METRONET

Victoria Park-Canning Level Crossing Removal

PROJECT DEFINITION PLAN AUGUST 2022

Contents

METRONET
partner agencies

Australian Government
BUILDING OUR FUTURE

GOVERNMENT OF WESTERN AUSTRALIA

Department of **Transport**

Public Transport Authority

Department of **Planning, Lands and Heritage**

GOVERNMENT OF WESTERN AUSTRALIA

Government of **Western Australia**
Department of **Communities**

DevelopmentWA

mainroads WESTERN AUSTRALIA

Aboriginal and Torres Strait Islander people are advised that this publication may contain images or names of people who are deceased.

Foreword

We all know how frustrating it is sitting at a level crossing waiting for one, two, sometimes three trains to pass by. The Victoria Park-Canning Level Crossing Removal project will be a game-changer for commuters, pedestrians, cyclists, and neighbouring communities as we remove five level crossings along the Armadale Line and replace them with elevated rail.

The level crossings at Mint Street, Oats Street, Welshpool Road, Hamilton Street, and Wharf Street were identified as priority crossings to be removed from the rail network to reduce safety risks and create public open space by releasing currently inaccessible land in the rail reserve.

While the Federal Government finalises its funding commitments as part of the next budget, planning will continue on the William Street level crossing removal.

Elevated rail creates an opportunity to address safety issues along the Armadale Line, while maintaining thoroughfares for motorists and serving as a catalyst for better design, placemaking and development of open community spaces.

New elevated stations will be also built at Carlisle, Oats Street, Queens Park, and Cannington, which will enable safer and improved rail connections to schools and local businesses.

METRONET is all about connecting the community and for the first time in a century this will remove parts of the rail barrier that have separated communities.

This project will revitalise Victoria Park and Cannington, with significant land freed up for open space and new community activation. The community and other key stakeholders, such as local government authorities, will play a key role in shaping these spaces.

Thousands of local jobs and opportunities for local businesses will be supported and created over the life of the project.

The Victoria Park-Canning Level Crossing Removal Project is Perth's first major elevated rail and is one of three METRONET projects set to transform the 129-year-old Armadale Line, improving travel for our south-eastern suburbs, and creating more opportunities for thousands of residents.

Hon Rita Saffioti MLA
Minister for Transport; Planning

Project snapshot

Up to **6** level crossings removed

4 new elevated stations

6 hectares of new public open space under rail

Carlisle Station*

- **New elevated station** with marginal platforms
- **733** daily boardings projected for 2031
- **50** parking bays
- **2** bus stands
- **20** bicycle bays
- **4** lifts and **2** stairs
- Universal access
- Security - open station design, lighting, CCTV

Oats Street Station*

- **New elevated station** with marginal platforms
- **3916** daily boardings projected for 2031
- **100** parking bays
- **8** new bus stands
- **110** bicycle bays
- Passenger toilets
- **4** lifts and **4** stairs
- Universal access
- Security - open station design, lighting, CCTV, transit officers

*Final details of station features are subject to a detailed design process and may change.

2 sections of elevated rail on new viaducts

2 bus interchanges

1 rail-over-road bridge

Queens Park Station*

- **New elevated station** with marginal platforms
- **1392** daily boardings projected for 2031
- **90** parking bays
- **30** bicycle bays
- Passenger toilets
- **4** lifts and **2** stairs
- Universal access
- Security - open station design, lighting, CCTV

Cannington Station*

- **New elevated station** with an island platform
- **4778** daily boardings projected for 2031
- **290** parking bays
- **16** new bus stands
- **50** bicycle bays
- Passenger toilets
- **2** lifts, stairs, and escalators
- Universal access
- Security - open station design, lighting, CCTV, transit officers

Beckenham Station*

Planning underway for an elevated Beckenham Station while Federal funding is finalised.

Executive Summary

Strategic Need

The State Government's urban growth strategy, *Perth and Peel @ 3.5 million*, estimates the greater metropolitan population will increase to 3.5 million by 2050. To accommodate this projected population growth, and to protect lifestyle values into the future, the strategy is focused on creating a connected city that is liveable, prosperous and sustainable, linking metropolitan centres with priority public transport.

In addition to *Perth and Peel @ 3.5 million*, the Victoria Park-Canning Level Crossing Removal project (the project) is strongly aligned with policy objectives associated with integrated transport and land use planning.

This will deliver Perth's first major elevated rail solution. The project, which will remove five level crossings on the Armadale Line, between Victoria Park and Cannington, is expected to deliver significant value to the community, including:

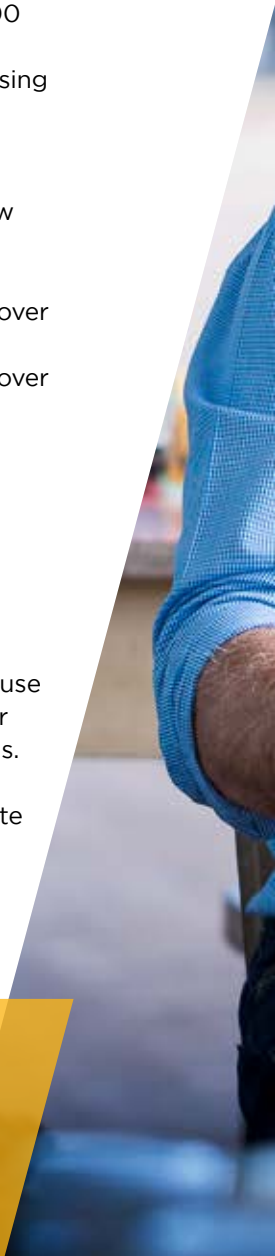
- Improved safety through the removal of railway level crossings, eliminating the risk of conflict between trains and road users, cyclists and pedestrians;
- Improvements to stations on the Armadale Line, through four new elevated train stations with modern facilities to replace the existing older stations;
- Increased amount of available public open space, by unlocking land in the rail reserve for community use;
- Improved amenity along significant sections of the rail reserve, through removing fencing, track and overhead power lines which form a visual and physical barrier;
- Reduced congestion and improved journey time and reliability for road users, by removing boom gates that currently cause lengthy and unpredictable delays;
- Supporting the Public Transport Authority (PTA) to operate longer and more frequent train services without increasing safety risks and delays for road users and pedestrians; and
- Reduced car use and providing an attractive travel alternative to major employment and services nodes at Armadale, Cannington and the Perth Central Business District (CBD), leading to improved accessibility and environmental outcomes.

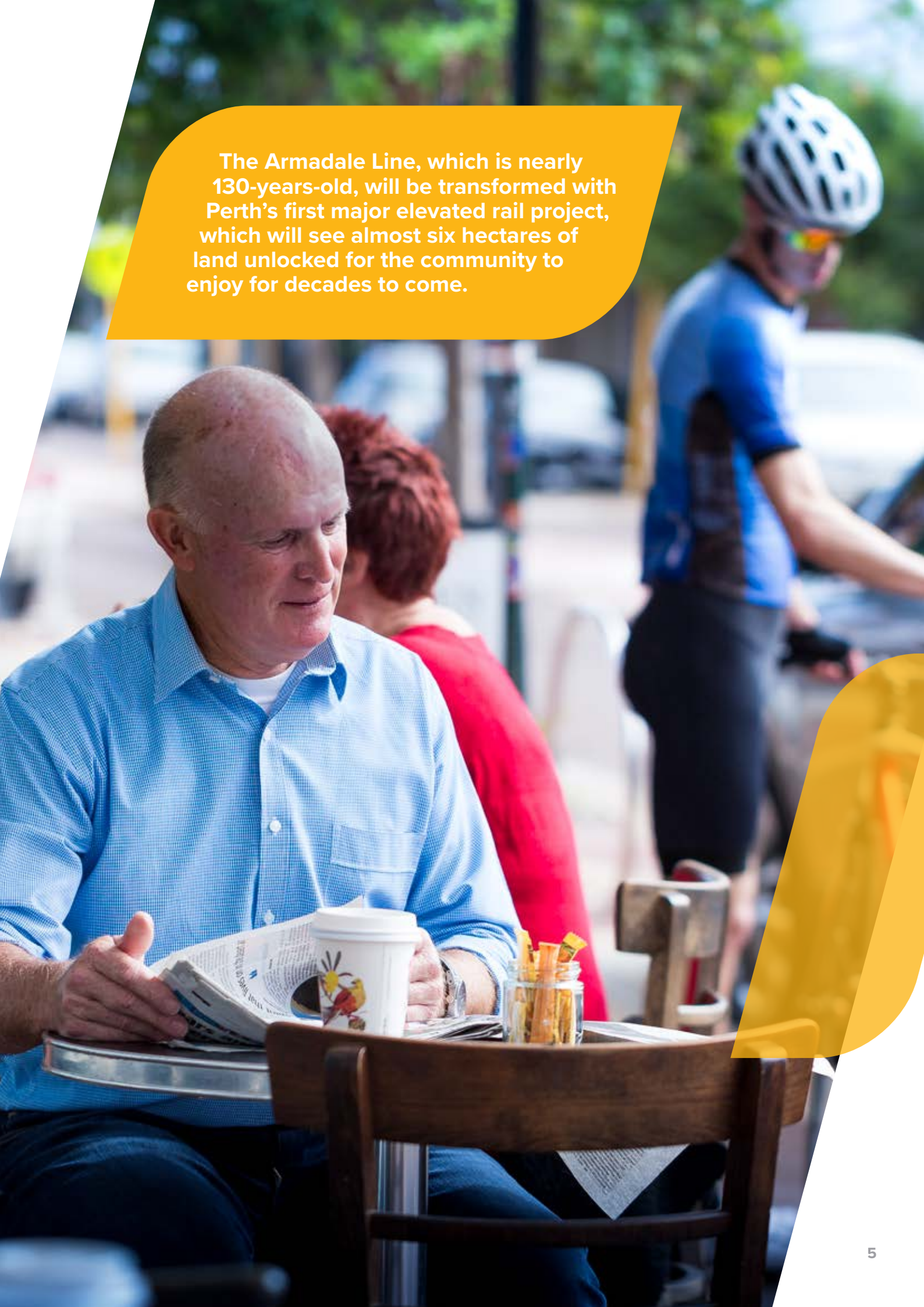
The Project

The transport infrastructure investment includes:

- Removing five priority level crossings at Mint/ Archer Street, Oats Street, Welshpool Road, Hamilton Street, and Wharf Street;
- Building four new elevated stations at Carlisle, Oats Street, Queens Park, and Cannington complete with station infrastructure including parking, bus interchanges (excluding Carlisle and Queens Park), cycling facilities, passenger amenities and standard station systems to cater for an estimated total of over 10,000 daily boardings in 2031;
- Planning for the William Street level crossing and elevated Beckenham Station while Federal funding is finalised;
- Closing Welshpool Station due to low patronage and close proximity to the new upgraded Oats Street and Queens Park stations;
- Constructing one section of rail viaduct, over Mint Street and Oats Street;
- Constructing one section of rail viaduct, over Hamilton Street and Wharf Street;
- Constructing a rail-over-road bridge at Welshpool Road; and
- Constructing shared path connections in proximity to the stations to connect to existing pedestrian and cyclist networks.

