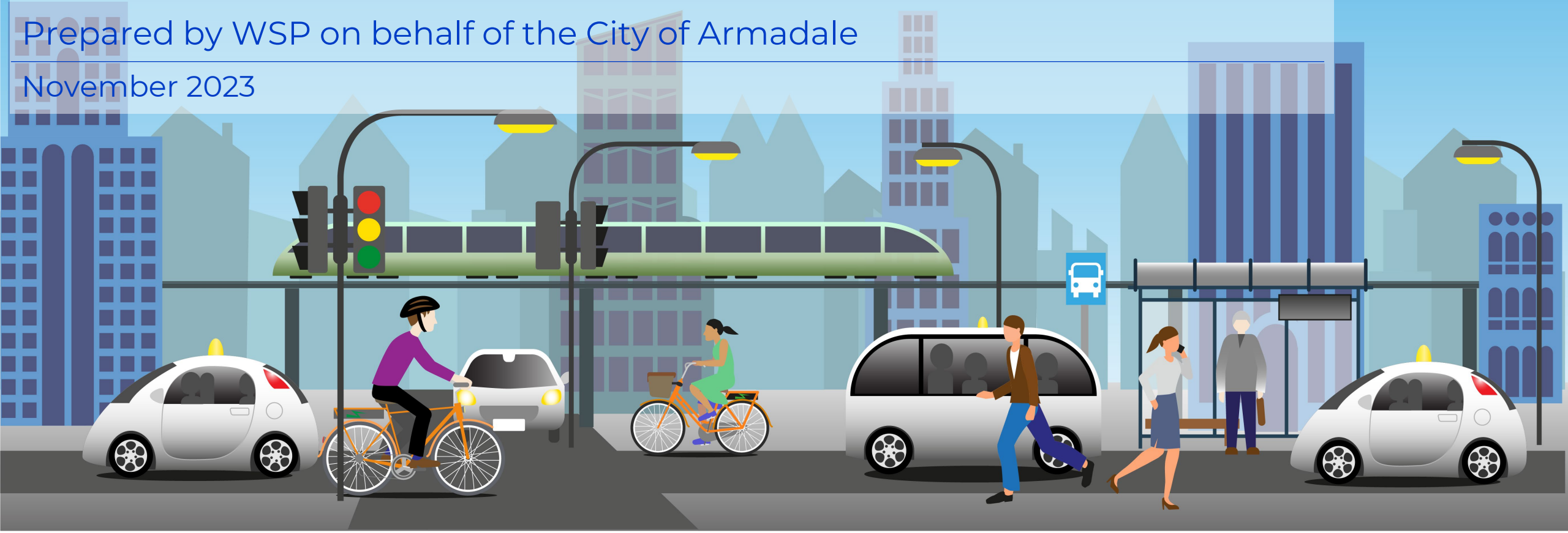
CITY OF ARMADALE

Integrated Transport Strategy 2023 - 2050

Prepared by WSP on behalf of the City of Armadale

November 2023



Integrated Transport Strategy 2023 – 2050

City of Armadale

Document number: PS124871-REP-000 RevC
Revision: Final

Document control

Revision	Date Issued	Details
D	13/11/2023	Final City of Armadale Integrated Transport Strategy

	Name	Date	Signature
Prepared by	Melissa Rachan	10/11/2023	MRachan
Approved by	Leigh Dawson	13/11/2023	

Question today
Imagine tomorrow
Create for the future

Image sourced from DevelopmentWA

We acknowledge that every project we work on takes place on First Peoples lands. We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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EXECUTIVE SUMMARY

Located only 28 kilometres from Perth, the capital city of Western Australia the City of Armadale Local Government Area extends over 560 square kilometres of urban development, farm and forest in Perth's southeast.

Armadale provides a transition between the urban conurbation of the Swan Coastal Plain Armadale and the rural and bushland landscapes of the Perth Hills and represents a gateway between Perth's metropolitan urban area and the regional hinterlands and towns beyond.

The City's vision of its identity is centred round its unique character and location:

"Where City meets Country - A place of natural beauty, rich in heritage and respectful of culture, with diverse landscapes and lifestyles, and a wealth of business and investment opportunities." - Strategic Community Plan 2020-2030

The City's population of approximately 98,000 residents is projected to increase to 160,000 by 2050, making it Perth's third fastest growing Local Government.

The City's key growth areas include Harrisdale, Piara Waters and Forrestdale in addition to suburbs of Haynes and Hilbert which currently form DevelopmentWA's "Wungong Urban" redevelopment area.

Additionally, urban infill is expected around the City's key activity centres including the Armadale City Centre and Kelmscott Town Centre.

Armadale's road network also performs a critical role in supporting regional freight movements, essential for the economic vitality of the Perth metropolitan area and the regions.

The city centre of Armadale, a designated Strategic Metropolitan Centre, is planned to undergo continued significant land use change and development from investments such as the Government's extension of the passenger rail network to Byford, the METRONET elevated rail viaduct and grade separation through the Armadale City Centre and Kelmscott Town Centre, in addition to a range major public and private sector investment and urban renewal projects over the next 25 years.

These projects will boost employment opportunities within Armadale and reduce the need for Armadale community members to travel outside the City for work.

The transport network plays a fundamental role in connecting Armadale's community members to the work, school, recreation and leisure opportunities available to them, which are in turn, largely determined by the area's transport infrastructure, facilities and services.

The City has developed its Integrated Transport Strategy (this strategy) to plan and advocate for initiatives through to the year 2050, that will enhance and grow the travel opportunities available for safe and effective transport by the Armadale community. It is also intended to influence and be integrated with other key Armadale strategies and plans, in addition to influencing the plans of State Government agencies and adjacent Local Governments.

This strategy sets out the City's vision and areas of strategic focus to facilitate better access and mobility across all transport modes used by the Armadale community.

The City has included an Action Plan identifying a series of interventions and initiatives supporting this strategy which is aimed at enhancing travel opportunities available to the diverse Armadale community and achieving Council's vision for transport and mobility for the residents of Armadale over the term of the strategy.

OUR TRANSPORT VISION

"A safe and inclusive integrated transport network that efficiently connects people to places, encourages sustainable travel, supports growth and vitality of Armadale's economy."

OUR FOCUS AREAS

INCLUSIVE

SAFE

COMMUNITY

ENVIRONMENT

ECONOMIC DEVELOPMENT AND GROWTH

LEADERSHIP AND INNOVATION

1. WHY DO WE NEED AN INTEGRATED TRANSPORT STRATEGY (ITS)?

The City is undergoing a period of rapid change, with a population that's increasing at twice the rate of the Perth Metropolitan area.

As the Armadale City Centre continues to mature, its role as a major destination servicing Perth's south-eastern corridor will be elevated. Land uses will continue to diversify to offer more places for people to shop, work, learn and play.

Not only will there be more people living and working in the City, there will be more people visiting the City to access services: retail, health care, leisure and recreation. These are key ingredients to support a vibrant and thriving City.

With this comes an increase in diversity as residents and visitors use the transport network to access the places they want to go.

Effort is required to ensure that infrastructure and services are delivered in alignment with the level of development occurring within the City, and importantly, in line with the growing communities' diverse access and movement needs.

Many transport projects and initiatives in and around the City are either currently in delivery, or in the planning pipeline (see Section 9.2).

These projects and initiatives will all have an impact, in big and small ways, on the way people travel to, from and within the City.

The State Government's METRONET projects (see Section 9.2.2), in particular the Byford Rail Extension which will include a new elevated Armadale Station and provide increased corridor connectivity, will have a material impact on the City.

The new station amenities and network changes will make our roads safer by removing interfaces between the road and rail, while also having a profound impact on the surrounding urban form. This will attract more people to use and live close to public transport.

This affords the City with an opportunity to provide and advocate for the design and delivery of an integrated transport network that:

— is inclusive

— is safe

— is community-focussed

— supports positive environmental outcomes

— supports economic development and growth of the City

— highlights the City as a leader and innovator

Accordingly, this ITS is intended as a key strategic document to guide the City's decision-making as well as transport planning, delivery and advocacy pursuits, so that our transport network meets the needs of the community now and into the future.

2. HOW WE DEVELOPED THIS ITS

2.1 Key parts of development

Development of this ITS has been structured around four key parts as per Figure 1:

Part One was focused on reviewing existing background information and available data to understand the transport-related challenges and opportunities associated with the City.

Part Two involved seeking thoughts and ideas from the community (see Section 3). The outcomes from consultation were essential in developing the vision and identifying strategic focus areas to clearly set out what this ITS is seeking to achieve.

Part Three involved identifying potential solutions based on a detailed understanding of the key transport challenges and opportunities faced by the City over the next 30 years.

Part Four, is consultation on the draft ITS, to understand if the solutions proposed in this strategy meet the needs of Armadale's existing and growing community.

2.2 Strategic alignment

This ITS recognises the importance of working towards an agreed and cohesive vision that aligns with the planning frameworks for the City and its surrounds, including planning aspirations at both state and local level.

As such, this ITS has been developed in line with various existing policies, strategies, plans and documents as depicted in Figure 2.

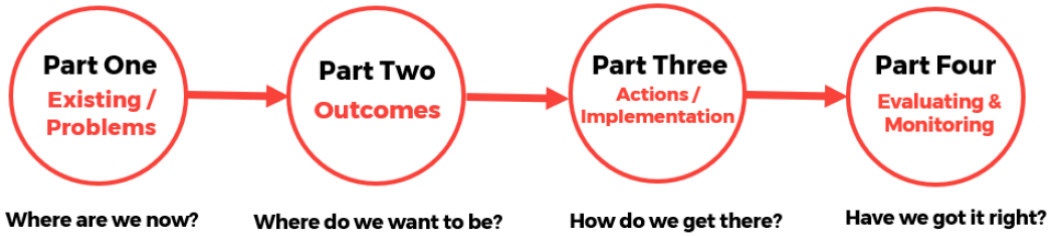


Figure 1: Key ITS project parts

STATE

- Perth & Peel @3.5M
- Transport @3.5M
- METRONET initiatives
- South Metropolitan Peel Sub-Regional Planning Framework
- State Planning Policies (various)
- Long-term Cycle Network
- Driving Change: Road Safety Strategy for WA 2020 – 2030
- State Disability Strategy 2020 - 2030
- Western Australian Climate Change Policy
- The Declining Rate of Walking and Cycling to School in Perth

OTHER

- ABS census data
- Existing transport network conditions and available transport data
- On-site observations
- Current and proposed projects and initiatives

City of Armadale Integrated Transport Strategy 2023 - 2050 and Action Plan

LOCAL

- Local Planning Scheme No.4
- Local Planning Strategy
- Local Planning Policies (various)
- Strategic Community Plan 2020 - 2030
- Bike Plan 2016
- Skeletal Path Network
- Community Perceptions Survey 2018
- Community Infrastructure Plan 2021 – 2037
- Economic Development Strategy 2018 - 2022
- Asset Management Plan
- Draft Armadale City Centre Structure Plan
- Access and Inclusion Plan 2021 – 2026
- Advocacy Priorities Strategy 2022-2030
- Activity and Retail (Commercial) Centres Strategy 2020
- Community Health and Wellbeing Plan 2021 – 2024
- Tourism Destination Strategy 2015 – 2019
- Urban Forest Strategy 2014
- City of Armadale Local Area Traffic Management Plans (various locations)
- Corporate Greenhouse Action Plan 2020/21 – 2029/30
- Armadale City Centre Transformation Technical Report 2022

Figure 2: ITS policy connections

YOUR THOUGHTS ON TRANSPORT IN THE CITY

3. COMMUNITY CONSULTATION

The views and thoughts of stakeholders, including community members, were sought through a community survey.

