INFORMATION
## APPENDIX A: GLOSSARY AND REFERENCE LIST

### 7.1 GLOSSARY

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<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>BPR</td>
<td>Bicycle Priority Routes</td>
</tr>
<tr>
<td>CBD</td>
<td>Central Business District</td>
</tr>
<tr>
<td>DELWP</td>
<td>Department of Environment, Land, Water, and Planning</td>
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<tr>
<td>EES</td>
<td>Environmental Effects Statement</td>
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<td>LXRA</td>
<td>Level Crossing Removal Authority</td>
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<tr>
<td>MTM</td>
<td>Metro Trains Melbourne</td>
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<tr>
<td>OVGA</td>
<td>Office of the Victorian Government Architect</td>
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<tr>
<td>PBN</td>
<td>Principal Bicycle Network</td>
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<td>PPA</td>
<td>Pedestrian Priority Area</td>
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<td>PRS</td>
<td>Project Requirements Specification</td>
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<td>PTV</td>
<td>Public Transport Victoria</td>
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<td>SPPF</td>
<td>State Planning Policy Framework</td>
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<td>SUP</td>
<td>Shared Use Path</td>
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<td>TFV</td>
<td>Transport for Victoria</td>
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<td>UDAP</td>
<td>Urban Design Advisory Panel</td>
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<tr>
<td>UDF</td>
<td>Urban Design Framework</td>
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<td>UDG</td>
<td>Urban Design Guideline</td>
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<td>VPA</td>
<td>Victorian Planning Authority</td>
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<tr>
<td>WSUD</td>
<td>Water Sensitive Urban Design</td>
</tr>
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</table>

### 7.2 REFERENCES

AECOM - GHD Joint Venture (2017), Frankston Corridor Urban Design Strategy, Level Crossing Removal Project
AECOM - GHD Joint Venture (August 2016), Urban Design Framework, Level Crossing Removal Project, Version 3
Australian Bureau of Statistics (2011 and 2016), Census QuickStats
Chief Parliamentary Counsel (July 2017) Planning and Environment Act 1987, Version 130
City of Kingston (October 2017), Kingston Planning Scheme, Clause 21, Planning Zones, and Planning Overlays
City of Kingston (2016), Prosperous Kingston: A Framework for Economic Sustainability
City of Kingston (2014), Kingston Residential Strategy Update
City of Kingston (2007), Kingston Neighbourhood Character Guidelines
City of Kingston (2009), Kingston Cycling and Walking Plan
City of Kingston (2006), City of Kingston Retail/Commercial Development Strategy
Public Transport Victoria (2012), Network Development Plan - Metropolitan Rail
VicRoads (2012), Principal Bicycle Network (PBN) and Bicycle Priority Routes (BPR)
Public Transport Precincts, Design Requirements and Guidance, PTV
Sustainability Policy, Level Crossing Removal Authority
Transport Integration Act 2010
Urban Design Framework, Level Crossing Removal Authority
Victorian Urban Design Charter 2009
Creating Places for People, Australian National Urban Design Protocol
Creative Strategy Guidelines, Level Crossing Removal Authority
Good Design and Transport, Issue 05, Office of the Victorian Government of Architects
VicRoads (July 2011), SmartRoads: Connecting Communities
## 7.3 FIGURE SOURCES

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<td>Edithvale - Seaford Wetlands</td>
<td>Frankston City Libraries [1864] Carrum Swamp in the County of Mornington map, Accessed October 13, 2017 <a href="https://www.flickr.com/photos/59368267@N02/8743824436">https://www.flickr.com/photos/59368267@N02/8743824436</a></td>
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<td>9</td>
<td>3 Lord Weaver Grove</td>
<td>Google Streetview [2015] 3 Lord Weaver Grove, Accessed October 13, 2017 <a href="https://www.google.com.au/maps/Q-39.0647127,145.119088,3a,75y,322.83h,89.07/data=59m1%1e13%1e41%SeymVLE7N7%9KdP7Dg2e017%312%6e56?hl=en-AU">https://www.google.com.au/maps/Q-39.0647127,145.119088,3a,75y,322.83h,89.07/data=59m1%1e13%1e41%SeymVLE7N7%9KdP7Dg2e017%312%6e56?hl=en-AU</a></td>
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## APPENDIX B: STRATEGIC PLANNING BACKGROUND INFORMATION

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<th>KEY SECTIONS</th>
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<tr>
<td>City of Kingston Retail/Commercial Development Strategy</td>
<td>2006</td>
<td>This policy was developed to help guide future direction of retail, commercial and office investment in the City of Kingston. The policy identifies public transport access and quality as an important factor in commercial area development and that where possible, opportunities to increase public transport mode share should be maximised.</td>
<td>Whole document</td>
</tr>
<tr>
<td>Prosperous Kingston – A Framework for Economic Sustainability</td>
<td>2014</td>
<td>This policy recognises that the prosperity of the Kingston community is tied to the ability of the local economy to prosper and generate sustainable development. Access to a high quality integrated transport system that meets the needs of businesses and residents is seen as vital in maintaining and improving the economic prosperity of the municipality.</td>
<td>Whole document</td>
</tr>
<tr>
<td>Kingston Residential Strategy Update</td>
<td>2000, revised August 2007</td>
<td>The policy is an update to the Kingston Residential Strategy 2000 which was prepared to address residential development within Kingston. The strategy proposes that there will be residential consolidation and increased densities along major arterial roads such as Nepean Highway and close to public transportation (close to Bonbeach Railway Station).</td>
<td>Whole document</td>
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<tr>
<td>Kingston Neighbourhood Character Guidelines</td>
<td>2008</td>
<td>The Kingston Neighbourhood Character Guidelines have been designed to identify different neighbourhood characters found within the diverse residential areas in Kingston and to provide guidance for residential development relevant to the neighbourhood character of each area. The typical neighbourhood characteristics found in Landscape Character Areas relevant to the Bondi Road, Bonbeach level crossing are of one to two storey, detached dwellings.</td>
<td>Whole document</td>
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<tr>
<td>Kingston Cycling and Walking Plan</td>
<td>2009 – 2013</td>
<td>This policy recognises the importance of walking and cycling in Kingston and advocates for increased pedestrian and cycling infrastructure, including dedicated paths or lanes and improved signage in order to meet local needs and demands.</td>
<td>Whole document</td>
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Figure 40 - Regional Planning Zones

Figure 41 - Regional Planning Overlays