As a result of the integrated METRONET approach, the project will also facilitate land use solutions that promote and encourage higher density development around the new stations. These precincts will be planned for longer-term transit-oriented development to promote liveability, connectivity, increased housing diversity, improved community amenity and local employment opportunities.





The Armadale Line, which is nearly 130-years-old, will be transformed with Perth's first major elevated rail project, which will see almost six hectares of land unlocked for the community to enjoy for decades to come.

Project Objectives

The project creates an opportunity to:

- Reduce safety risks, congestion and potential conflict between trains and road users at the identified level crossings;
- Improve the urban environment by releasing currently inaccessible land in the rail reserve to create public open space and remove barriers along the rail line;
- Improve connectivity and integrated transport options within Perth's south-east;
- Reduce car dependency and congestion, and change travel behaviours within Perth's south-east and within Greater Perth;
- Improve liveability through the creation of integrated station precincts, that build on the character and identity of the local area and encourage urban consolidation and place making;
- Mitigate project deliverability risks by minimising impacts where possible to major infrastructure, community infrastructure, amenity, and the environment; and
- Unlock the economic development potential of Perth's south-east and provide improved access to employment opportunities.

Delivery Strategies

Armadale Line Shutdown

The 129-year-old Armadale Line is set to be transformed through major METRONET projects – the Byford Rail Extension, Victoria Park-Canning Level Crossing Removal, and Thornlie-Cockburn Link.

These projects include extending the train line to Byford, tying in the Thornlie-Cockburn Link at Thornlie Station, and elevating the rail throughout Victoria Park and Cannington.

To enable work on these three projects to occur as quickly and safely as possible, the Armadale Line will be shut for up to 18 months, starting in late-2023.

An extended shutdown means these projects can be built over a shorter timeframe and provide certainty for train replacement services.

A number of shutdown options were examined, with the extended shutdown the least disruptive over the longer term.

Concept design only. Subject to change as detailed design continues.

Concept design only. Subject to change as detailed design continues.

Transport Infrastructure

Recognising the complexity, the project has been categorised into two packages. Sites have been grouped together based on their proximity, impacts of changes to neighbouring level crossings, and the construction and cost efficiencies in packaging as opposed to treating them as individual projects.

The works will be largely divided into three broad programs of work:

1. **Forward Works** - including geotechnical field investigations, survey works, and the relocation and protection of the overhead Western Power services.
2. **Oats Street Package** – includes all rail systems and infrastructure from Miller Street Bridge through to Leach Highway Bridge, all stations, and facilities along the alignment, and all works beneath the viaduct.
3. **Wharf Street Package** – includes all rail systems and infrastructure from Leach Highway Bridge through to north-west of William Street, all stations, and facilities along the alignment, and all works beneath the viaduct.

Timing

Early works to relocate major Western Power assets will commence mid-2022.

Major works for the project will begin at the start of the 18-month Armadale Line shutdown, starting in late-2023.

1 METRONET Overview

METRONET is the State Government's vision to integrate transport and land use planning in Western Australia and provide a framework to support sustainable growth of greater metropolitan Perth over the next 50 to 100 years.

More than just a rail infrastructure program of works, METRONET planning goes beyond the station forecourts to shape and support the development of communities within the surrounding walkable catchments.

METRONET will transform Perth with connected communities and new opportunities for business and jobs to grow.

The Victoria Park-Canning Level Crossing Removal project is one of a series of METRONET projects that will add significantly to Perth's public transport network. Combined, METRONET Stage One is proposed to deliver approximately 72km of new passenger rail and 22 new stations (Figure 1). This represents the single largest investment in public transport in Perth's history and will give people a viable alternative to using a car.

METRONET will create the opportunity to transform Perth through an expanded rail network that will see urban intensification in more than 8,000 hectares (ha) of land within walking distance of the stations, supporting delivery of the State's metropolitan growth strategy *Perth and Peel @ 3.5 million*.

METRONET projects include:

- Forrestfield-Airport Link;
- Yanchep Rail Extension;
- Thornlie-Cockburn Link;
- Morley-Ellenbrook Line;
- New Bayswater Station;
- Byford Rail Extension;
- Midland Station;
- Lakelands Station;
- Karnup Station;
- Level Crossing Removal on the Armadale and Midland Lines;
- Mandurah Station Multi-Storey Car Park;
- High Capacity Signalling; and
- Railcar Procurement.

All METRONET projects are planned to meet the requirements of the METRONET Public Art, Gnarla Biddi and Sustainability strategies.

Figure 1: METRONET projects

2 Project Overview

The Victoria Park-Canning Level Crossing Removal is a city-shaping project that will deliver Perth's first major elevated rail solution. The project will remove five level crossings on the Armadale Line, between Victoria Park and Cannington, with the level crossings proposed for removal categorised into two packages, as outlined below.

Oats Street Package

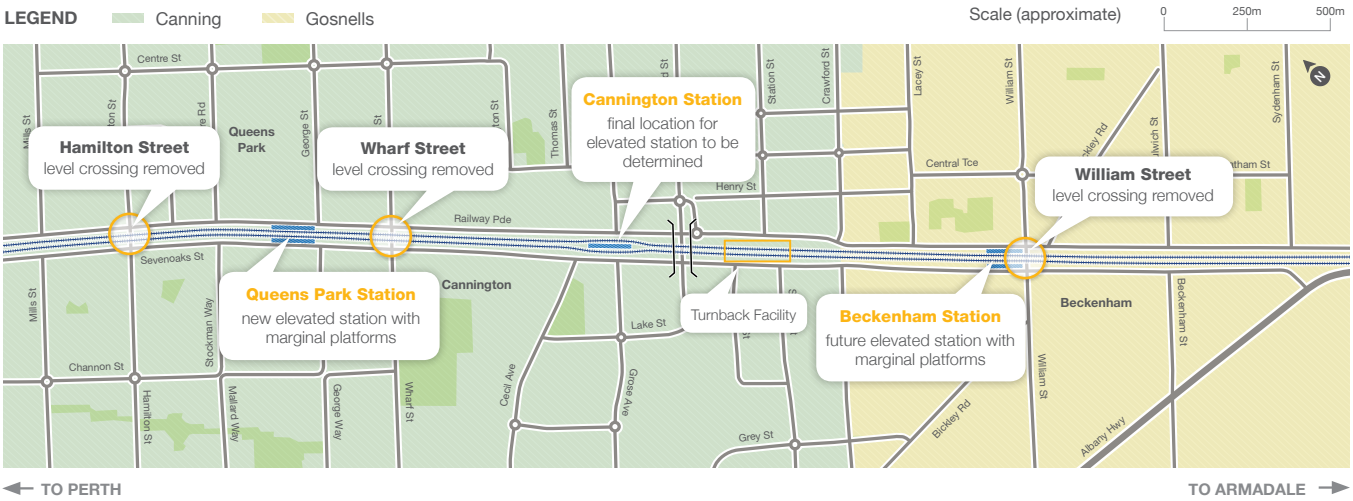
- Three level crossings will be replaced by an elevated rail solution. Rising on an embankment from Miller Street, just before Mint/Archer Street, a continuous viaduct structure will begin for approximately 1.4km in length over Mint/Archer Street and Oats Street. The rail line will return to grade south-east of Oats Street Station and be raised over Welshpool Road on a rail-over-road bridge approximately 160m in length.
- Welshpool Station will close due to low patronage, and two new elevated stations will be constructed to replace the existing Carlisle and Oats Street stations. These new stations will be serviced by new park 'n' ride facilities, as well as a bus station at Oats Street, with improved accessibility to station platforms.
- The viaduct structure over Mint and Oats streets will convert the existing rail corridor into around 3.8ha of new public open space, with new pedestrian and cycling connections.

Figure 2: Oats Street package alignment and station locations

Wharf Street Package

- Two level crossings will be replaced by an elevated rail solution. Rising on an embankment from Mills Street, just before Hamilton Street, a continuous viaduct structure will begin for approximately 1.8km in length over Hamilton Street and Wharf Street. The rail line will return to grade north west of the Gerard Street bridge.
- The viaduct structure will convert the existing rail corridor into around 2.5ha of public open space, with new pedestrian and cycling connections.
- Two new elevated train stations will also be constructed to replace the existing Queens Park and Cannington stations. These new stations will be serviced by new park 'n' ride facilities, as well as a bus station at Cannington, with improved accessibility to station platforms.
- Planning continues for the removal of the William Street level crossing and elevated Beckenham Station.

Figure 3: Wharf Street package alignment and station locations



The project is strongly aligned with policy objectives associated with integrated transport and land use planning and will deliver a range of economic, social, and environmental benefits through improved transport and land use outcomes.

City Shaping Benefits:

- Significantly improves safety by removing railway level crossings, eliminating the risk of conflict between trains and road users, cyclists, and pedestrians.
- Significantly improves stations on the Armadale Line, through the construction of new elevated train stations with modern facilities to replace the existing older stations.
- Increases the amount of available public open space by unlocking land in the rail reserve under the viaduct structures and making it accessible for community use.
- Improves amenity along significant sections of the rail reserve by removing fencing, track and overhead power lines which form both a visual and physical barrier.

City Transport Benefits:

- Reduces congestion and improves journey time reliability for road users, through the removal of boom gates that currently cause lengthy and unpredictable delays.
- Supports the PTA to operate longer and more frequent train services without increasing safety risks and delays for road users and pedestrians.
- Reduces car use and provides an attractive travel alternative to major employment and services nodes at Armadale, Cannington, and the Perth CBD, leading to improved accessibility and environmental outcomes.