These responses serve as critical inputs into the development of this ITS, taking into account the feedback received from people using the transport network and therefore, those that will be directly impacted by decisions made relating to transport.

Engagement objectives were twofold, including:

— Understanding the challenges / issues and opportunities / strengths currently experienced in relation to transport to, from and within the City; and

— Capturing thoughts and ideas on how people want to move around the City in the future.

The community survey was conducted using an online platform and was open for four weeks from 4 April 2022 to 2 May 2022.

High levels of interest in the project from the community was evident. The platform attracted 1,564 total visits, with 594 unique visits (i.e. 'total visits' captures people visiting the page more than once).

Two key features were used to capture comments:

1. Interactive map **(137 comments received)**: enabled respondents to provide comments linked to geographical locations, in the categories of 'something I like', ' something to fix' and 'ideas / suggestions'.
2. Survey **(66 responses received)**: included questions on current travel methods and how transport journeys could be improved.

Figure 3 provides a summary of common themes and comments from survey respondents, while Figure 4 (overleaf) provides a snapshot of survey responses showing that an overwhelming majority of respondents' most common method of transport was car (80%) , with 48% citing their reason being 'it's practical and suits my needs'.

In addition to the above, respondents were asked for the most important factors to improving their transport journeys, using a ranking system of most to least important. Improving public transport services was ranked highest by far.

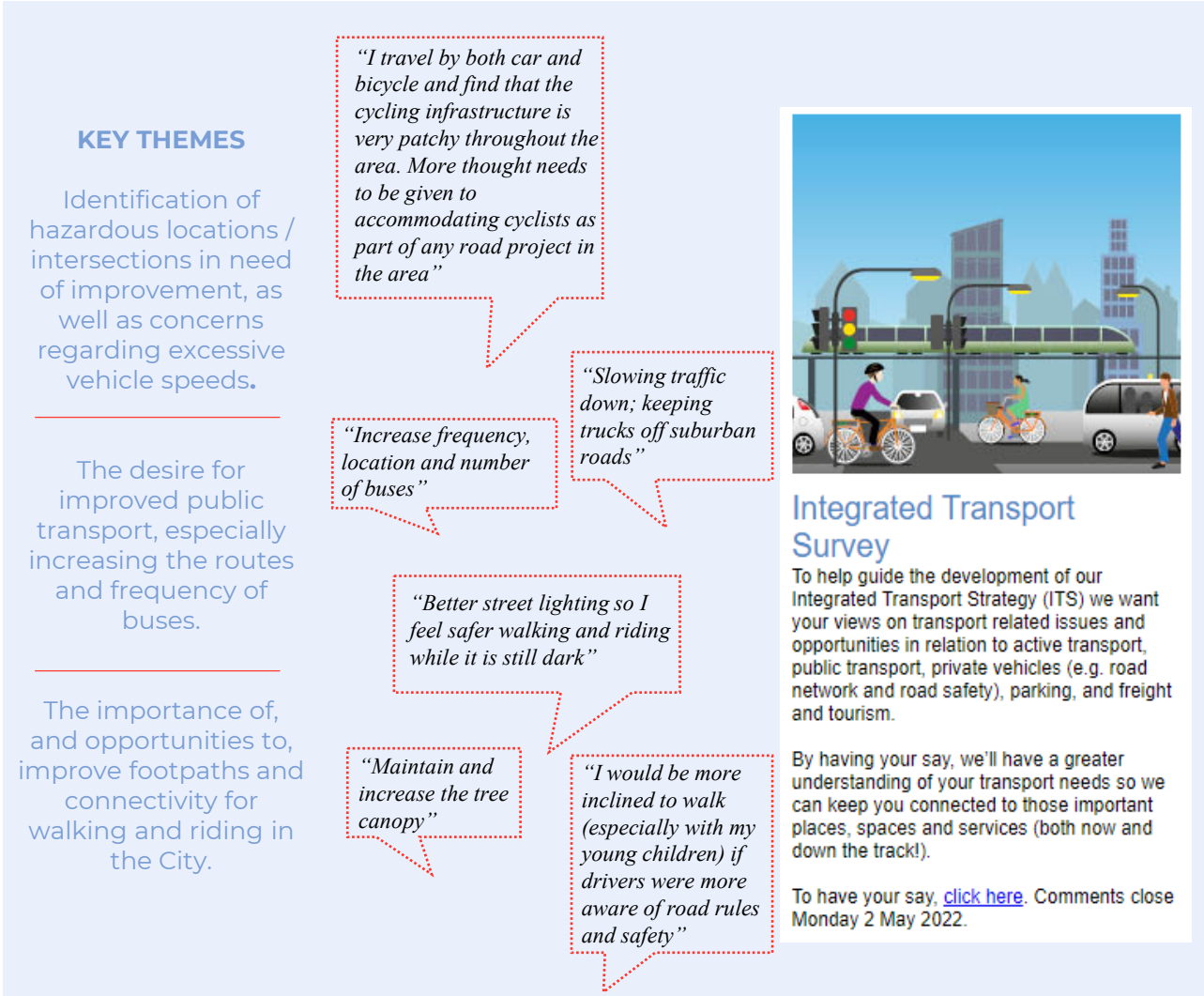
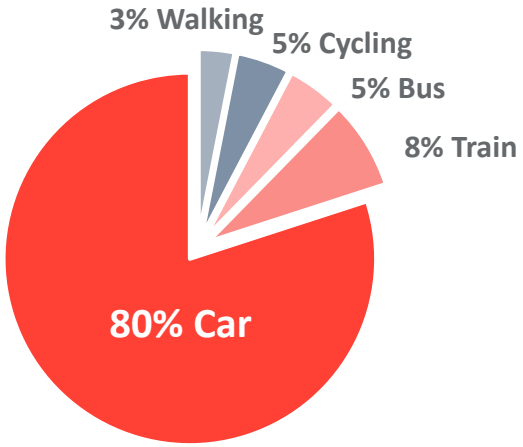


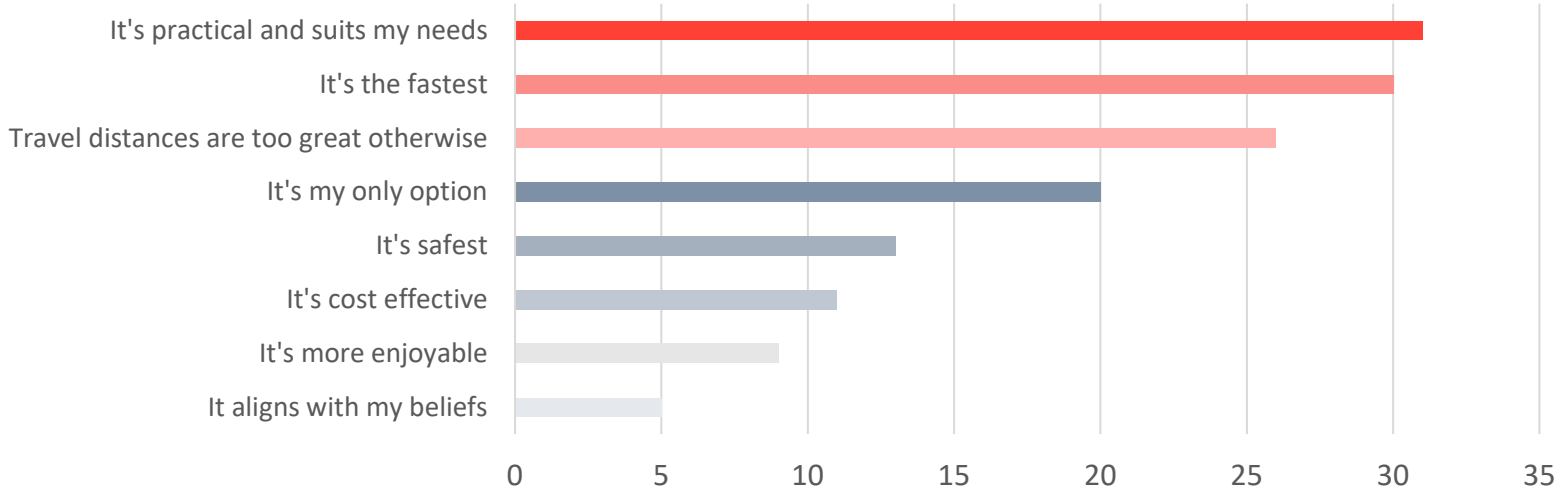
Figure 3: Key themes from the community survey responses

Most Common Travel Mode



While Armadale's residents rely on their cars to get around because it's practical and faster, better public transport services and better infrastructure for riding bikes and eRideables are important to improve how they get around.

Reason for Travel Mode



Ranked Demands for Transport Improvements

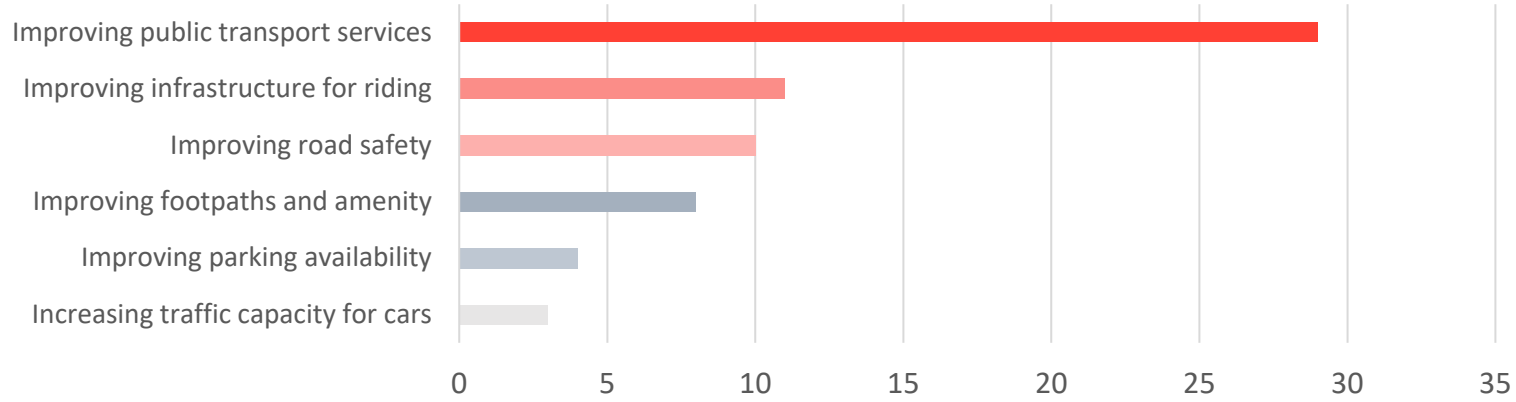


Figure 4: Snapshot of community survey responses

4. WHAT OUTCOMES DO WE WANT TO SEE?

The ITS vision statement articulates our aspiration for enhancing and improving the way people get to, from and move within the City.

It provides a focal point to ensure that, in collaboration with key partners, we are working towards an agreed vision.

Six strategic focus areas have also been established that lead the direction of this ITS.

The vision and focus areas are a reflection of what is important to the Armadale community as articulated in the City's Strategic Community Plan and through community consultation (see Section 3).

OUR TRANSPORT VISION

"A safe and inclusive integrated transport network that efficiently connects people to places, encourages sustainable travel, supports growth and vitality of Armadale's economy."

OUR FOCUS AREAS

INCLUSIVE

An integrated transport network that is inclusive and facilitates equitable transport choices

SAFE

An integrated transport network that is safe

COMMUNITY

An integrated transport network that empowers the community to choose sustainable modes of transport

ENVIRONMENT

An integrated transport network that enhances community amenity through designs that are coordinated with Armadale's natural beauty, and highlights the City's diverse landscapes and environment

ECONOMIC DEVELOPMENT AND GROWTH

An integrated transport network that facilitates growth and provides regional connections to support a strong local economy and reinforce the City's role as a Strategic Metropolitan Centre

LEADERSHIP AND INNOVATION

An integrated transport network that is future ready, demonstrating leadership and our commitment to improving the way people move to, from and within the City

CHALLENGES AND OPPORTUNITIES

5. THE CITY'S TRANSPORT CHALLENGES AND OPPORTUNITIES

5.1 Challenges and opportunities in focus

A core component of developing this ITS has been building an understanding of the unique and localised transport challenges and opportunities as viewed by the Armadale community and relevant stakeholders. These transport challenges and opportunities are linked to each focus area, and are presented on pages 9 to 25.

For each focus area the following has been identified:

— The challenge
Articulates some key challenges and issues relating to transport

— The opportunity
Articulates some key strengths and opportunities relating to transport

— Desired outcomes / benefits
Outlines what we hope to achieve

— Strategic alignment
Outlines key relevant government policies, plans and documents

5.2 Action Plan

The 2050 time horizon of this ITS enables us to be aspirational in the kinds of initiatives we'd like to see. However, this strategy is complemented with a practical Action Plan, to demonstrate how the City is proposing to resolve the challenges and realise the opportunities, to ultimately achieve our transport vision.

Each action is categorised with:

Alignment with focus area
While each action corresponds to a specific focus area, some actions can help achieve the desired outcomes of multiple focus areas

The City's role
Identifies the City's role to investigate, plan, deliver, advocate and / or seek grant funding opportunities from sources such as Main Roads WA (MRWA), Department of Transport (DoT) and Public Transport Authority (PTA).

Key partners / stakeholders
Identifies external partners and stakeholder that the City will collaborate with to achieve the action

Timeframe
- **Ongoing**
- **Short term:** 5 years
- **Medium term:** beyond 5 years, less than 10 years

Cost (to the City)
- Below $100k
- Between $100k to $500k
- Greater than $500k

5.3 Achieving success through partnerships

As the Local Government Authority, the City is responsible for planning, designing, delivering and maintaining transport infrastructure for all modes.

This includes walking and riding infrastructure, as well as roads that fall under the City's jurisdiction, rather than State managed by Main Roads WA.

While the City is responsible for the administration and delivery of this ITS, its successful delivery will require a co-ordinated effort.

Collaboration and engagement with key stakeholders is therefore essential, as listed in Figure 5.

KEY STAKEHOLDERS

STATE GOVERNMENT

- **Main Roads WA** (MRWA)
- **Department of Transport** (DoT)
- **Public Transport Authority** (PTA)
- **METRONET / Office of Major Transport Infrastructure Delivery** (OMTID)
- **DevelopmentWA**
- **Department of Planning, Lands and Heritage** (DPLH)
- **Infrastructure WA**
- **Department of Environment and Water Regulation** (DWER)
- **Department of Environment and Conservation** (DEC)
- **Department of Biodiversity, Conservation and Attractions** (DBCA)
- **Department of Education** (DoE)
- **Water Corporation**
- **Western Power**

NEIGHBOURING LOCAL GOVERNMENTS

- **City of Canning**
- **City of Cockburn**
- **City of Kalamunda**
- **City of Gosnells**
- **Shire of Serpentine Jarrahdale**
- **Shire of Wandering**
- **Shire of York**
- **Shire of Beverley**

OTHER KEY STAKEHOLDERS / PARTNERS

- **Community members**
- **Commercial and business owners**
- **Road user groups** (e.g. RAC, WestCycle)
- **Residential / ratepayer associations**
- **Western Australian Local Government Association** (WALGA)
- **Land Development Industry and representatives**

Figure 5: Key stakeholders to support delivery of the ITS

FOCUS AREA

INCLUSIVE

An integrated transport network that is inclusive and facilitates equitable transport choices

THE CHALLENGE

As one of the fastest growing local governments in Australia, the City's community is highly diverse. With population growth comes changes in demographic composition, which differ vastly across the City's 19 suburbs. This diversity presents a challenge in providing appropriate infrastructure, amenity and services to meet community needs.

There are prominent differences in the levels of social disadvantage across the City (see Section 7.2). Low-income households are significantly more affected by transport availability, as the cost of private vehicle mobility (e.g. cost of the car, petrol, maintenance, insurance) can consume a large proportion of household expenditure.

People who don't have access to a car, cannot drive or face other barriers to using private vehicles for most of their transportation needs, are disproportionately impacted where alternative transport options are lacking.

Certain people in the community, such as people with a disability, older adults and young people, experience a greater level of disadvantage and can be unfairly impacted by actions taken relating to the ongoing maintenance of the existing transport network as well as decision-making regarding the future of the transport network.

THE OPPORTUNITY

Underpinning this strategy is a goal to ensure that all people can access the places they want to go in a safe and convenient manner. This includes access to services such as education, employment, health care, retail and leisure.

By actively prioritising vulnerable user groups, there is an opportunity to create a transport network that is accessible for the broadest cross-section of the community.

This requires contextually-sensitive solutions to be investigated and implemented, which can only occur through effective engagement and consultation to understand user requirements.

Providing and / or advocating for high quality alternative transport options (i.e. modes other than private motor vehicle) is critical to meeting the desired outcomes of this focus area, including interventions to improve conditions for people walking, riding or using public transport, taxis / on-demand transport services.

While local, state and federal policy connections are identified, this strategy strongly aligns with broader international aspirations. The United Nations Sustainable Development Goals, specifically 'Goal 3: good health and well-being', 'Goal 10: reduced inequalities' and 'Goal 11: sustainable cities and communities', can all be achieved through a well-planned transport network.

DESIRED OUTCOMES / BENEFITS

+ People of all ages and abilities can safely and conveniently access the places they want to go, with equal access to opportunities and services.
+ Good alternative transport options are available which reduces reliance on private motor vehicles
+ Promotion of social connectedness and community cohesion.

STRATEGIC ALIGNMENT

+ City of Armadale Strategic Community Plan 2020 -2030
+ City of Armadale Access and Inclusion Plan 2021 - 2026
+ City of Armadale Community Infrastructure Plan 2021 – 2037
+ City of Armadale Local Planning Strategy
+ State Disability Strategy 2020-2030

No.	Action	Alignment with Focus Areas: Inclusive	Safe	Community	Environment	Economic Development & Growth	Leadership & Innovation	The City's Role	Key Partners / Stakeholders	Timeframe	Cost (to the City)
1	Continue to deliver priority actions identified in the City's Skeletal Footpath Network Program, in order to provide a well-connected and high quality pedestrian network. As part of this, review the Skeletal Footpath Network Program criteria to align with the ITS focus areas.	✓	✓	✓				Plan, Deliver and Seek Grant Funding Opportunities	Community, DoT	Ongoing	Between $100k to $500k
2	Continue to deliver priority actions identified in the City's Access and Inclusion Plan.	✓	✓	✓				Plan, Deliver and Seek Grant Funding Opportunities	MRWA, Access and Inclusion Committee	Ongoing	Between $100k to $500k
3	Continue to deliver priority actions identified in the City's Bus Shelter Program.	✓	✓	✓				Plan, Deliver and Seek Grant Funding Opportunities	PTA	Ongoing	Between $100k to $500k
4	Continue to advocate for bus stops upgrades under the PTA's Disability Discrimination Act (DDA) Compliant Bus Stop Program.	✓	✓	✓				Advocate and Seek Grant Funding Opportunities	PTA	Ongoing	Below $100k
5	Undertake an audit of existing transport facilities, including requirements for DDA compliant parking, and accessible taxi / on-demand transport pick-up and drop-off locations, to improve levels of accessibility and safety where required. Additionally, ensure signage is in place to enable parking enforcement where applicable. As part of this, identify gaps to ensure DDA compliant facilities are provided in the City in locations where there is a need, including new developments and redevelopments. Facilities must be well-located to meet user requirements and easily identifiable / visible (e.g. signage).	✓	✓	✓				Investigate	DoT, Access and Inclusion Committee	Short term	Below $100k

No.	Action	Alignment with Focus Areas: Inclusive	Safe	Community	Environment	Economic Development & Growth	Leadership & Innovation	The City's Role	Key Partners / Stakeholders	Timeframe	Cost (to the City)
6	Continue to actively monitor the use of existing DDA designated parking bays and apply enforcements for non-compliant use.	✓						Deliver	N/A	Ongoing	Below $100k
7	Continue to promote sustainable transport options, including walking, riding and public transport, through the City's existing communication platforms and community events. For example this could include continuing to: • Promote Transperth's fare zone cap initiative and Journey Planner app • Provide up to date travel maps and travel information • Provide information on end of trip facilities • Host events such as riding skills and bicycle maintenance workshops • Publish positive news stories to increase the visibility of / normalise the use of sustainable transport modes within the community	✓		✓	✓	✓		Plan and Deliver	PTA, DoT	Ongoing	Below $100k
8	Plan suitable housing density codes for walkable / rideable catchments around train stations.	✓		✓				Investigate	DPLH	Short term	Below $100k

FOCUS AREA

SAFE

An integrated transport network that is safe

THE CHALLENGE

Community safety, both residents and visitors, is paramount. This includes the provision of safe roads and streets for people, regardless of transport mode, as well as personal safety and security.

Continued collaboration with key stakeholders, such as the WA Police and the PTA, is essential to ensure perceptions of personal safety and security don't function as barriers to access or supress growth in the adoption of public transport and other sustainable modes.

Crash hotspots have been identified in the City (see Section 9.1.6), with the majority of crashes occurring on State managed roads. Several arterial roads facilitate access to / from and within the City. These routes carry significant vehicle volumes travelling at high speeds, with limited crossing opportunities when passing through urban areas. This creates a barrier to access for people crossing the road on foot or by bike.

Speeding has also been raised as an issue through various community perception surveys and studies undertaken by the City. In some locations this has been attributed to the design of the local road network, including straight alignments with limited to no traffic calming devices and stretches of winding roads with restricted sight lines.

THE OPPORTUNITY

The actions outlined in this strategy can directly influence road safety by providing and maintaining safe road infrastructure and by creating the conditions to ensure people feel safe getting to the places they want to go.

While a robust understanding of localised issues is the most effective approach to identifying solutions to each area's specific needs, the combination of infrastructure improvements, policy and advocacy pursuits identified in this strategy aim to improve safety for all users of the transport network.

This includes reducing the number and severity of conflicts occurring on paths and roads, completing gaps in path and road infrastructure, upgrading pedestrian and cycling routes, encouraging safer speeds on local roads or areas with high levels of pedestrian activity, supporting safer crossing opportunities for people walking and riding, and improving personal safety during all hours of the day and night.

The Byford Rail Extension project (see Section 9.2.2) provides a significant opportunity to support community safety outcomes, by employing Crime Prevention Through Environmental Design (CPTED) principles in the design of station precincts and removal of road / rail conflict areas.