2.1 Planning Context

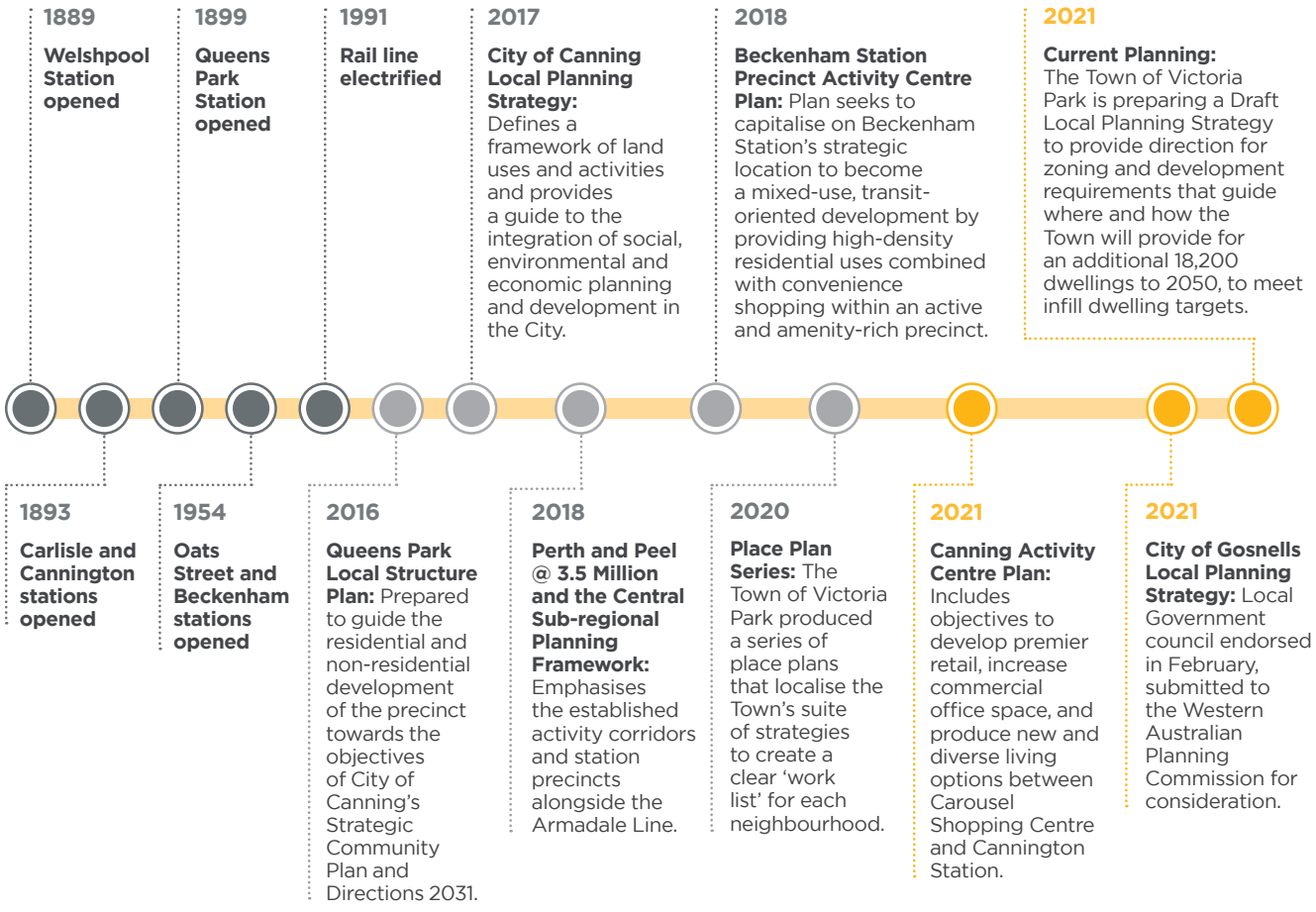
From the early 1890s, the inner suburbs along the Armadale Line began to grow following land estate releases. Suburban growth also followed the Perth to Pinjarra railway (now Armadale Line).

These suburbs largely predate formalised regional planning, such as the Stephenson Hepburn Plan (1955), and development around stations is generally suburban, commercial, or industrial in nature.

Subsequent metropolitan sub-regional and local strategic plans have supported intensifying uses along major transport corridors, including the Armadale Line, such as the *Perth and Peel @ 3.5 million* strategy.

The project will provide upgraded transport infrastructure and new public space to complement development undertaken by local governments and the private development sector.

Figure 4: North Armadale Line planning context (1889-present)



2.2 Transport Context

The Armadale Line has been operational across this corridor for more than 129 years, with stations added over time in response to population growth and land release.

The rail line and stations reflect the area's heritage character by providing smaller, local scale stations located within 800-1000m of each other, with limited amenities and parking, with only Cannington Station providing over 100 car parking bays.

Within this project area, the existing bus interchange facilities are provided at two stations and most passengers access the stations on foot.

As the population and economic activity have grown in the area over time, traffic congestion at level crossings has also increased and will continue to increase with the population growth and new projects in the area.

2.3 The Project

2.3.1 Operations

Passenger boarding numbers are expected to be in line with Table 1 below. The "current" passenger boardings have been drawn from 2019 (rather than the most recent figures) as these are a more accurate reflection of pre-COVID-19 patronage.

Table 1: Passenger boardings per station.

Station	2019 Weekday Boardings	2031 Forecast Boardings
Carlisle	482	733
Oats Street	1766	3916
Welshpool	365	Station closed – patronage expected to transfer to Oats St or Queens Park
Queens Park	866	1392
Cannington	2910	4778

To meet peak demand Armadale/Thornlie line services will operate at 12 trains per hour (TPH) – using four-car A-Series trains; eight on the Armadale Line and four on the Thornlie Line when services commence.

2.4 Land Use Integration

Following an Integrated Transport and Land Use Planning (ITLUP) approach (Figure 5), the METRONET Office has undertaken a preliminary evaluation of proposed station precincts to identify development opportunities. The evaluation included:

- Baseline analysis of existing precinct context and potential development opportunities;
- Identification of future precinct typologies and land use characteristics;
- Assessment of market profile and demand;
- Estimated future land use yields (medium and longer term); and
- Prioritisation of station precincts for planning/ development intervention.

Preliminary Place Plans, focused on the immediate area around the station and within the limit of the project area, have been prepared to support the integration of the public realm with the transport infrastructure. Final Place Plans will be prepared through the next stages of delivery, in consultation with key landowners, developers and stakeholders.

Figure 5: METRONET Integrated Transport and Land Use Planning (ITLUP) approach

Station precinct analysis	A detailed analysis of each precinct using Western Australia's Integrated Land Information Database (ILID) and site verification identified latent land use potential that can be realised through transport infrastructure investment. This will inform opportunity identification for each precinct.
Precincts policy	To facilitate the proper application of existing policy and address gaps to deliver optimal outcomes, a policy framework will inform planning, design and assessment approaches to integrate transit within precincts. The framework includes: • **Station Precinct Design Guide:** addresses the integration of transit within new or existing centres and provides a methodology to identify the long-term role, function and form of stations and associated precincts with a precinct typology hierarchy suggesting scale, development intensity, land use, infrastructure and urban design considerations. • **Precinct Design:** addresses the integration of transit within new or existing centres, including station integration, land use, built form, movement network and landscape considerations and will be used in combination with the State Governments State Planning Policy 7 Design of the Built Environment policy suite.
Station precinct planning	During the Business Case phase, existing planning around proposed stations has been reviewed and opportunities identified including potential future station precinct yields. Preliminary Place Plans were developed during the PDP phase and following project approval, Final Place Plans will be developed for station infrastructure via a collaborative process with local governments, state government planning and land development agencies and private landowners to inform station infrastructure delivery and provide a foundation for further detailed precinct planning. Where a review of the planning framework is required to enable broader station precinct outcomes, Precinct Plans will be delivered by the relevant lead agency, applying the same methodology.
Economic and market assessment	To best consider the scale of land development for METRONET projects, each project undertakes a property market assessment to: • Identify potential land use mix within the precincts; • Identify anticipated absorption rates across land use sectors; and • Advise on priorities and identify development staging timeframes.
Infrastructure coordination	The State Government's netVIEW platform is being used to analyse short, medium and long-term infrastructure requirements. METRONET will be working with the newly formed Infrastructure WA office to ensure cross-government coordination including the timely delivery of services to support METRONET transport infrastructure and station precincts.
Planning and development certainty	Along with transport infrastructure investment, planning and development certainty is essential to stimulate investment in METRONET station precincts and clarify future land use expectations. To optimise the benefit and return from the METRONET investment in public transport infrastructure, the METRONET Expenditure Review Committee Sub-Committee and Taskforce has confirmed that State intervention may be required in some locations to achieve planning and development certainty. The State Government has two legislative models available depending on the level of intervention required: • Redevelopment Areas and Schemes under the *Metropolitan Redevelopment Authority Act 2011*; and • Improvement Plans and Schemes under the *Planning and Development Act 2005*. The METRONET Office is reviewing each station precinct to recommend the preferred planning and development model.
Early activation	To deliver early development activity and amenity around new stations to improve passenger comfort and experience, METRONET is developing strategies to potentially catalyse early private sector investment and community development. The METRONET Office is working with landowners to determine the necessary infrastructure and development needs that will support the start of station operations.

3 Strategic Justification

Three nationally significant transport and land use problems relating to level crossings have been identified.

- **Problem One:** The conflict between trains, vehicles and pedestrians at level crossings creates a significant safety risk.
- **Problem Two:** Boom gate closures represent a constraint on road capacity causing travel delays and unreliable travel times, especially in peak periods.
- **Problem Three:** Level crossings with lengthy boom gate closures reinforce community severance and reduce amenity.

In addition to addressing the identified problems, three opportunities were recognised as important to achieving broader strategic outcomes.

- **Opportunity One:** To reduce safety risks and congestion at level crossings, eliminating potential conflicts between trains and users of the road, cycling and pedestrian networks.
- **Opportunity Two:** To lay the foundations for an improved urban environment adjacent to station precincts and the rail line by releasing currently inaccessible land in the rail reserve, creating public open space, and removing barriers across the railway line.
- **Opportunity Three:** Improving amenity will act as a potential catalyst for further development and densification adjacent to the station precincts.

Based on these problems and opportunities, METRONET defined the strategic project objectives as shown in the table below.

Table 2: Strategic project objectives

The project seeks to:	
1	Improve safety
2	Reduce congestion
3	Support rail capacity growth
4	Enhance local communities

3.1 Supporting Economic, Metropolitan and Regional Growth and Addressing Service Gaps

Opportunities exist to strengthen the WA economy and to increase employment, with Perth's south-east playing an important role in accommodating a significant portion of this future population and economic growth. There is also an opportunity to revitalise the existing urban development in the area by providing enhanced transport connectivity and well-planned transit-oriented precincts. The project is closely aligned to a number of existing policies and strategies, such as the State Planning Strategy 2050 (WA), Perth and Peel @ 3.5million, and the respective Local Planning Schemes and Plans.

Table 3: Strategic drivers

Strategic Driver	Description
Safety and connectivity	The removal of five level crossings will greatly improve safety for road users, cyclists, and pedestrians. This further reduces congestion and improves journey time reliability for road users, through the removal of boom gates that currently cause lengthy and unpredictable delays.
Station and precinct improvement	The creation of integrated station precincts will improve liveability, build on the character and identity of the local area and encourage urban consolidation and place making. The significant upgrade works will be a catalyst for change within the walkable catchment surrounding the stations by encouraging the transformation of underutilised land into precincts with a diversity of housing around the stations, high-amenity public spaces, and a greater diversity of land use to unlock the economic development potential of Perth's south-east.
Increase public open space and community amenities	The elevation of the railway enables the conversion of the currently inaccessible land in the rail reserve into public open space making it accessible for community use. The works further improves amenity along significant sections of the rail reserve by removing fencing, ground level track and overhead power lines which form both a visual and physical barrier.
Positive environmental impact	Providing these new high-quality infrastructure and stations will reduce the reliance on cars by providing an attractive travel alternative to major employment and services nodes at Armadale, Cannington, and the Perth CBD, leading to improved accessibility and environmental outcomes.

4 Route Corridor

4.1 Route and Station Locations

The project will remove five level crossings on the Armadale Line, between Victoria Park and Cannington.

The level crossings will be replaced by an elevated rail solution. Rising on an embankment from Miller Street, just before Mint/Archer Street, a continuous viaduct structure will begin for approximately 1.4km in length over Mint/Archer Street and Oats Street. The rail line will return to grade south-east of Oats Street Station and be raised over Welshpool Road in a rail-over-road bridge section approximately 160m in length.

Welshpool Station will close, due to low patronage, and two new elevated stations will be constructed to replace the existing Carlisle and Oats Street stations.

The rail will return to grade passing through the existing Leach Highway overpass, then rising on an embankment from Mills Street, just before Hamilton Street. A continuous viaduct structure will begin for approximately 1.8km in length over Hamilton Street and Wharf Street. The rail line will return to grade north west of the Gerard Street bridge.

Two new elevated train stations will also be constructed to replace the existing Queens Park and Cannington stations.

The project will improve the urban environment by releasing currently inaccessible land in the rail reserve to create public open space and remove barriers along the rail line.

4.2 Environmental Considerations

The State Government takes its environmental obligations very seriously and every opportunity is made to avoid, minimise, or rehabilitate environmental impacts as much as possible.

METRONET aims to work in a sustainable way by providing an environmentally friendly transport option. Infrastructure projects require land to build them on, and while every effort is made to construct new transport facilities in established corridors, sometimes this is not practical.

The project area covers an established brownfield site, being used primarily as an active rail corridor. Surrounding the corridor are a range of urban activities, including residential, industrial and community uses.

Cooperation will continue with the Environmental Protection Authority (EPA) and other State and Commonwealth environmental agencies to adequately identify and assess the environmental values of the area and further refine the project's footprint.

4.2.1 Noise and vibration

The PTA has developed a baseline noise model for the Armadale Line that establishes the current level of noise received by noise sensitive premises, which are predominantly residential dwellings, surrounding the project area.

Drawing from this model, the PTA has commissioned a noise and vibration assessment to evaluate the project's potential impacts to adjacent properties. The assessment will recommend the type and location of mitigation measures to achieve compliance with *State Planning Policy 5.4 Road and Rail Noise* (SPP 5.4) (WAPC) (2019) where required.

Some mitigation measures, such as noise walls, may have negative impacts on neighbouring amenity in residential areas and any design should consider reducing these impacts. Consultation with stakeholders and the adjacent community may also provide an opportunity to reduce the extent of any required treatments, should visual and amenity impacts be deemed to outweigh the mitigation.

Construction noise and vibration will be required to comply with the *Environmental Protection (Noise Regulations) 1997* in order to minimise impacts to the community.

4.2.2 Amenity

The project is in an established urban area comprising a mix of uses, such as residential, industry and commercial, and open space. Residential suburbs include Carlisle, East Victoria Park, Queens Park, and Cannington.

The replacement of the at-grade rail line and stations with elevated rail and platforms provides an opportunity for improved amenity and connectivity. Visual impacts will be assessed and managed through the landscape and architectural planning and design.

4.3 Heritage Considerations

4.3.1 Aboriginal heritage

As a signatory to a Noongar Standard Heritage Agreement in accordance with the Whadjuk People Indigenous Land Use Area, the PTA is required to submit an Activity Notice (AN) to the South West Aboriginal Land and Sea Council (SWALSC) to determine the requirement for Aboriginal Heritage Survey of the project area. An AN was obtained prior to any ground disturbing works.

4.3.2 Aboriginal heritage sites

The Department of Planning, Lands and Heritage's (DPLH) Aboriginal Heritage Inquiry System (AHIS) identifies one 'other heritage place' within the project area near Hamilton Street (Site ID 3633). The status of Site ID 3633 is being investigated further and appropriate approvals will be obtained, if required.

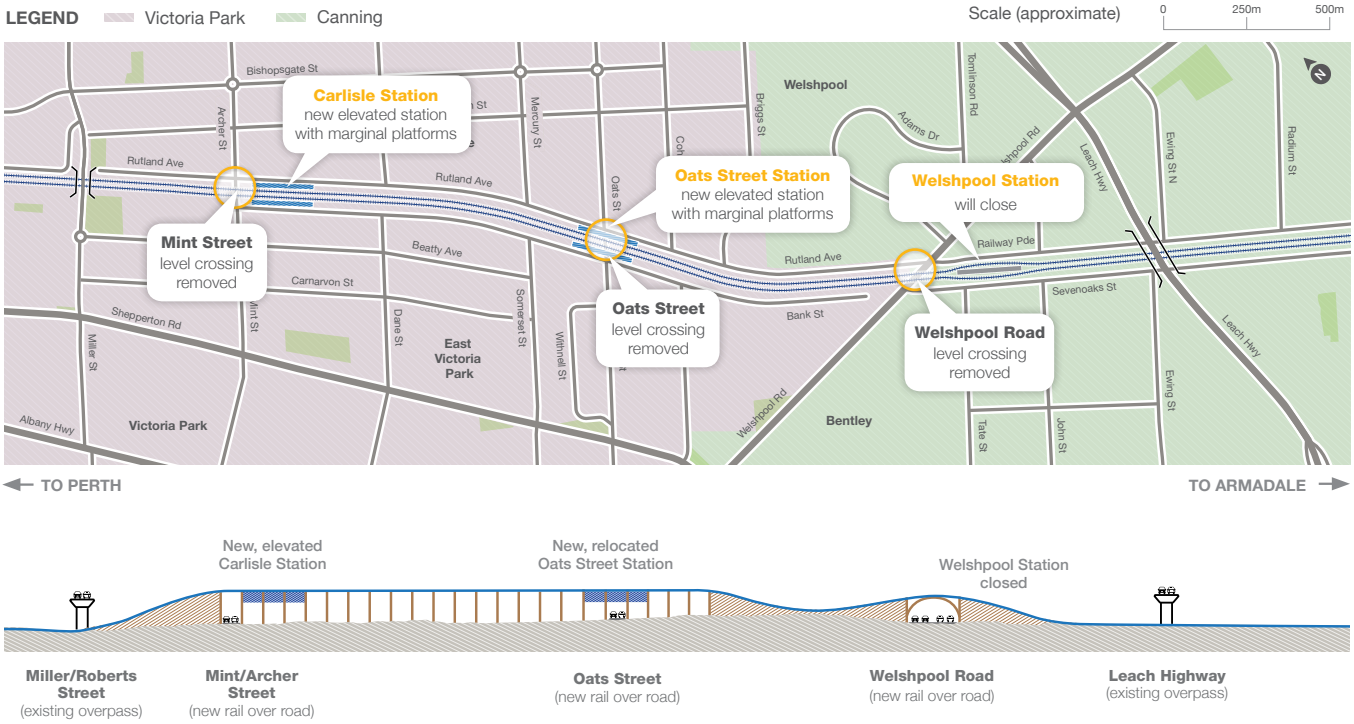
4.3.3 European heritage

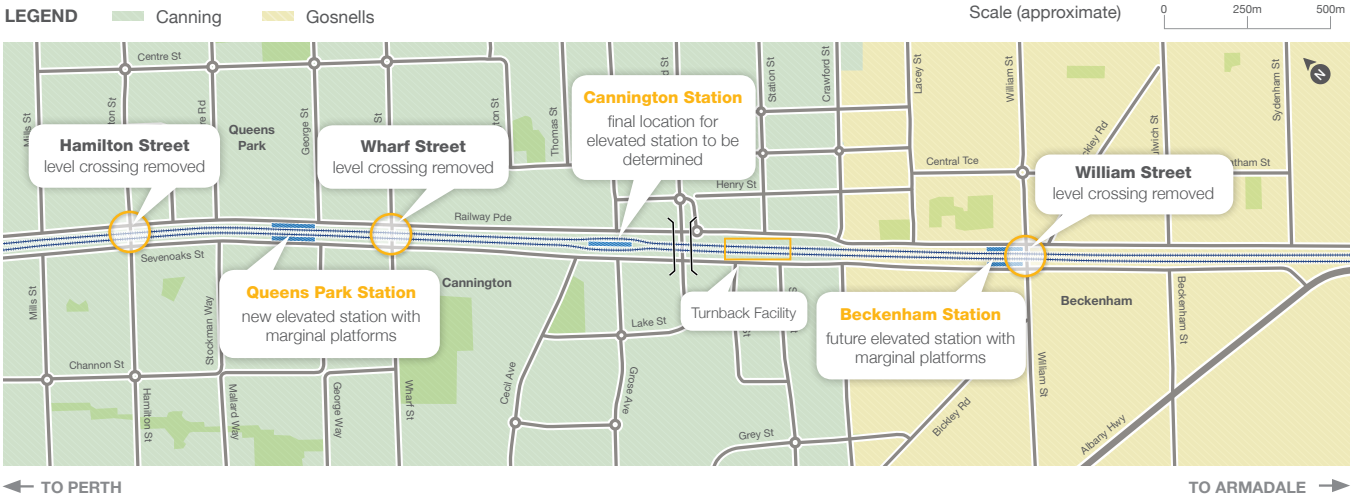
There are no State Registered sites of European heritage significance located in or nearby the project area.

There are a number of identified sites of local heritage significance in the local government municipal inventories. These sites will be considered in the detailed design process.

No additional European heritage investigations will be undertaken for the project.

Figure 6: Rail alignment and structures





5 Transport Operations and Infrastructure

5.1 Rail Operating Strategy

5.1.1 Day one service frequency

When the project is completed, this section of the Armadale Line will cater to trains operating between Armadale/Byford and Perth along with trains between Cockburn Central/Thornlie and Perth. The frequency of service will be similar to current timetables.