DESIRED OUTCOMES / BENEFITS

+ Reduction in the number and / or severity of transport related crashes
+ Reduction in excessive vehicle operating speeds
+ Safe crossing environments for people walking and riding along key desire lines
+ Maintain a positive trend for 'community safety' as measured through the City of Armadale Community Perceptions Survey

STRATEGIC ALIGNMENT

+ City of Armadale Community Perceptions Survey 2018
+ City of Armadale Local Planning Strategy
+ Local Planning Policy PLN 3.14 – Designing out Crime
+ City of Armadale Transport Infrastructure Asset Management Plan 2021/22 – 2035/36
+ City of Armadale Local Area Traffic Management plans (various locations)
+ Driving Change: Road Safety Strategy for WA 2020 –2030

No.	Action	Alignment with Focus Areas: Inclusive	Safe	Community	Environment	Economic Development & Growth	Leadership & Innovation	The City's Role	Key Partners / Stakeholders	Timeframe	Cost (to the City)
1	Continue to develop Local Area Traffic Management Plans for areas where excessive speeding and / or hooning is reported to be an issue. Prioritise the new local road network surrounding the rail level crossing removal, to investigate the influence on vehicle speeds.	✓	✓	✓				Plan and Seek Grant Funding Opportunities	MRWA, WA Police	Ongoing	Between $100k to $500k
2	Continue to investigate the installation of local area traffic management measures and devices in areas where excessive speeding and / or hooning is reported to be an issue. For example in Roleystone, Seville Grove, North Armadale, Mt Nasura (as per previously developed Local Area Traffic Management Plans). Examples of measures may include speed cushions, road plateaus, slow points, signage and line marking.	✓	✓	✓				Plan, Deliver and Seek Grant Funding Opportunities	MRWA, WA Police	Ongoing	Greater than $500k
3	Continue to provide or advocate for safe crossing opportunities for people walking and riding, in alignment with desirelines, across busy streets and roads such as Nicholson Road, Armadale Road, South Western Highway and Albany Highway.	✓	✓	✓				Plan, Deliver / Advocate and Seek Grant Funding Opportunities	MRWA, DoT	Ongoing	Between $100k to $500k
4	Continue to advocate for the application of safer speeds in locations with high pedestrian activity (existing and future), for example in city / town centre environments and around schools, noting that Armadale City Centre has an existing 40 km/h zone that functions well.	✓	✓	✓		✓	✓	Advocate	MRWA	Ongoing	Below $100k

No.	Action	Alignment with Focus Areas: Inclusive	Safe	Community	Environment	Economic Development & Growth	Leadership & Innovation	The City's Role	Key Partners / Stakeholders	Timeframe	Cost (to the City)
5	Continue to work with WA Police to target excessive speeding and hooning in hotspot locations, including through town centres.		✓				✓	Advocate	WA Police	Ongoing	Below $100k
6	Advocate for the provision of additional fixed speed cameras in the City, working with WA Police to identify suitable locations.		✓					Advocate	WA Police	Ongoing	Below $100k
7	Review and plan street lighting upgrades in accordance with the City's street lighting audit, including plans to install smart lighting technology.	✓	✓	✓	✓		✓	Plan and Deliver	Western Power	Medium term	Greater than $500k
8	Continue to implement the City's Local Planning Policy *PLN 3.14 – Designing out Crime* as part of development, investigating the application CPTED principles in suitable locations.	✓	✓	✓			✓	Plan and Deliver	N/A	Ongoing	Below $100k
9	Continue to monitor locations and seek funding through MRWA's Black Spot program.		✓			✓	✓	Advocate and Seek Grant Funding Opportunities	MRWA	Short term	Below $100k

No.	Action	Alignment with Focus Areas: Inclusive	Safe	Community	Environment	Economic Development & Growth	Leadership & Innovation	The City's Role	Key Partners / Stakeholders	Timeframe	Cost (to the City)
10	Continue to work with MRWA to address safety issues at key intersections and roads. Planned interventions and measures proposed must adequately address the issue and deliver improved road safety outcomes for all modes. For example, this may include assessing the suitability of dual lane roundabouts for all modes and advocating for alternative treatments like traffic signals where applicable.		✓					Advocate and Seek Grant Funding Opportunities	MRWA	Ongoing	Below $100k
11	Ensure that the riding network can safely accommodate eRideable users through the delivery of a high quality, well-connected riding network.	✓	✓	✓				Plan, Deliver and Seek Grant Funding Opportunities	DoT	Short to Medium term	Between $100k to $500k

FOCUS AREA

COMMUNITY

An integrated transport network that empowers the community to choose sustainable modes of transport

THE CHALLENGE

The high reliance on, and a preference for, private vehicle travel by residents of the City is clearly demonstrated by ABS census data and community survey findings (see Section 7.1 and Section 3 respectively).

The existing transport network creates many barriers to encouraging people to use sustainable modes of transport, including walking, cycling / eRideables and public transport.

Barriers include disconnected / missing links as well as the quality of the City's walking and cycling network in some locations (e.g. poor surface treatment, path condition, limited to no separation from traffic).

Limited bus network coverage and / or service frequencies is also a barrier, creating service gaps and reducing accessibility.

There are many challenges in effectively and efficiently providing bus services through the City. These include the layout of the local road network, topography, or limited potential patronage. In particular, low-density residential zones and newly developed suburbs are often faced with infrequent service or limited coverage.

THE OPPORTUNITY

There is a significant opportunity to effect mode shift from car-based journeys to sustainable transport for travel to, from and within the City, resulting in a healthier, happier and more vibrant community.

The actions in this strategy aim to encourage sustainable modes of transport as the first choice, by curating an environment where walking, cycling / eRideables and public transport are viewed as legitimate, safe and convenient ways to travel.

As improvements to Perth's rail network are delivered, planning for improved connectivity between communities and the heavy rail network will take focus, including improvements to bus services and investigations into mid-tier transit solutions by the State Government.

The City will continue to deliver and / or advocate for the provision of a well-connected, high quality network of walking and cycling routes and improved public transport, with supporting infrastructure such as end of trip facilities and wayfinding. This includes improving walkability and rideability in the Armadale City Centre, where existing conditions are highly in favour of these modes, building on the existing finer grain street network and good provision of street trees.

Sustainable transport modes are encouraged for access to train stations and localised trips, given the large number of existing and planned activity centres, relatively evenly dispersed around the City (see Section 8.1). The actions also reflect the importance of education and behaviour change measures in encouraging and normalising sustainable travel.

DESIRED OUTCOMES / BENEFITS

+ Effect a mode shift from car-based trips to sustainable transport modes
+ Foster healthy communities through increased physical activity and positive mental health benefits
+ Enhance community liveability, wellbeing and safety through increased opportunities for passive surveillance
+ Promote social connectedness and community cohesion
+ Improve air quality from reduction of traffic related CO_2 emissions and noise pollution

STRATEGIC ALIGNMENT

+ City of Armadale Skeletal Path Network program
+ City of Armadale Community Infrastructure Plan 2021 – 2037
+ City of Armadale Community Health and Wellbeing Plan 2021 – 2024
+ City of Armadale Local Planning Strategy
+ Perth and Peel @3.5million
+ PTA Station Access Strategies

No.	Action	Alignment with Focus Areas: Inclusive	Safe	Community	Environment	Economic Development & Growth	Leadership & Innovation	The City's Role	Key Partners / Stakeholders	Timeframe	Cost (to the City)
1	Undertake a walking study around schools to identify the issues unique to each location, recommend solutions to improve safety and increase the number of students walking / riding to school.	✓	✓	✓				Investigate and Seek Grant Funding Opportunities	Schools, DoE, MRWA, DoT	Short term	Below $100k
2	Update the City's Local Bicycle Network Plan to align with the current network context, including the Long-term Cycle Network.	✓	✓	✓				Investigate and Seek Grant Funding Opportunities	DoT, PTA, MRWA, METRONET	Short term	Below $100k
3	Support the provision of ancillary infrastructure for active transport (e.g. end of trip facilities, bicycle repair stations etc.)	✓	✓	✓				Advocate / Plan and Deliver	DoT, METRONET, Private developers	Short term	Between $100k to $500k
4	Continue to work with the PTA, and METRONET where applicable, to review the existing and future public transport network servicing the City, and advocate for improved public transport services where required. As part of this, ensure good bus service connectivity is provided as part of the Thornlie-Cockburn Link rail line, targeting the suburbs of Piara Waters, Harrisdale and Forrestdale within the City. As well as advocate for the development of a mid-tier public transit system servicing the City and connecting to key destinations.	✓		✓		✓	✓	Advocate	PTA, METRONET	Ongoing	Below $100k

No.	Action	Alignment with Focus Areas: Inclusive	Safe	Community	Environment	Economic Development & Growth	Leadership & Innovation	The City's Role	Key Partners / Stakeholders	Timeframe	Cost (to the City)
5	Implement the recommendations in the PTA's Station Access Strategies to provide high quality connections between peoples homes and the relevant train station.	✓	✓	✓	✓			Plan, Deliver and Seek Grant Funding Opportunities	PTA, DoT	Ongoing	Greater than $500k
6	Continue to support and encourage community based behaviour change programs for (e.g. 'Your Move – schools, community and workplace program' run by the DoT).	✓		✓				Advocate and Seek Grant Funding Opportunities	DoT, Schools	Ongoing	Below $100k
7	Advocate for the delivery of schools in growth areas to increase walkability to schools and reduce the need for transport to schools by car.			✓				Advocate	DPLH, DoE, Schools	Short term	Below $100k
8	As part of new community facilities or the redevelopment of existing community facilities (e.g. development of the Armadale Regional Recreation Reserve), support access via all transport modes, prioritising active modes, particularly pedestrian movements. This includes end of trip facilities, such as investigating provision for eRideable devices (e.g. secure storage).	✓		✓				Plan and Deliver	N/A	Medium term	Between $100k to $500k
9	Advocate for continued improvements to existing train stations and rail services along the Armadale Line. This includes support for the suite of initiatives identified in the PTA's Rail Growth Plan, such as the Station Access Improvement Program and Platform and Signalling Upgrade Program.	✓		✓		✓		Advocate	PTA	Ongoing	Below $100k

FOCUS AREA

ENVIRONMENT

An integrated transport network that enhances community amenity through designs that are coordinated with Armadale's natural beauty, and highlights the City's diverse landscapes and environment

THE CHALLENGE

The loss of tree canopy and reduction of native vegetation can be the outcome of urban development, which can pose a challenge for areas in Perth.

As noted on the City's Urban Forest Strategy webpage "*Armadale is one of the fastest growing areas in Perth and with this rapid urban sprawl comes a loss of tree canopy and a greater need to plant and maintain trees in our neighbourhoods, creating what is known as an 'urban forest'*."

In recognising the positive benefits associated with trees and vegetation in our streetscapes, the City became one of the first councils in WA to develop an Urban Forest Strategy.

The Urban Forest Strategy seeks to retain and increase the City's natural assets, building on the City's identity as a leafy, green place with high natural value, and the unique offering due to its location within in a transitional zone between the urban and natural environment.

Over the course of five years, 4,792 new street trees have been planted, in addition to the ~700 to 800 planted on residential verges throughout the City each year. The success of providing new trees through the Urban Forest Program is coupled with other measures adopted by the City to preserve trees including Local Planning Policy *PLN 2.4 – Landscape Feature and Tree Preservation*.

THE OPPORTUNITY

The City's roads and streets provide a significant opportunity to increase tree canopy and vegetation coverage.

In addition to providing habitat for wildlife, street trees and vegetation provide shades, reduce the urban heat island effect, enhance streetscape amenity and provide pleasant environments for people to walk and ride.

Access to green spaces is linked to positive mental health and wellbeing outcomes, while street trees support the creation of spaces where people can stop to rest and socialise with one another, thereby contributing towards the vibrancy of Armadale's streets.

The Urban Forest Strategy highlights opportunities for tree planting to be used as a means of traffic calming, aiding a reduction in vehicle speeds, and as a measure for enhancing the natural wayfinding attributes of a street.

The actions outlined in this strategy continue to prioritise the preservation of, and increase in, the City's natural assets, ensuring that such considerations are embedded early on in the lifecycle of transport projects.