5.1.2 2031 Service Frequency

With retirement of the A-Series trains expected to begin around 2026, the three-car B-Series trains (currently used on the Mandurah and Joondalup lines) will be moved to the Armadale Line.

The existing signalling capacity on the Thornlie and Armadale lines is approximately 15-16 TPH. Based on PTA's longer term planning, three-car B-Series trains could meet demand in 2031 with the introduction of Automatic Train Control (ATC).

5.1.3 Regional train operations

One regional train, the diesel Australind service operated by TransWA, currently operates on the Armadale Line.

Within the urban network Australind passengers can board and alight at Armadale and Perth stations. As per current operations it is proposed the Australind will operate express between Armadale and Perth. The Australind will also continue to stop at Byford after the urban lines have been extended.

5.1.4 Turnback facilities

A double ended centre line turnback facility will be installed to the east of Cannington Station based on operational and functional requirements. This will replace the existing siding.

5.2 Bus Operating Strategy

5.2.1 Current bus services

Oats Street and Cannington stations both serve as regionally significant interchange points in the project area. Both interchanges are already operating beyond their capacity and require redesigned facilities as part of the project.

Oats Street Station currently hosts five bus routes, which include the Circle Route, routes between Kalamunda and the CBD, and a local route serving the Kewdale industrial area.

Cannington Station is served by 14 bus routes, with a catchment in the south-east of the metropolitan area that spans from Midland to Murdoch, with links to the CBD.

5.2.2 Day One service frequency

The existing bus network service level will remain unchanged. The proposed local route between Oats Street and Cannington stations will operate weekdays only, with a frequency of 15-minute peak-period and hourly off-peak. This service frequency will remain the same for the foreseeable future.

5.3 Infrastructure

5.3.1 Civil works

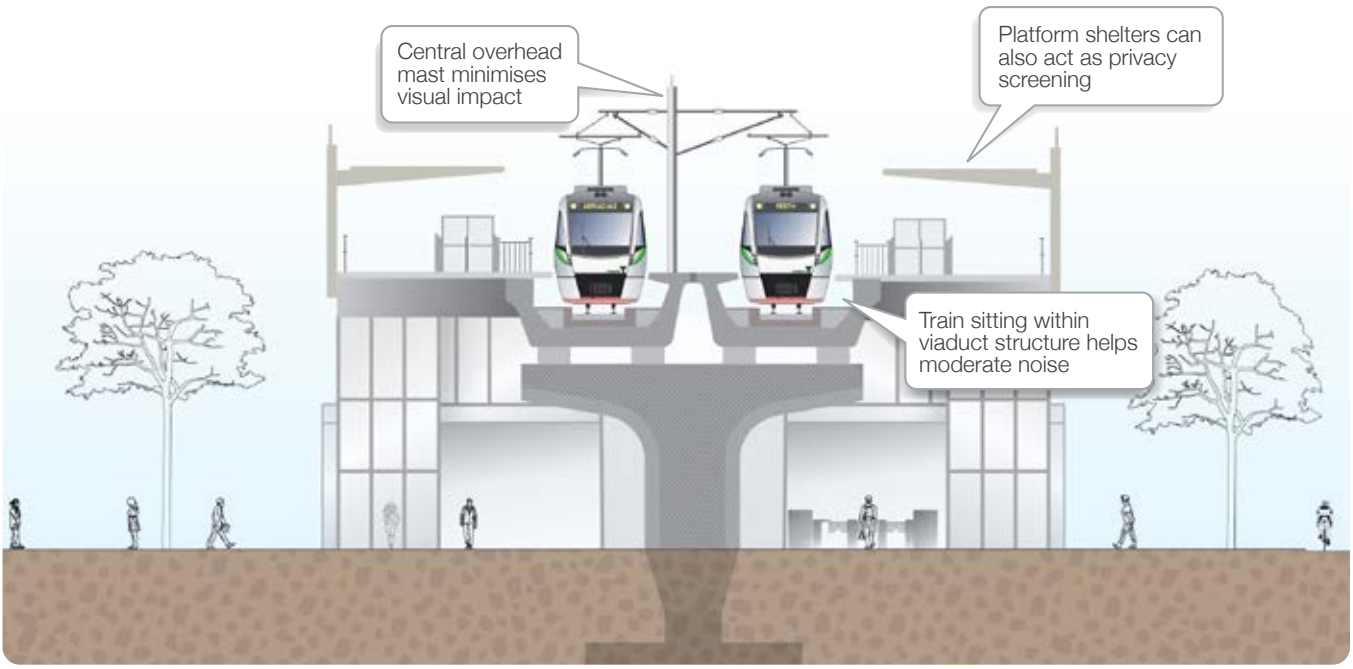
Removing level crossings at Mint, Oats, Hamilton, and Wharf streets and Welshpool Road will impact the configuration of numerous roads within the project area and adjacent intersections.

Required intersection modifications will be undertaken in consultation with Local Government Authorities and where signalised, Main Roads WA.

In all instances, the existing rail level crossings will close and be replaced with rail-over-road grade separations/viaducts.

5.3.2 Viaduct Structures (cross section designs)

Figure 7: Example of a station cross-section – design concept only.



At stations, the underside of the viaduct will be between five and six metres high from ground level. The design for piers and superstructures will seek to integrate structural elements and services, be visually attractive, complement the landscape design and station architecture, provide for safe and active public spaces, and to mitigate noise impacts.

The track concept design has been developed to be compatible to engineering designs for all interfacing or related disciplines.

5.3.3 High Quality Shared Path

A high quality shared path runs parallel to the rail line adjacent to Rutland Avenue and Railway Parade for the length of the project. The shared path is a key part of the Long Term Cycle Network and is defined in the WA Bicycle Network Plan as a high demand corridor that connects to major destinations, providing a high quality, safe, convenient and (where possible) uninterrupted route that forms the spine of the cycle network.

The design provides the alignment of the shared path alongside the rail corridor, at stations and at road crossings, as well as pavement treatments, adjacent landscaping and design features to provide a safe and convenient path. The shared path crosses all streets within the project area at-grade, with the exception of Welshpool Road, which is proposed to be grade separated with a bridge to take the shared path over the road. The design of the project will not preclude the installation of a principal shared path in future.

The project will provide additional alternative shared paths to provide for pedestrians, local cyclists and other users, and to connect key local routes and destinations.

5.3.4 Traction power and overhead line equipment

The PTA's existing traction power Supervisory Control and Data Acquisition (SCADA) monitoring system will need to be modified to accommodate the project's proposed design and works.

Required modifications include office-based SCADA HMI screen modification of the Citect and support for any new or replacement manual isolators and Remote Terminal Units (RTUs), as well as updated systems diagrams showing new communication flows.

5.3.5 Signals and systems

The signalling system will include three-aspect colour light signals, supplemented with ASTS L10000 automatic train protection, in keeping with the PTA's current standards and Code of Practice.

The PTA's existing train control system will be modified to incorporate the signalling and systems requirements for the project.

A digital radio system to interface with the PTA network-wide digital radio system will also be provided to interconnect all new communications, signals and control systems, including:

- Train control;
- Traction Power SCADA;
- Infrastructure Monitoring SCADA (IMS);
- CCTV networks;
- Station services; and
- Radio and signals control and indication sites

A holistic fire safety design will be applied to new and modified stations, which incorporates structural fire resistance, smoke, hazard management, egress strategies and firefighting provisions. This will be done utilising the existing PTA fire monitoring system.

Railway infrastructure, station buildings and structures, systems and services, will be earthed and bonded in accordance with the PTA's standards to ensure safety and asset protection.

5.3.6 Rail corridor access points

Along the rail corridor, access points will be provided for personnel to:

- Undertake regular maintenance activities within the rail corridor; and
- Access (and egress) the area in the event of an incident or emergency.

Maintenance access is provided along the rail corridor via a combination of access gates, walkways, vehicular access, and on-track facilities. Critical equipment will be positioned close to access points where possible. Access to the new lengthy sections of viaduct is a key consideration for the project to ensure effective maintenance and emergency egress needs are accommodated.

5.3.7 Utility interface

As the project is located within an established land corridor that has historically been used by third-party utility providers, the project interfaces with a high number of existing services and utilities.

Initial consultation with utility owners has assisted to assess the impact of the works on their assets, develop concept schemes for relocation or protection, and estimate costs, where applicable.

As part of the project, there's major investment in removal of Western Power's overhead transmission lines to make room for future works and the elevated rail infrastructure.

5.3.8 Fencing and guard rail/road vehicle safety

As a result of introducing the viaduct rail system, existing fencing and access along the existing Armadale Line rail corridor will be removed where the rail network is elevated.

Allowance has been made for 1.8m high, barbed-wire fencing along the corridor boundaries where existing fencing will be removed to allow for construction of embankments, at-grade rail, and retaining structures shorter than 3m.

For the safety of maintenance personnel who require access to the retaining walls and viaducts, maintenance fencing is to be considered along the top of retaining walls, and fencing and security screens along the viaducts. Palisade fencing is to be provided around high security areas where required.

A safety handrail is proposed in between maintenance walkways and rail tracks for safer maintenance access, in line with PTA requirements.

Delivering the project in an existing rail corridor will require appropriate staging to minimise road impacts.

Traffic management during construction will require careful planning and consultation with key stakeholders to ensure minimal disruption and timely approvals. Traffic modelling and traffic impact assessments must be conducted to assess impacts on local roads and the wider road network during construction.

6 Stations and Precincts

6.1 Precinct delivery strategy

Up to five new elevated stations will be constructed to replace existing station buildings. Each station will be designed to modernise existing facilities and amenities for passengers and to improve the safety, wayfinding, and comfort of the station precinct, adding to the character of the local area.

The new and upgraded stations must be designed to:

- Align with METRONET objectives and program strategies;
- Meet Rail Safety Management Standard AS 4292;
- Minimise environmental impacts;
- Optimise quality, value for money and benefit to the community;
- Provide access, comfort and usability for the public and stakeholders;
- Implement the State Government's Design WA policies and guidelines;
- Minimise maintenance and life cycle cost; and
- Minimise capital costs and contractual risks.

Infrastructure at stations is designed to support the function of each station, including bus interchanges at Oats Street and Cannington stations, parking at all stations, local paths, and an upgraded shared path to provide pedestrian and cycle connectivity. The proposed amenities are designed to support travel by public transport and provide opportunities for community interaction within new public spaces.

This project will catalyse private investment and urban renewal through good design of the transport infrastructure and public realm outcomes, including:

- Investing in high quality architecture and landscaping;
- Moving the majority of the rail line and station infrastructure to the south-western side of the rail reserve, allowing a potential future duplication of the rail line or regional rail services and freeing up space on the north-eastern side for public space;
- New road infrastructure where level crossings have been removed, which caters to local bus and traffic access requirements, and provides clear, safe and comfortable pedestrian and cyclist movement priority through the use of appropriate traffic calming, road treatments, signage, and signalling;
- A predominantly ground-level shared path along the alignment;
- Local pedestrian paths constructed to connect with other activity nodes; and
- Public realm and open space opportunities created as a result of the elevated rail infrastructure, including linear parkland with trees, shade, seating and concentrated nodes of activity such as exercise areas and playgrounds.

The appointed Alliance will continue to collaborate with local governments and other state agencies on opportunities for activation and renewal of the broader corridor. This PDP does not address the costs and benefits associated with wider precinct development. Where State development agencies are leading the planning and development of station precincts, separate business cases may be developed for the Government's consideration.

Figure 8: METRONET Station Precincts

METRONET Station Precincts

METRONET has established station precinct typologies to identify the long-term role, function and form of stations and the associated precincts. The typologies are used to inform and guide the proposed station infrastructure design, integration and broader precinct outcomes sought at each station.

CITY CENTRE

Perth CBD has the highest concentration of jobs and services in the metropolitan region, and is served by three major railway stations to cater for the high volume of commuter traffic.

STRATEGIC CENTRE

The metropolitan region has a number of existing and planned strategic centres which are key locations for jobs, services and higher density housing outside of the Perth CBD.

TOWN CENTRE

Town centre precincts have increased density and a diversity of housing types, along with a retail and service centre that supports its district catchment and local employment.

NEIGHBOURHOOD CENTRE

Neighbourhood centre precincts are predominantly medium to higher density residential in character with retail and services that meet the daily needs of the local community.

SPECIALISED CENTRE

These precincts have a predominant focus on a specific activity, such as education, health, sport, science and innovation, or regional transport.

TRANSIT NODE

These precincts perform a primary transport interchange function, and generally include bus to rail transfer, station parking and drop off facilities.

6.2 Oats Street Package

6.2.1 Carlisle Station and Precinct (Mint Street level crossing)

Carlisle Station is located within the Town of Victoria Park, between Rutland Avenue and Bank Street and bound by the suburb of Carlisle to the north-east and East Victoria Park to the south-west.

The station currently experiences an average 482 weekday boardings (as at 2019), which is forecast to increase to approximately 733 boardings per day in 2031.

Under the METRONET Station Precinct Typology Framework, Carlisle Station is defined as a Neighbourhood Centre (refer to Figure 8) providing transit access to residents and supporting a basic mix of uses to meet the local community's needs.

6.2.2 Station design

The project will rebuild a new, elevated Carlisle Station with an entrance closer to Mint/Archer Street for direct access from the street.

The station's design aims to minimise the ground floor footprint and maximise the retention of as many existing trees as possible. The new platforms will be accessible by passenger lifts and stairs, with spatial provisions made for future escalators.

The landscape concept for Carlisle Station focuses on creating well defined paths supported by landscape treatments to direct pedestrians to safe road crossing points, while pedestrian pathways will provide convenient pedestrian and cyclist connections to the surrounding residential community to encourage passengers to walk and cycle to the station.

The station will have a dedicated space for secure bicycle parking and incorporates a 50-bay car park, as well as a pick-up/drop-off area with a universally accessible taxi drop-off space.

The station and broader precinct's landscaped areas should support stakeholder and community feedback to provide a community backyard as a breakout space for the local community.

6.2.3 Precinct opportunities

The following precinct opportunities have been identified:

- Investigate opportunity for transition of the Water Corporation Dane Street Sump into a new publicly accessible water sensitive urban design parkland with connections to the rail corridor;
- Investigate opportunities for precinct planning of the station precinct to provide for long-term delivery for higher density and increased mix of uses adjacent to the station and new open space; and
- Investigate opportunities for amenity improvement in the short to medium term in key streets around the station.

6.2.4 Planning status and development staging

Given the high proportion of privately held lots and prevailing pattern of subdivision in the broader precinct, significant urban intensification is expected to be challenging in the short-term, and is likely to be limited to market-led or local level planning interventions to facilitate change.

The Town of Victoria Park's Local Planning Scheme No. 1 and Carlisle Place Plan guide development surrounding the station and facilitate a mix of

Figure 9: Carlisle Station - future precinct opportunities

medium density residential and commercial land uses. It is anticipated the Town of Victoria Park will undertake a future review of the planning framework for the Carlisle Station precinct to investigate opportunities for higher-intensity land uses and building typologies to evolve. This review should consider the land immediately surrounding the station and commercial properties along Rutland Avenue and Archer Street.

6.2.5 Oats Street Station and precinct (Oats Street level crossing)

Oats Street Station is located within the Town of Victoria Park, approximately 8km from the Perth CBD. There are currently 1766 average boardings as at 2019 which is set to increase to 3916 in 2031.

Redevelopment opportunity exists in the area, with larger lots suitable for higher density zoning. The Town of Victoria Park planning schemes identify coordinated redevelopment around Oats Street and Carlisle stations as essential to encourage integration of multiple dwellings in the area.

Under the METRONET Station Precinct Typology Framework, Oats Street Station is defined as a Neighbourhood Centre (refer Figure 8) providing transit access to residents and supporting a basic mix of uses to meet the local community's needs.

6.2.6 Station design

The project will rebuild a new, elevated Oats Street Station over Oats Street, with a station entrance on either side of the road.

The two station entrances have been future proofed in terms of spatial provision for gated entries and escalators. However, Oats Street Station will be manned but not gated from day one. Passengers will access the elevated platforms via lifts or stairs, with around 70 per cent roof coverage along the platform's length.

Passengers will access the station via walking and cycling with a dedicated space for secure bicycle parking. For those arriving by car there will be 100 car park bays to the east and west of the station, short-term parking options, a pick-up/drop-off area, and a universally accessible taxi drop-off space.

A new bus interchange immediately east of the station's southern entry will provide passengers with an easy covered interchange between bus and rail. Passenger access from the bus interchange will be available under the viaduct.

Figure 10: Oats Street Station - future precinct opportunities

6.2.7 Precinct opportunities

The following precinct opportunities have been identified:

- Investigate the opportunity to upgrade the South Metropolitan TAFE campus to address the rail corridor and station;
- Investigate the opportunity for transition of local Water Corporation assets into a new publicly accessible water sensitive urban design parkland;
- Investigate opportunities for precinct planning of the station precinct to provide for long-term delivery for higher density and increased mix of uses adjacent to the station and new open space; and
- Investigate opportunities for amenity improvement in the short to medium-term in key streets around the station.

6.2.8 Planning status and development staging

Given the high proportion of privately held lots, the prevailing pattern of subdivision in the broader precinct and large public purpose land uses adjacent to the station, significant urban intensification is expected to be challenging in the short-term and is likely to be limited to market-led or local level planning interventions to facilitate change.

The Town of Victoria Park Local Planning Scheme and Carlisle Place Plan guide development surrounding the station and facilitate a mix of medium density residential, public purpose, commercial and industrial land uses. It is anticipated the Town of Victoria Park will undertake a future review of the planning framework for the Oats Street Station precinct to investigate opportunities for higher-intensity land uses and building typologies to evolve. This review should consider the land immediately surrounding the station and the industrial area to the east.

The Alliance will continue to collaborate on proposed planning interventions within this station precinct, as required.

6.3 Welshpool Station closure and precinct (Welshpool Road level crossing)

Welshpool Station is located within the City of Canning, situated approximately 9.5km from the Perth CBD.

The project will see the removal of the level crossing at Welshpool Road, with the rail line to be raised over Welshpool Road as a rail bridge. Welshpool Station will close due to low patronage, with existing passengers expected to utilise either Queens Park or Oats Street stations as alternatives.

Removing Welshpool Road level crossing and closing and demolishing Welshpool Station will reduce traffic congestion on Welshpool Road, improve the ability for cyclists and pedestrians to cross the rail, and create opportunities for landscaping along the rail corridor through the Welshpool industrial/mixed business area. Grade separation of the shared path over Welshpool Road will also remove conflict between cyclists and traffic at this busy road.

6.3.1 Station future proofing

The project will be designed and built to allow for any potential station in the future if required.

6.3.2 Precinct design and opportunities

Removing Welshpool Station provides the opportunity for a landscape treatment to improve the area's amenity. The landscape concept focusses on treatment of the embankment and former car park areas to add trees and soft landscaping, and continuation of cyclist and pedestrian paths through the area.

The future design requirements for the Welshpool precinct will be determined based on the opportunity to establish a new station in the long-term.

6.3.3 Planning status and development staging

It is anticipated that the land adjacent to the existing Welshpool Station will remain as mixed business supporting the surrounding industrial uses in the short to medium-term.

The City of Canning's Local Planning Scheme No. 42 guides development surrounding the station, which is predominantly zoned for industrial and commercial uses.

6.4 Wharf Street Package

6.4.1 Queens Park Station and precinct (Hamilton Street and Wharf Street level crossings)

Queens Park Station is located within the City of Canning, situated approximately 11.4km from the Perth CBD.

The station currently experiences an average 866 weekday boardings (as at March 2019), which is forecast to increase to approximately 1392 boardings per day in 2031.

Under the METRONET Station Precinct Typology Framework, Queens Park Station is defined as a Neighbourhood Centre (refer Figure 8) providing transit access to residents and supporting a basic mix of uses to meet the local community's needs.

6.4.2 Station design

Queens Park Station will be rebuilt with new elevated station platforms and a mezzanine level within the station building, designed to minimise the station's ground floor footprint and reduce the station's bulk, scale and visual clutter at platform and concourse levels. Roofing will provide 70 per cent coverage of the platforms' length.

The station design will provide a modern station with improved passenger amenities and added capacity to meet future demand, with future proofing to provide for gated entries and escalators. Universal access will be provided to all platforms via lifts from ground level.

Queens Park Station will have access to platforms via lifts or stairs.