DESIRED OUTCOMES / BENEFITS

+ Continue to support the retention of existing, and planting of new trees and vegetation as part of transport projects
+ Provide shade for people, reduce temperatures in summer and reduce the impacts of the urban heat island effect
+ Create pleasant environments that encourage people to walk and ride
+ Beautify streets and bolster sense of place within communities
+ Provide habitat for wildlife and enhance local biodiversity
+ Positive public health outcomes

STRATEGIC ALIGNMENT

+ City of Armadale Strategic Environmental Commitment
+ City of Armadale Urban Forest Strategy 2014
+ City of Armadale Local Planning Strategy
+ Local Planning Policy *PLN 2.4 – Landscape Feature and Tree Preservation*
+ Local Planning Policy *PLN 2.6 – Water Sensitive Design*
+ City of Armadale Community Health and Wellbeing Plan 2021-2024

No.	Action	Alignment with Focus Areas: Inclusive	Safe	Community	Environment	Economic Development & Growth	Leadership & Innovation	The City's Role	Key Partners / Stakeholders	Timeframe	Cost (to the City)
1	Continue to identify opportunities for preserving existing trees and vegetation as well as planting new trees and vegetation as part of transport related projects. As part of this, continue to implement the City's Local Planning Policy *PLN 2.4 – Landscape Feature and Tree Preservation* which highlights the importance of tree and landscaping feature retention.	✓		✓	✓	✓	✓	Plan and Deliver	MRWA, PTA, METRONET, OMTID	Ongoing	Between $100k to $500k
2	Continue to implement the City's Local Planning Policy *PLN 2.6 – Water Sensitive Design* and investigate suitable locations to apply water sensitive urban design principles along transport corridors.				✓			Plan and Deliver	Water Corporation, DEWR	Ongoing	Between $100k to $500k
3	Develop a Trails Network Plan as endorsed by Council. The plan may include identifying suitable locations for walking, riding and horse riding trails / loops. As part of the plan, identify suitable locations to install lookout points.	✓		✓	✓	✓		Investigate	DBCA	Short term	Below $100k
4	Prepare a Biodiversity Protection Policy and Procedure to inform avoidance, mitigation and offset of impacts as relates to infrastructure provision.				✓			Plan and Deliver	N/A	Short term	Below $100k

FOCUS AREA

ECONOMIC DEVELOPMENT & GROWTH

An integrated transport network that facilitates growth and provides regional connections to support a strong local economy and reinforce the City's role as a Strategic Metropolitan Centre

THE CHALLENGE

The City's role as a Strategic Metropolitan Centre, coupled with the growth of supporting activity and retail will support local jobs and attract regional employment, increasing the number of people living in the City and number of visitors to the area. The consequence of this additional activity is an increased pressure on the City's existing transport infrastructure, particularly the regional road network.

To support this, significant investment in infrastructure is occurring in and around the City, including the State Government's METRONET projects (see Section 9.2.2). This will have a material effect on the urban form of the area and will require careful design to ensure that it supports the City's local planning objectives.

A sufficient supply of parking is necessary to facilitate the economic viability and growth of the Armadale City Centre, as private motor vehicles continue to be the dominant form of mobility. Appropriate parking policy and management methods can be used to mitigate the adverse impacts of over-supply, creating an equitable and efficient system which supports activity in the city centre environment.

In future, freight throughput is also expected to increase along the extensive network of freight routes that run through the City (see Section 9.1.7). It is vital that the transport network facilitates the efficient movement of goods, while mitigating the impact of the growing freight task on the City's residents and road users.

THE OPPORTUNITY

The success of the City as a Strategic Metropolitan Centre, supporting the growth and vitality of Armadale's economy, requires a co-ordinated effort between multiple agencies and key stakeholders.

The significant Government investment on METRONET projects in the area is an opportunity to deliver positive outcomes that contribute towards supporting the City (particular the Armadale City Centre) as a major destination in Perth's southeast. This includes providing high quality station precincts with appropriate car parking provisions, to create places that meet the needs of users.

Advocating for the strategic development of freight links is also key to supporting economic growth and commercial activity, while also maintaining a safe road network.

The City is expected to experience a scale of change and development that will reduce the need for people to travel for work and services outside of the City. This creates an opportunity to shape the travel behaviour of new residents by making sustainable travel a compelling choice, particularly for short-distance travel to local services and facilities.

To achieve this, high quality infrastructure (e.g. shared / bicycle paths) should be embedded as part of new developments, as retrofitting these facilities to existing urban areas can be slow and expensive. For the redevelopment of the City's established areas, opportunities will be investigated as part of major developments and streetscape improvements.

DESIRED OUTCOMES / BENEFITS

+ Ease of access to jobs and services in the City for residents and visitors
+ Highly accessible activity and retail centres
+ High quality station precincts, public transport infrastructure and supporting services
+ Efficient movement of goods
+ Mode shift to sustainable transport options, particularly for localised journeys

STRATEGIC ALIGNMENT

+ Draft Armadale City Centre Structure Plan
+ City of Armadale Local Planning Strategy
+ Local Planning Policy PLN 2.10 – Environmentally Sustainable Design
+ Local Planning Policy PLN 2.4 – Landscape Feature and Tree Preservation.
+ Activity and Retail (Commercial) Centres Strategy 2020
+ City of Armadale Community Economic Development Strategy 2018 - 2022
+ Perth and Peel @3.5million

No.	Action	Alignment with Focus Areas: Inclusive	Safe	Community	Environment	Economic Development & Growth	Leadership & Innovation	The City's Role	Key Partners / Stakeholders	Timeframe	Cost (to the City)
1	Embed sustainable transport infrastructure as part of new development areas and continue to implement the City's Local Planning Policy *PLN 2.10 – Environmentally Sustainable Design* and *PLN 2.4 – Landscape Feature and Tree Preservation*.	✓		✓	✓	✓		Plan and Deliver	Private developers	Ongoing	Below $100k
2	Support localised freight movements and deliveries through the provision of fit-for-purpose loading areas in key locations.		✓			✓		Advocate	Private developers, MRWA	Short term	Below $100k
3	Undertake a study to investigate alternative freight and delivery vehicle service provision in the Armadale City Centre, as demand for kerbside space increases. For example this could include measures to encourage off-peak delivery times, or using more space efficient vehicles, such as eRideables, for the last mile delivery of goods.		✓			✓		Investigate	MRWA, Private developers, DPLH	Medium term	Below $100k
4	Continue to support the development and continuous improvement of high quality activity centres which meet the needs of the community, though existing and proposed activity centre / precinct plans.	✓	✓	✓	✓	✓		Plan and Deliver	METRONET, PTA, MRWA, DPLH, Private developers	Ongoing	Between $100k to $500k
5	Continue to advocate for the delivery of high quality station precinct and public realm outcomes, delivered as part of METRONET projects. As part of this, ensure that project outcomes are aligned with, and can successfully meet, both the City's and METRONET's strategic planning objectives.	✓	✓	✓	✓	✓	✓	Advocate	METRONET, MRWA, PTA	Ongoing	Below $100k

No.	Action	Alignment with Focus Areas: Inclusive	Safe	Community	Environment	Economic Development & Growth	Leadership & Innovation	The City's Role	Key Partners / Stakeholders	Timeframe	Cost (to the City)
6	Advocate for improved weekend and night-time bus services to support an evening economy, as the City's land uses develop to support activation of the Armadale City Centre.	✓	✓	✓		✓		Advocate	PTA	Medium term	Below $100k
7	Continue to support the committed and funded Tonkin Highway Extension project, in support of improved connectivity for freight / heavy vehicles.		✓			✓		Advocate	MRWA	Ongoing	Below $100k
8	Continue to advocate for the development of strategic east-west routes to support the movement of freight along routes that can move goods efficiently and safely, for all road users. This includes working with key partners to understand potential impacts for the City resulting from the Westport project, which identifies Anketell-Thomas Road as the strategic freight corridor. Further, work with key partners to identify the role of Rowley Road as a key strategic east-west link. Additionally, advocate for the planning and implementation of a freight bypass route connecting Albany Highway, South Western Highway and Brookton Highway, to reduce freight movements through the Armadale urban areas.	✓	✓	✓		✓		Advocate	MRWA, Westport	Ongoing	Below $100k

No.	Action	Alignment with Focus Areas: Inclusive	Safe	Community	Environment	Economic Development & Growth	Leadership & Innovation	The City's Role	Key Partners / Stakeholders	Timeframe	Cost (to the City)
9	Continue to monitor road conditions along major road corridors under consideration in the MRWA Future State Administered Roads Project – Metropolitan, and advocate for upgrade and classification assessment as required. Roads that are currently under consideration include Ranford Road, Nicholson Road, Warton Road and Rowley Road.	✓			✓			Advocate	MRWA	Ongoing	Below $100k
10	In recognising the importance of regional transport connectivity for the City, continue to collaborate with surrounding neighbouring Councils to improve and enhance transport, including road safety, efficiency planning and issues relating to boundary roads.	✓	✓	✓		✓		Plan, Deliver / Advocate and Seek Grant Funding Opportunities	Neighbouring Local Government Authorities, MRWA, DoT	Ongoing	Below $100k to Greater than $500k

FOCUS AREA

LEADERSHIP & INNOVATION

An integrated transport network that is future ready, demonstrating leadership and our commitment to improving the way people move to / from and within the City

THE CHALLENGE

Transport is currently experiencing a transformation at an incredibly rapid rate, with the introduction of new and disruptive technologies. This has a profound impact on the way people move around, and will continue to do so into the future.

Examples of emerging technology in the field of transport include electric vehicles, autonomous or driverless vehicles, drones and eRideables such as e-scooters, e-skateboards, e-unicycles, hoverboards, and even include continuous advancements in e-bike technology.

Anecdotal evidence indicates that there has been a surge in demand in the use of eRideables in and around the City, which is expected increase. While such devices are extremely effective in servicing first and last mile trips, their uptake will be contingent on the provision of suitable riding conditions.

eRideables have similar space requirements and travel at similar speeds as bicycles, as such, it is expected that demand on the City's cycling network will increase.

On a broader scale, there will be an increase in demand for the use of road space as the City further develops, and the movement of people and goods grows. This presents a challenge for the City, in managing a finite amount of road space, coupled with some degree of uncertainty as to how emerging transport technologies will change peoples' travel choices, and to what extent.

THE OPPORTUNITIES

There have been many "firsts" in the City of Armadale and the Council has demonstrated progressive sector leadership and innovation over multiple areas including health, economic development, environment, planning and transport innovations which provides a City platform to extend the boundaries through integrated transport projects and initiatives.

Transport is the second largest source of carbon emissions in Australia, therefore, has a major role in supporting the State Government's goal to achieve net zero greenhouse gas emissions by 2050.

The City's commitment to reducing carbon emissions as per its Corporate Greenhouse Action Plan, contains several actions relating to transport. The role of emerging transport technologies in making Armadale's streets and roads safer and more efficient will also be investigated, alongside adopting best-practice, evidence-based approaches to help plan, manage and deliver transport in Armadale.

The Healthy Streets Approach is one example of a framework that can be used to assess how Armadale's streets perform. At it's core this approach is about making streets healthy places for everyone and places people and their experience at the centre of decision-making.