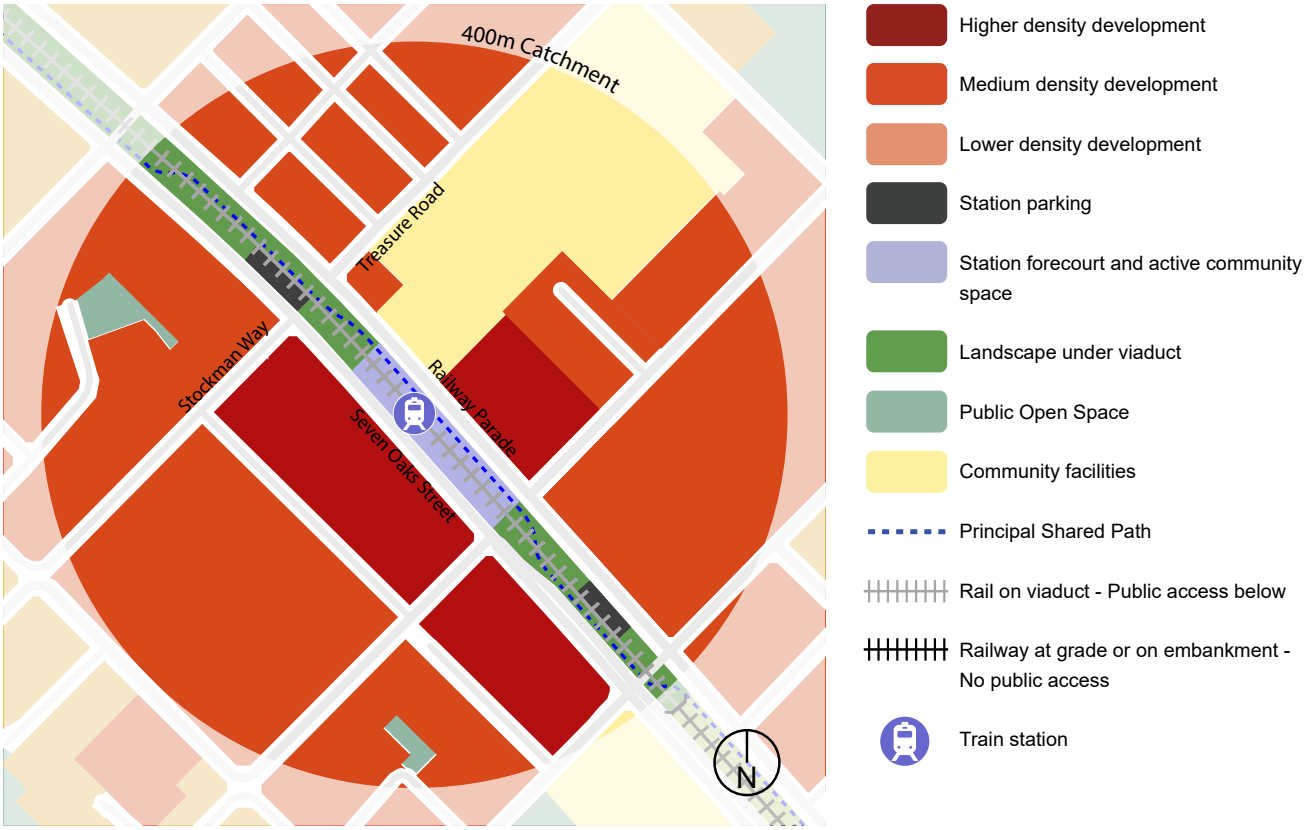
The station design provides a dedicated space for secure bicycle parking within the station precinct and incorporates 90 car park bays, with provision for all day and short-term parking, electric vehicles, emergency service vehicles, and universally accessible vehicle access.

6.4.3 Precinct opportunities

The following precinct opportunities have been identified:

- Implement the City of Canning's Queens Park Local Structure Plan to deliver higher density and increased mix of uses adjacent to the station and new open space; and
- Investige short to medium-term in key streets around the station.

Figure 11: Queens Park Station - future precinct opportunities



6.4.4 Planning status and development staging

There is a large supply of potential development sites close to the Queens Park Station, which may provide for infill development. This land is in private ownership and urban intensification is likely to be to market-led or facilitated by local level planning interventions.

The City of Canning's Local Planning Scheme No. 42 and Queens Park Local Structure Plan guide development surrounding the station and facilitate a mix of medium density residential and commercial land uses. It is anticipated the City of Canning will undertake a future review of the planning framework for the Queens Park Station precinct to investigate opportunities for higher-intensity land uses and building typologies to evolve. This review should consider the land immediately surrounding the station and commercial properties along Railway Parade and Sevenoaks Street.

6.4.5 Cannington Station and precinct

Cannington is classified as a Strategic Metropolitan Centre. This is the second highest centre classification for the Perth and Peel region and Cannington performs a significant regional function for the south-east corridor. Planning has been undertaken by the local government authority to establish the City of Canning Activity Centre Plan to guide the long-term planning and development for this centre, including investment in streetscape upgrades and connections between Carousel Shopping Centre and the existing Cannington Station via Cecil Avenue.

Cannington Station is a bus-rail interchange located within the City of Canning, approximately 12km from Perth Station. The station currently experiences an average 2910 weekday boardings (as at March 2019), with weekday boardings forecast to increase to approximately 4778 boardings per day in 2031.

6.4.6 Station design

Under the METRONET Station Precinct Typology Framework, Cannington is defined as a Strategic Centre Station (refer Figure 8), providing well-integrated connections to quality transit and a comprehensive range of retail, commercial, service and community facilities, and employment opportunities. Strategic centre station precincts have significant transit-oriented development potential and this aligns with the current planning framework established by the City of Canning.

Cannington Station provides the opportunity to rebuild the station with new elevated platforms with public realm investment and landscaping to assist in the urban renewal of the area. The station and precinct's landscaped areas and place making will be designed to improve amenity, wayfinding and connectivity with the activity centre area, including significant anticipated new development.

The following details are proposed and are subject to change as the concept design progresses. The proposed new platforms will be accessible by passenger lifts, escalators and stairs from day one. Roofing will provide 70 per cent coverage of the platform's length, in accordance with PTA specifications.

Station designs will be future proofed to provide for gated entries. However, it is proposed that Cannington Station is manned but not gated from day one.

The station design also proposes a dedicated space for secure bicycle parking within the station precinct and incorporates 290 car parking bays, with provision for all day and short-term parking, electric vehicles, emergency service vehicles and universally accessible.

6.4.7 Precinct opportunities

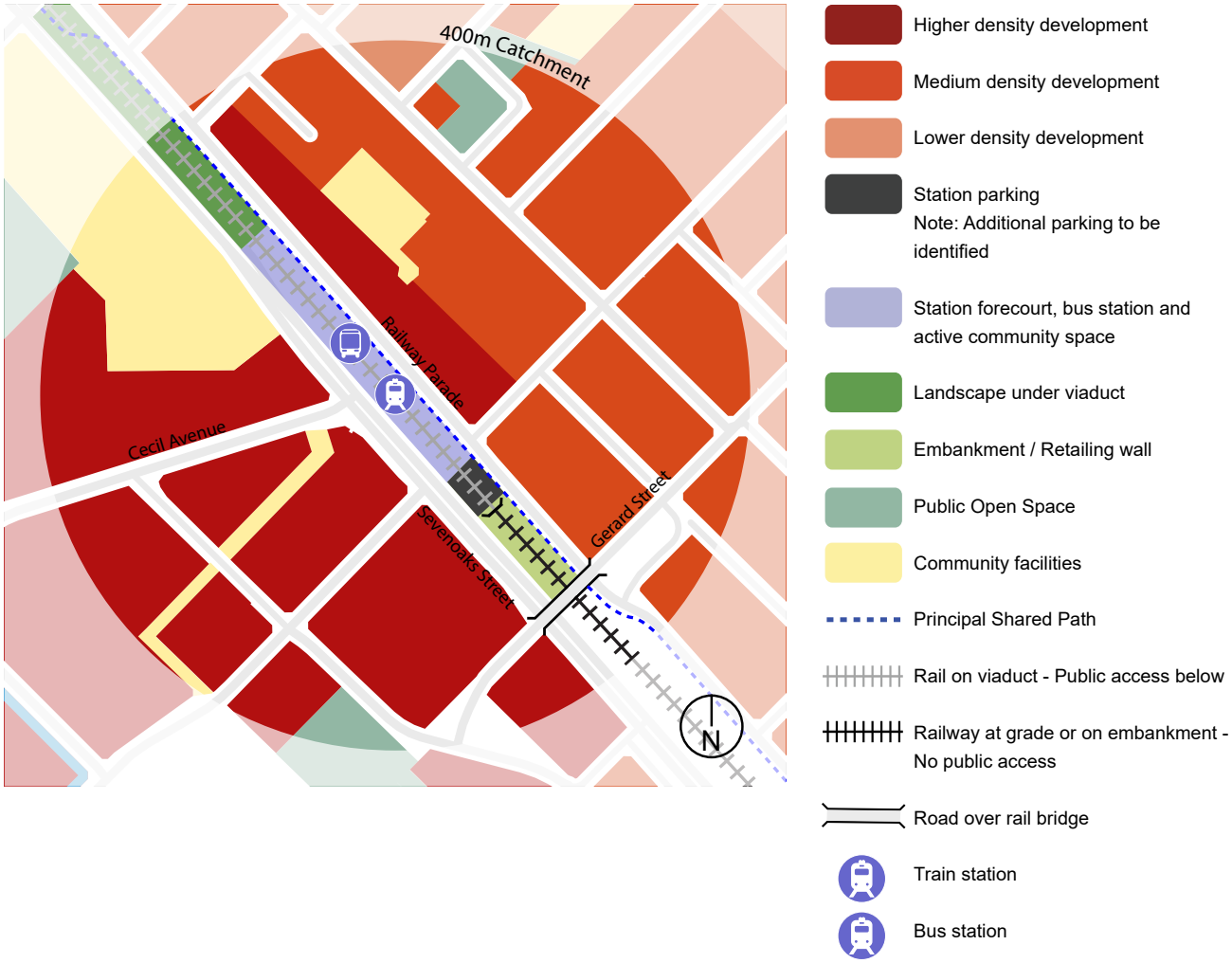
The following precinct opportunities have been identified;

- Implement the City of Canning's Canning City Centre Activity Centre Plan to deliver increased density and mix of uses adjacent to the train station and bus interchange;
- Investigate opportunities for amenity improvement in the short to medium-term in key streets around the station;
- Investigate opportunities for transition of the Water Corporation sites within the station precinct area into new publicly accessible water sensitive urban design parklands; and
- Investigate opportunities for development on Department of Communities land within the station precinct.

6.4.8 Planning status and development staging

The broader Cannington Station precinct contains a number of private and publicly owned properties, with favourable planning and development settings providing for land use intensification and redevelopment within the existing Canning City Centre Plan (adopted in 2017) and the local planning scheme. Further precinct planning for this area is not proposed at this time however, the Alliance will continue to collaborate on proposed planning interventions within this station precinct as required.

Figure 12: Cannington Station - future precinct opportunities



6.4.9 Future Beckenham Station and William Street Level Crossing Removal

During the early planning phase of the project, the removal of the William Street level crossing with elevated rail progressed concept designs for a new Beckenham Station.