DESIRED OUTCOMES / BENEFITS

+The City is a known leader in adopting and applying best-practice transport approaches

+Emerging technology is used to support the realisation of the City's transport vision

+The City is well positioned in understanding how emerging transport technologies can impact travel choices and network requirements

STRATEGIC ALIGNMENT

+City of Armadale Corporate Greenhouse Action Plan 2020/21 – 2029/30

+City of Armadale Local Planning Strategy

+City of Armadale Strategic Community Plan 2020-2030

+Western Australian Climate Change Policy

No.	Action	Alignment with Focus Areas: Inclusive	Safe	Community	Environment	Economic Development & Growth	Leadership & Innovation	The City's Role	Key Partners / Stakeholders	Timeframe	Cost (to the City)
1	Trial the application of the Healthy Streets Approach to a project to identify, deliver and measure the impacts of interventions to create inclusive, healthy environments, including: • Using the Qualitative Street Assessment to set out the scope of the project. • Applying the Design Check tool at each stage of a planned project to quantify how street design improves the 10 Healthy Street Indicators. • Using the Healthy Streets Survey to elicit stakeholder views on the project street before and after implementation. • Using Healthy Streets framing in public facing communications. The trial will be assessed to determine success and next steps for embedding the approach into Council activities and operations. As part of this, upskill key decision makers, including Elected Members and senior members of staff, on delivering the Healthy Streets Approach as part of their roles / undertaking training to become qualified Healthy Streets practitioners.	✓	✓	✓	✓		✓	Plan and Deliver	N/A	Short term	Below $100k
2	Continue to electrify of the City's operational vehicle fleet as per the City's Corporate Greenhouse Action Plan.			✓	✓	✓	✓	Plan and Deliver	N/A	Ongoing	Greater than $500k

No.	Action	Alignment with Focus Areas: Inclusive	Safe	Community	Environment	Economic Development & Growth	Leadership & Innovation	The City's Role	Key Partners / Stakeholders	Timeframe	Cost (to the City)
3	Partner with key stakeholder / explore different partnership agreements to investigate the feasibility of, including suitable locations, to provide electric vehicle charging infrastructure.	✓			✓		✓	Advocate	DoT, RAC, WALGA, Private developers	Medium term	Below $100k
4	Investigate the feasibility of supporting a privately operated car share scheme, to support the reduced need for private vehicle ownership.	✓		✓	✓	✓	✓	Investigate	DoT, Private companies	Medium term	Below $100k
5	Investigate on-demand transport options to supplement gaps in existing public transport service provision. For example this may include for the suburbs of Roleystone and Mt Nasura, which are challenging areas to service effectively via buses.	✓	✓	✓			✓	Investigate	DoT, PTA	Short term	Below $100k
6	Undertake a study to explore the potential application of Intelligent Transport Systems within the City. For example, this may include: • Modal priority at traffic signals • Dynamic speed signs and variable messaging (e.g. displaying live vehicle speeds, smiley / sad face icons) • School speed limit signs • Real-time information (e.g. live bus tracker information at bus shelters, or Park and Ride availability at train stations) • Freight management systems • Smart lighting technology (in locations additional to those already identified as part of the City's street lighting audit)	✓	✓			✓	✓	Investigate	MRWA, PTA, DoT, Disability Sector	Medium term	Between $100k to $500k

No.	Action	Alignment with Focus Areas: Inclusive	Safe	Community	Environment	Economic Development & Growth	Leadership & Innovation	The City's Role	Key Partners / Stakeholders	Timeframe	Cost (to the City)
7	Continue to advocate with METRONET, PTA and MRWA to ensure the train line closures (for METRONET projects) have minimal impact on people who use public transport.	✓	✓				✓	Advocate	METRONET, PTA, MRWA	Ongoing	Below $100k
8	Investigate external funding opportunities to support the delivery of this Action Plan. As an example this may include through the Department of Transport's Active Travel Officer Grant category which provides funding to support Local Government Authorities to employ an Active Travel Officer to deliver local active travel initiatives.						✓	Investigate and Seek Grant Funding Opportunities	DoT	Short term	Below $100k
9	Continue to review staff travel behaviour, including: • Travel during work hours – optimisation of travel time through OneCouncil Work Management module • Travel staff commuting patterns including implementing the recommendations as per the City's Corporate Greenhouse Action Plan e.g. encourage staff travel via sustainable modes of transport.				✓		✓	Plan and Deliver	N/A	Ongoing	Below $100k

THE CITY OF ARMADALE IN CONTEXT

6. SITE CONTEXT

Located in Perth's south-eastern suburbs, approximately 28 kilometres (km) from the Perth CBD (see Figure 6), the City is surrounded by multiple other Local Government Areas (LGA), highlighting the importance of regional transport connectivity for the City.

This includes the City of Cockburn to the west, the City of Gosnells and the City of Kalamunda to the north, the Shire of York and the Shire of Beverley to the east as well as the Shire of Serpentine Jarrahdale and the Shire of Wandering to the south.

The City is uniquely situated at the foothills of the Darling Range, resulting in the City being made up of a large portion of dense bushland, particular to the east .

Historically, the City has identified itself as a country town, sitting on the fringes of the Perth metropolitan area.

However, it has since transitioned and is rapidly evolving into a major regional activity centre, servicing key growth areas both within the City as well as in areas surrounding the City (e.g. Byford).

The City encompasses a large geographic area with a total of 19 suburbs, many of which include populations with diverse needs and / or with a range of socio-economic groups.

Over the next 30 years, Armadale will experience a step change in land use to accommodate the anticipated growth in population, with key growth areas planned for the City, including both greenfield development as well as increased densification through infill and urban renewal.

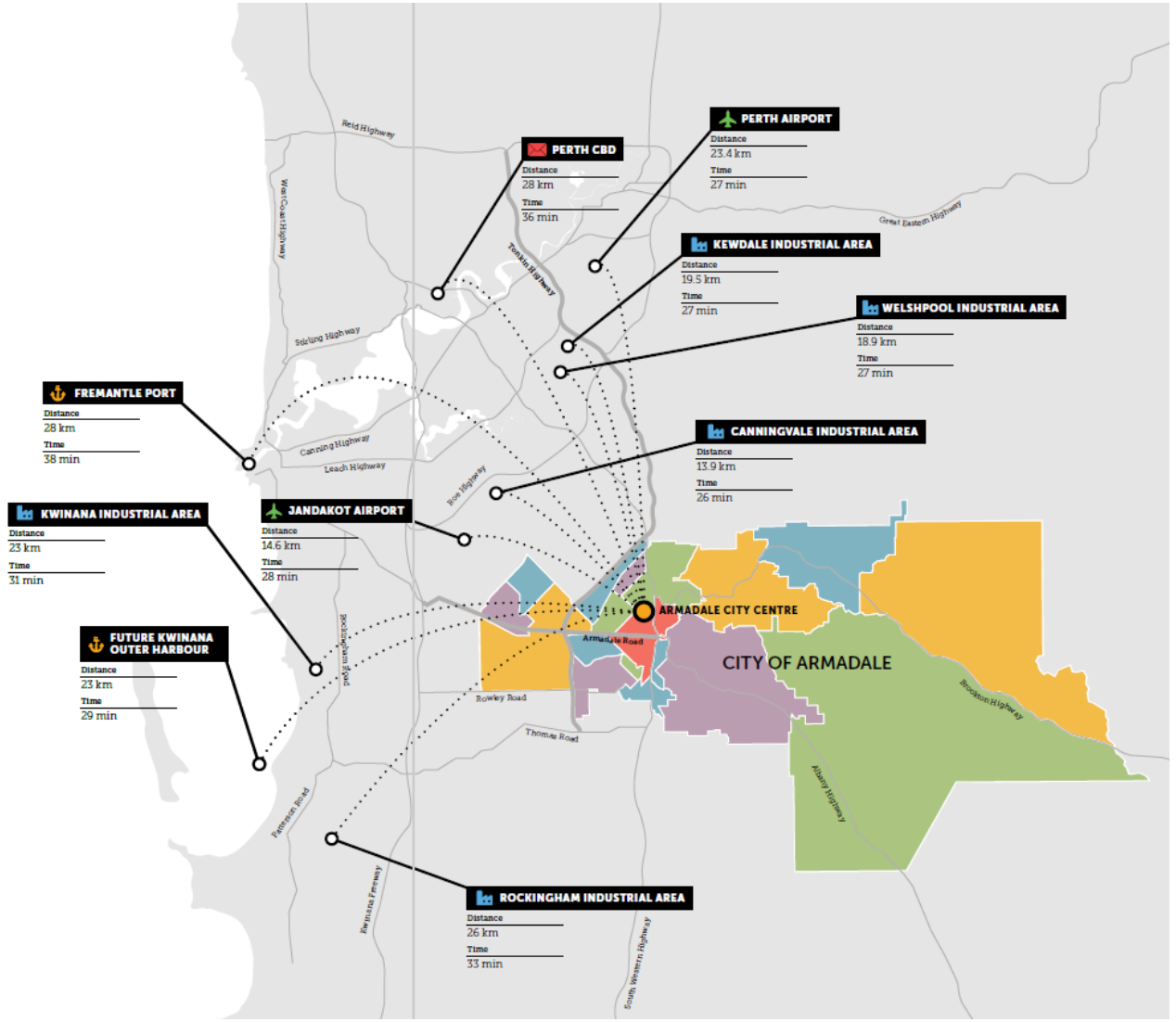


Figure 6: Location context (City of Armadale Business Investment Prospectus 2022 – 24)

7. THE PEOPLE

7.1 Existing

As per 2021 ABS census data (sourced through ABS TableBuilder) the City's average households are made up of:

54% couples with children

18% couples without children

8% people living alone

12% one parent families

7% other households

12% seniors vs. 16% Greater Perth

23% young people vs. 19% Greater Perth

5% people with a disability which is aligned with Greater Perth

There is a higher number of households in the City that own more than one vehicle (58%) compared to Greater Perth (52%).

The majority of residents commute to work by driving a car, as depicted in Figure 9 overleaf. The proportion of residents driving a car to access work (91%) is significantly higher than Greater Perth (86%).

This indicates a strong reliance on private motor vehicle use by the City's residents. This is also evidenced in the community survey, where 80% of respondents' most common travel mode was car (see Section 3).

Seventy percent of the City's working age residents are employed which is less than the 73% of Greater Perth. Key employment sectors include 'health care and social assistance' (15%), 'retail trade' (10%) and 'construction' (9%).

As per Figure 7, overall, there are more workers living in the City than there are number of jobs available in the City. As a result of this, the majority of residents are required to travel outside of the City to access their place of work, as shown in Figure 8, thereby inducing demand on the City's road network.

A key objective in the City's future planning framework is to increase the City's employment self-sufficiency by growing the local economy.

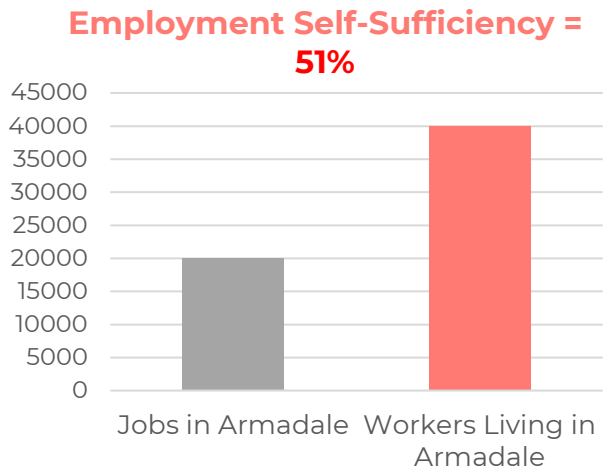


Figure 7: City of Armadale jobs vs. residents

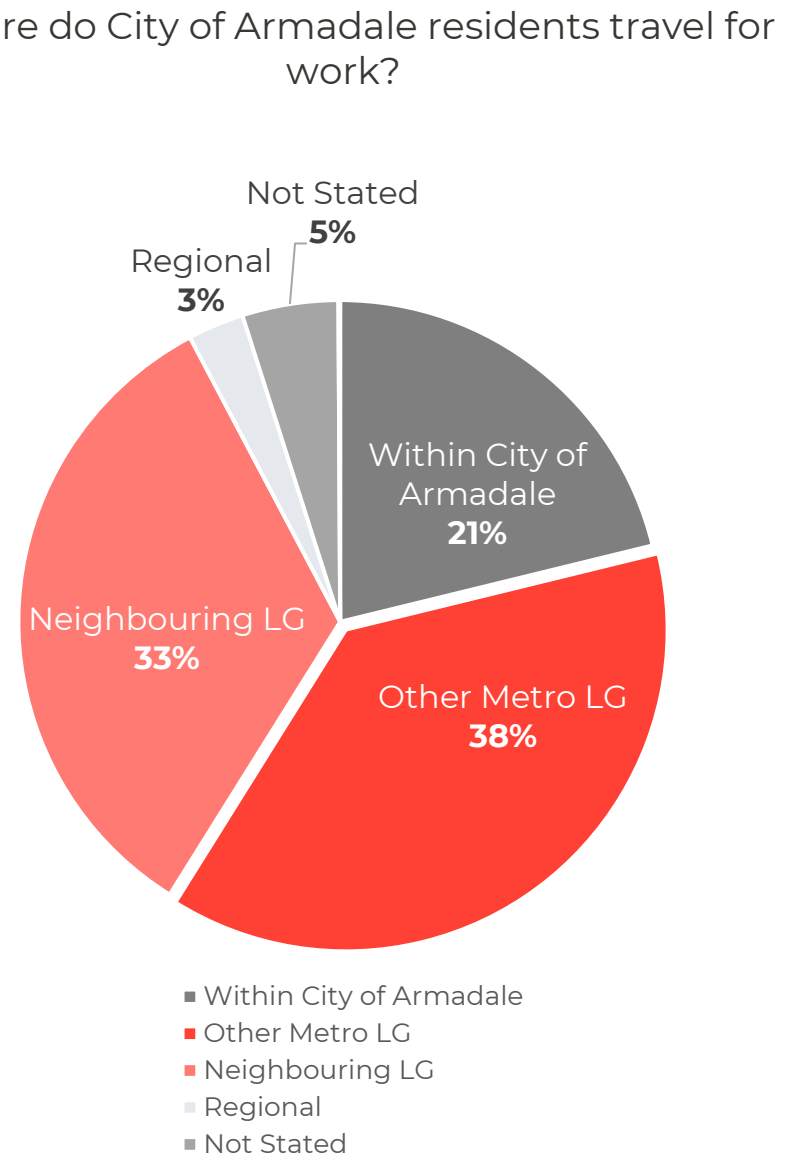


Figure 8: Work locations of City of Armadale residents

JOURNEY TO WORK (ABS CENSUS DATA 2021)

Mode of transport used by City of Armadale residents to travel to work, compared to Greater Perth

	Walking	Cycling	Driving	Train	Bus
City of Armadale Residents	1%	<1%	**91%**	6%	2%
Greater Perth Residents	2%	1%	**86%**	6%	4%

Figure 9: ABS census data – Journey to Work (2021)

7. THE PEOPLE

7.2 Socio–economic profile

Figure 10 depicts information from the Socio-Economic Indexes for Areas (SEFIA), which ranks and displays areas according to relative levels of socio-economic advantage and disadvantage.

SEIFA is derived from attributes such as level of income, educational attainment, level of employment and occupations.

As can be seen, the older / established suburbs of the City, are ranked with high levels of social disadvantage, including the suburbs of:

— Armadale

— Camillo

— Kelmscott

— Seville Grove

Conversely, the City's eastern suburbs, as well as the western suburbs of Harrisdale and Piara Waters to the west, are identified as areas with the least social disadvantage.

The variances between the City's suburbs are extremely diverse. Piara Waters ranks in the top 4% of suburbs with the least disadvantage, while Armadale (south) ranks in the bottom 4% of suburbs, with high levels of social disadvantage.

In recognition of this disparity, this ITS has been developed to support access and mobility in a way that will not have a disproportionate social impact.

The ITS seeks to provide a transport network that functions in support of social equality and access for all. This is particularly important for the City where there is a clear disparity between areas of high and low social disadvantage.

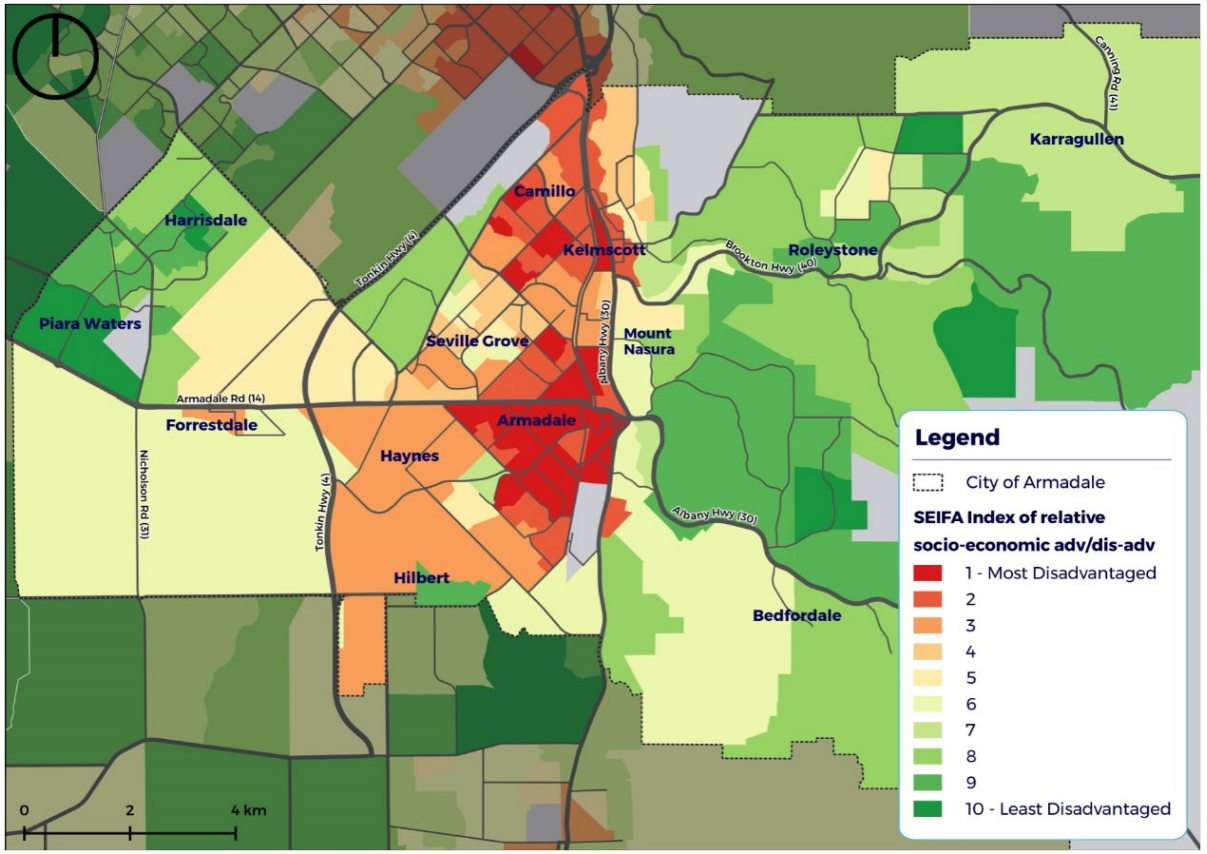


Figure 10: SEIFA Index (2016 ABS census data)

7. THE PEOPLE

7.3 Future

Over the next 30 years, the City is expected to experience a step change in land use to accommodate the anticipated growth in population.

As outlined in previous sections, the City's population is forecasted to grow from almost 98,000 at present, to just under 152,000 by 2041 , and 160,000 by 2051, making it the third fastest LGA in Western Australia.

The growth potential for the City can be attributed to greenfield development as well as increased densification through infill and urban renewal. Additional key growth areas planned for the City are identified in Section 8.2 of this ITS.

Figure 11 depicts the increase in dwellings between 2016 to 2041 forecasted for the City's suburbs. The largest concentration of increase in dwellings is observed within the City's western suburbs, including:

— Hilbert

— Piara Waters

— Harrisdale

— Haynes

— Forrestdale

Minimal change in dwelling yields is expected to occur in the locality's eastern suburbs, preserving the character of this rural, low density residential area.

In total, the number of dwellings in the City is anticipated to increase from 32,000 in 2016 to almost 58,000 dwellings in 2041.

With this growth also comes change in demographic composition, including cultural and linguistic community diversity within the City.

As per 2021 ABS census data, 36% of Armadale's community were born overseas, while households where a language other than English is spoken rose by 5% between 2016 and 2021.

As such, the transport network will need to be maintained and developed in a way that can sustainably support this large amount of growth, as well as meeting the needs of the diverse Armadale community.

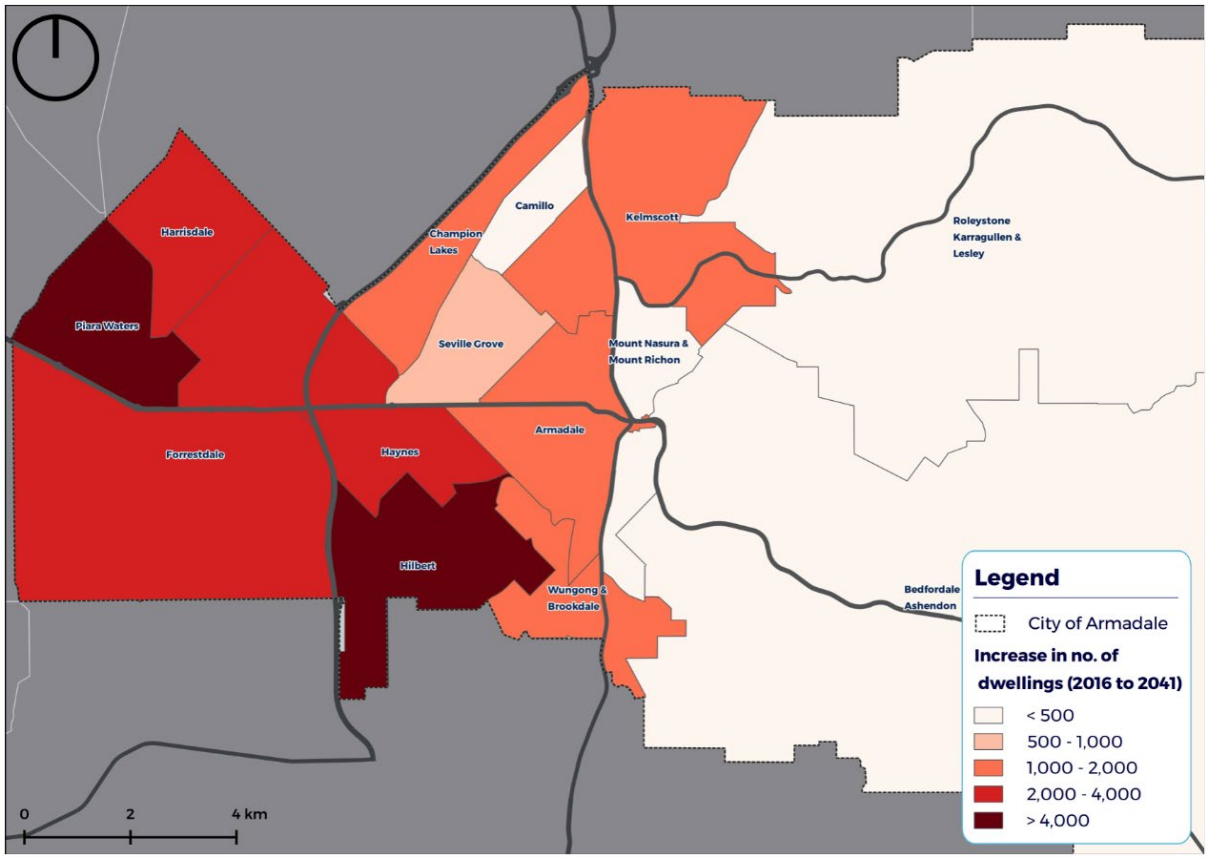


Figure 11: Increase in dwellings between 2016 to 2041

8. THE PLACES

8.1 Existing

The City contains a diverse range of land uses and destinations, including 26 existing activity and retail centres, which is set to grow to a total of 44 in future (refer to Figure 12).