Additional Commonwealth funding announced in May 2021 allowed for the grade-separation of the Hamilton and Wharf Street level crossings and elevation of Queens Park and Cannington stations. The William Street level crossing and Beckenham Station was not included in the funding.

In April 2022, the new Federal Government pledged funding towards the removal of the William Street level crossing, and new elevated Beckenham Station. Planning is underway for the additional scope of works while Federal funding is finalised.

7 Project Cost and Delivery

7.1 Sources of Funds

User pays

PTA's average annual revenue projections are typically approximately 30 per cent of total operating costs. Direct user pays revenue sources are therefore insufficient to offset operational costs and an operating subsidy will be required as per the existing PTA funding arrangements. Other revenue sources, e.g. from advertising and commercial leasing opportunities in stations are considered to be limited, although will be explored further as the project progresses.

Funding

The State Government has committed $567m of capital funding towards the project.

The Commonwealth Government has committed $545m of capital funding towards the project.

7.2 Procurement Strategy

A competitive Alliance delivery model was deemed the preferred delivery model for this project. This was determined in consultation with METRONET and the market, to balance the control of project costs and risk against achieving project objectives and outcomes.

The Request for Proposal (RFP) for the Alliance contract was released on October 5, 2020 and two shortlisted proponents were announced on January 20, 2021 and progressed to the Alliance Development (AD) phase of procurement.

The contract has been awarded to Armadale Line Upgrade Alliance (Acciona Construction Australia, BMD Constructions, WSP Australia and AECOM Australia).

8 Implementation Frameworks

8.1 Governance

As a METRONET project, delivery of the Victoria Park-Canning Level Crossing Removal will operate in accordance with the Cabinet endorsed METRONET Governance Framework. The fundamental principle underpinning the METRONET governance structure is decision-making at the appropriate management level.

After the investment decision, the Department of Transport's Office of Major Transport Infrastructure Delivery (OMTID), a strategic collaboration between the PTA and Main Roads, will be responsible for building the Victoria Park-Canning Level Crossing Removal transport infrastructure (and integrating it with the land use planning outcomes).

8.2 Approvals

To gain the approvals necessary to enable the construction and operation of the project, State and Commonwealth regulatory processes will be followed.

Preliminary consultation has been undertaken with the approving agencies during the project planning phase and PDP preparation. Approval requirements will be reviewed on an ongoing basis, as the scope of the project is refined. At the time this PDP was prepared, the following approval requirements had been identified.

8.2.1 Rail approvals – Railway (METRONET) Amendment Bill 2022

The Railway (METRONET) Act 2018 and subsequent amendments authorised construction of the Yanchep Rail Extension, Thornlie-Cockburn Link, and the Morley-Ellenbrook Line.

On 9 August 2022, the *Railway (Metronet) Amendment Bill 2022* was passed by the Legislative Council, to authorise construction of projects on the Armadale Line, including the Byford Rail Extension. The Bill will be presented to the Governor, who assents to it in the name and on behalf of the Monarch. On receiving the Royal Assent, the Bill becomes an Act of Parliament and will come into operation.

8.2.2 Environmental approvals

The project completed a Preliminary Environmental Impact Assessment and determined that there were no significantly impacted environmental factors that warrant referral to the Environmental Protection Authority (EPA) under the *State Environmental Protection Act 1986* (EP Act) or to the Commonwealth Department of Agriculture, Water and the Environment (DAWE) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The following licenses and permits are considered relevant during construction of the Project:

- A native vegetation clearing permit, required under Part V of the EP Act, to allow clearing of native vegetation in the project area;
- Licenses associated with groundwater abstraction under the Rights in Water and Irrigation Act 1914 (RIWI Act), for locations where the temporary lowering of groundwater is required or installation of bores;
- Permission to discharge dewatering effluent, including the location and method of discharge, from the relevant approving authority; and
- A noise and vibration management plan for out of hours work under the *Environmental Protection (Noise) Regulations 1997*.

An Activity Notice will be submitted to the SWALSC for new ground disturbing activities. Relevant approvals will be obtained following confirmation regarding the status of Site ID 3633 (Hamilton Street Crossing).

8.2.3 Level crossing interface agreements

The roles and responsibilities pertaining to maintenance and operation of level crossings is outlined within Interface Agreements between the road and rail managers. For the closure and grade separation of level crossings, PTA, as Rail Interface Manager, is required to work in consultation with the Road Manager which will be the local government authority for local roads and Main Roads for primary regional roads. Both the road and rail managers need to reach agreement to close a level crossing.

8.2.4 Traffic signal approvals

Where traffic signals are implemented, removed or modified as part of the project, approval will be required from Main Roads, as the authority responsible for the management of traffic control signals in Western Australia. The Main Roads Traffic Signals Approval Policy - Network Operations Directorate (March 2019), provides guidance on the requirements and processes for the approval for the implementation or modification of signals.

8.2.5 Aboriginal heritage approvals

The Department of Planning, Lands and Heritage's (DPLH) Aboriginal Heritage Inquiry System (AHIS) identifies one 'other heritage place' within the project area near Hamilton Street (Site ID 3633). The status of Site ID 3633 is being investigated further and appropriate approvals will be obtained, if required.

8.2.6 Planning approvals

The Railway (METRONET) Act 2018 (the Act) and subsequent amendments, will authorise construction of the METRONET projects on the Armadale Line with all necessary, proper and usual works and facilities in connection with the railway, but does not include the construction or alteration of a railway station, or any related car parks, public transport interchange facilities or associated means of pedestrian or vehicular access.

Planning Control Areas (PCAs) will be declared over sections of the project, including the extension of the elevated rail viaduct under Section 112 of the Planning and Development Act 2005. Within a PCA development applications will be required. The WAPC has sole determining authority for all development applications within PCAs.

Development applications will be lodged for consideration by the responsible authority against the State and Local Planning Frameworks, including State Planning Policy 7.0 Design of the Built Environment; and consideration of the proposals' performance against METRONET strategy objectives, including Gnarla Biddi, Sustainability and Public Art.

Development approval from the WAPC will be required for all station infrastructure including the construction of railway stations or any related car parks, public transport interchange facilities or associated means of pedestrian or vehicular access. Development applications for these works will be subject to assessment by the State Design Review Panel.

All development will also comply with the relevant provisions of the Building Code of Australia, Health Regulations, Public Building Regulations and all other relevant Acts, Regulations and Local Laws, including obtaining any relevant permits and licenses. Additional approvals/licenses may be required to ensure compliance with State Government environmental legislation.

8.3 Sustainability Strategy

The project will be implemented in accordance with the METRONET Sustainability Strategy, developed by the METRONET Office, to ensure the project's delivery in an economically, socially and environmentally responsible manner.

The project is targeting a Silver IS Rating certification for Design and As-Built under the IS Rating Tool V2.0 of the Infrastructure Sustainability Council of Australia.

In addition, 4-Star Green Star Design and As-Built equivalency is to be demonstrated for Carlisle, Oats Street and Queens Park railway stations using the Green Star - Railway Stations V1.1 rating tool, due to these precinct typologies being classified as 'Neighbourhood'. Cannington Station will be designed and delivered as a 5-Star Green Star Design and As Built certification, due to the Cannington Station precinct being classified as a Strategic Metropolitan Centre.

The Green Star certification will ensure Environmentally Sustainable Design (ESD) principles are incorporated into the design of the stations and that they are constructed and operated sustainably, achieving more efficient resource use, reduced environmental impacts, and greater health and wellbeing benefits for all patrons and staff.

Other key sustainability outcomes targeted for the project include:

- Water-Sensitive Urban Design and other green infrastructure opportunities assessed and integrated with other project strategies, like public art and Aboriginal engagement to enhance place making;
- Resilience and Climate Change Vulnerability assessed, and adaptation measures provided; and
- Whole of Life Cycle Environmental Impacts assessed (LCA) and significant opportunities for more efficient resource use quantified and implemented.

The work and findings of the sustainability outcomes on the project align with the Western Australian Climate Policy, the Western Australian Electric Vehicle Strategy and the Waste Avoidance and Resource Recovery Strategy 2030. These government initiatives support sustainable planning to respond to opportunities for resilience and resource efficiency, to which METRONET can play a key role.

Additionally, the project will report to METRONET on a quarterly basis on the progress of ongoing sustainability efforts against targeted strategic outcomes.

8.4 Aboriginal Engagement Strategy

The project will be implemented in accordance with the overarching METRONET Gnarla Bidi - Aboriginal Engagement Strategy which includes minimum requirements for the METRONET Office, the delivery agencies and engaged contractors towards targets set across the following five engagement streams:

1. Noongar cultural recognition;
2. Noongar input into place making;
3. Aboriginal procurement;
4. Aboriginal employment; and
5. Land access and sites management.

8.5 Public Art Strategy

The project will be implemented in accordance with the METRONET Public Art Strategy to support the creation of a distinctive identity for station buildings and transport infrastructure. A Public Art Project Plan is required to be developed and implemented to define the scope and intent of the public art program for the project.

8.6 Communications and Stakeholder Engagement

METRONET projects create benefits for the communities in which they are built and the broader Perth community, which is why key stakeholders are identified and engaged early in the planning phase to develop mutual understanding of the project objectives. A Victoria Park-Canning Level Crossing Removal Communications and Stakeholder Engagement Plan guides the project's communication and engagement to:

- Build relationships with key stakeholders and foster support for the project by involving stakeholders, where appropriate and as early as possible, in the planning and design process of the project;
- Communicate project milestones throughout the process to increase awareness and allow for a greater understanding of what the planning process involves;
- Communicate the project vision and benefits to allow for an increased understanding of the alignment, station locations and why the preferred route was chosen;
- Identify stakeholder and community perceptions of potential risks/impacts/issues associated with the project and use this information to inform project planning;
- Establish opportunities for two-way feedback during planning and design to engage community stakeholders and maximise project outcomes through obtaining local knowledge and expertise; and
- Provide regular information when and how stakeholders wish to receive it.

The successful implementation of this plan will involve:

- Working together – developing an internal communications plan to provide direction to the project team on branding, development and performance, internal communication, partner communication and industry communication.
- Working with the community – applying the guiding principles to work effectively with communities to minimise impacts, maximise project benefits and deliver value for money for Government and its customers.
- Working with the contractor – understanding roles and responsibilities and aligning the project's community and stakeholder management implementation, at both the program and project levels, with the project's key messages, branding and protocols.
- Managing risk – taking a risk-management approach to the development of tailored community engagement and communications plans for each project phase which addresses risks and opportunities, and manages stakeholder priorities.

METRONET projects create benefits for the communities in which they are built and the broader Perth community.

MORE INFORMATION

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