This includes the Armadale City Centre which is identified by the State Government as one of only ten Strategic Metropolitan Centres in Perth.

Strategic Metropolitan Centres are multipurpose centres that provide the full range of economic and services necessary for the community, and have an important focus on rail and / or high frequency bus connectivity to and from the centre.

Kelmscott, Harrisdale and Hilbert are identified as District Centres, and are supported by several lower order Neighbourhood and Local Centres.

These centres are essential places where people work, shop, socialise and access key services such as health care.

In addition, the Armadale Health Centre functions as a key destination in the City for medical provision.

The City also houses a range of educational facilities, including primary and secondary schools as well as the South Metropolitan TAFE Armadale Campus which are key trip attractors.

The City contains a number of significant industrial areas which are vital in facilitating economic development within Armadale, as well as supporting the State's long-term economic growth.

A wide variety of community facilities are provided by the City, including high quality public open / recreational spaces, playgrounds, parks, walking trails, sporting reserves, the Armadale Fitness and Aquatic Centre and the state of the art Champion Lakes Regatta Centre.

The Canning River and Wungong River also run through the City, with these natural features serving as recreational attractors for the region.

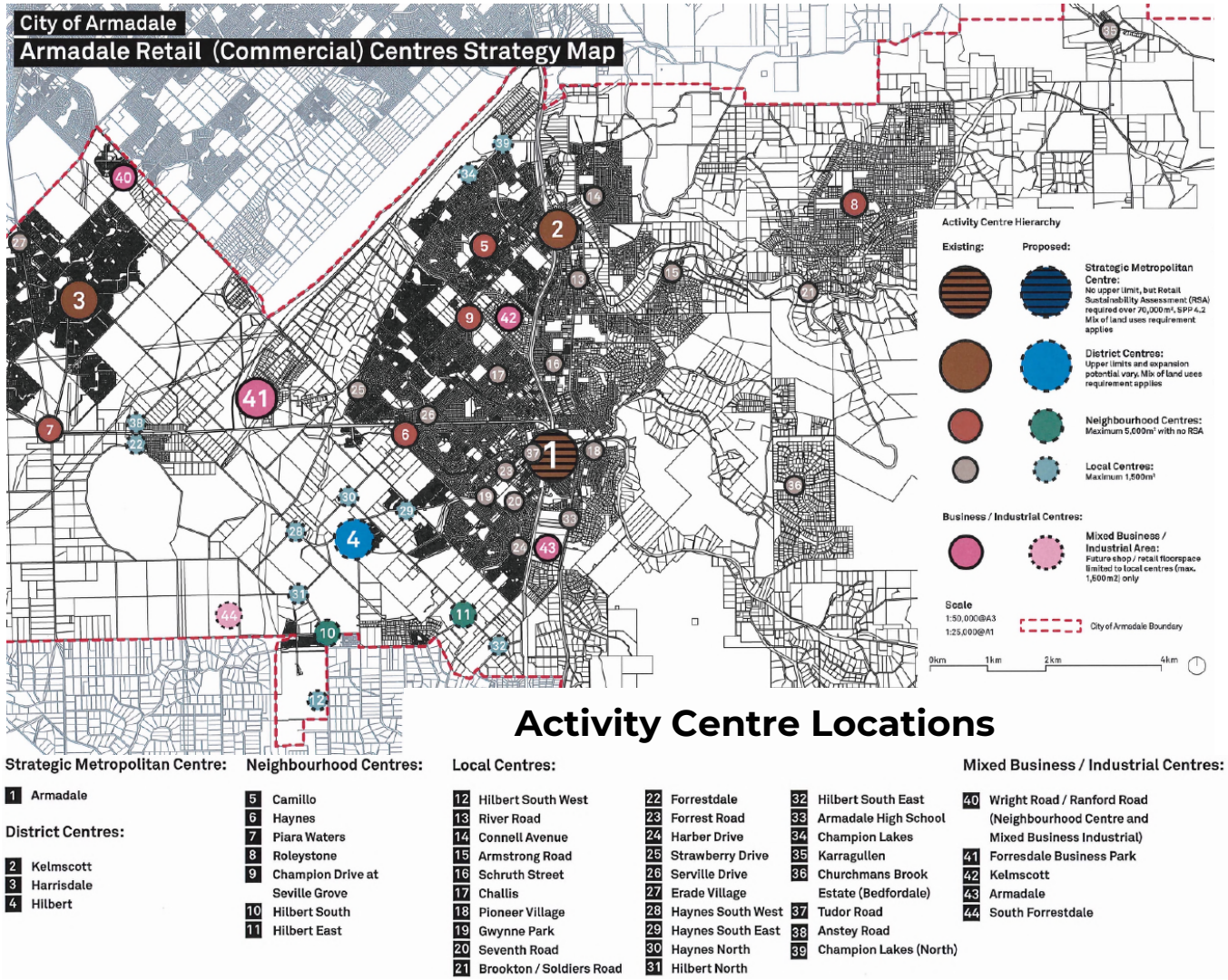


Figure 12: City of Armadale Activity and Retail (Commercial) Centres Strategy map

8. THE PLACES

8.2 Future

There are several proposed development areas planned for the City to support the needs of the growing community.

The Draft Armadale City Centre Structure Plan (the structure plan) was developed to guide the growth of the Armadale City Centre, supporting the estimated changes outlined in Table 1:

Table 1	EXISTING	FUTURE
HOUSES	236	1,250 – 2,300
PEOPLE	456	5,000 – 7,000
JOBS	3,000	18,000

The structure plan divides the Armadale City Centre into nine distinct precincts, each meeting unique requirements (Figure 13), however, two core objectives for the area relating to transport are underlying:

1. ***People first:*** Seize opportunities to foster vitality and create human scale spaces, focusing on walkability, safety and comfort
2. ***A connected city:*** Create a connected, sustainable, efficient and convenient all-modes transport network to underpin the city's urban regeneration

Other key development areas include precinct planning for the Kelmscott District Centre Precinct Structure Plan. The area's urban form is set to evolve, with greater emphasis on higher density living near public transport and the town centre, in line with the core objectives of METRONET (see Section 9.2.2).

DevelopmentWA's Armadale Redevelopment Area 2 is another initiative that consists of a number of defined project areas including: Champion Lakes, Forrestdale, Kelmscott and Wungong Urban Water. As part of these developments, provision of new community facilities, housing opportunities, and business opportunities are planned.

The City's activity and retail centres, pictured in Figure 12, will strengthen its role as the strategic centre of Perth's south-eastern corridor, offering more places for people to live, work and play.

These centres are relatively evenly dispersed throughout LGA. This presents an opportunity to encourage short-distance walking and riding to access local services.

On the whole, the transport network will have a critical role in connecting people to these existing and emerging, facilitating access to jobs, and therefore, supporting economic growth and development.

Figure 13: Draft Armadale City Centre Structure Plan precincts

9. THE TRANSPORT NETWORK

9.1 Existing

9.1.1 Walking

Collectively, the City's existing network currently comprises of 566 km of footpaths and shared paths.

The City is responsible for managing this network, including maintaining and, to a certain extent, developing the network in conjunction with new developments.

Regardless of which mode a person travels by, everyone experiences being a pedestrian at some point in their journey.

Even those that drive to work or the shops need to park and walk to their destination.

The benefits of walking are widely recognised, and include improving liveability, enhancing social connectedness and fostering healthy communities.

With the exception of the higher order roads (which primarily perform a direct vehicle movement function) the City's road network surrounding existing residential developments is largely characterised by a curvilinear pattern.

This type of road network typically favours motor vehicle usage, introducing a cul-de-sac street pattern / design to reduce / eliminate through movements and non-local circulation in local residential streets.

This has the effect of diminishing the pedestrian experience by introducing indirect and often circuitous walking routes.

The City's public access ways (PAWs) provide more direct linkages and enhance accessibility, although the use of PAWs can be inhibited by perceptions of personal safety and security.

A core objective of the State's planning framework is to increase residential infill, with a focus on areas with good access to public transport and other amenities.

As a result, the number of people living within the immediate walkable catchments of key activity centres, including the Armadale City Centre and Kelmscott Town Centre will increase, as will the level of service offerings for residents and visitors.

This will potentially drive a shift in the way residents access services and amenities within the City and serve as a catalyst for reducing the high level of reliance on private motor vehicles currently experienced within the City.

Major roads including Armadale Road, South Western Highway, Albany Highway as well as the rail line function as barriers to access in the Armadale CBD, reducing the effective extents of the walkable catchment.

This impact is particularly evident to the east of the city centre where many homes in Mount Richon's north lie well outside of a 15-minute walking distance to the city centre, despite being less than 1,200 m away.

Reducing this severance effect will allow more people access to the centre safely and conveniently.

9. THE TRANSPORT NETWORK

9.1 Existing

9.1.2 Cycling

Riding routes within the City exist in various forms, including on and off-road bike lanes and shared paths, providing for both bicycle riders and eRideable users (e.g. e-scooters, e-skateboards etc.)

The City contains a number of principal shared paths (PSPs) and other high quality shared paths which connect to the finer grain cycling network. PSPs runs along Tonkin Highway, Armadale Road and parallel to the Armadale rail line. However, gaps remain along some of these linkages.

Changes to the WA Road Traffic Code in 2016 has resulted in people of all ages being able to ride on footpaths (except where signed otherwise), providing an increased level of accessibility for those riding to, from and within the City.

While the City's localised footpath network provides lower order cycling access, these paths are of varying quality and are often disjointed or missing, which makes them unattractive for higher speed or long distance trips.

While several good road riding environments and bicycle lanes / sealed shoulders are provided, some of these routes are considered unlikely to attract a broad segment of the population, due to real or perceived safety issues (high speed traffic, large vehicle combinations, intersection conflicts).

As outlined in Section 3, improving infrastructure for bikes / eRideables ranked as the second most important measure to improve people's transport journeys in the community survey.

Topography also presents a challenge for everyday, commuter riding within the City. While less of a barrier for eRideable users, the City's east is defined by a steep and undulating environment.

These unique characteristics draw users from a different subset of the riding community, including sports cyclists and recreation riders, for fitness or high intensity training. This presents opportunities for the City to develop a cycling tourism economy and identify opportunities for trail riding, leveraging on its proximity to the Perth foothills and gateway to the internationally renowned Munda Biddi Trail.

Major roads function as barriers to riding as well as walking, due to the high volumes of vehicles travelling at speed, and limitations in safe crossing provision.

This issue is pronounced to the east of the Armadale City Centre along Armadale Road and South Western Highway, where some areas northeast of the city centre are not considered accessible to cyclists as a result of severance effects.

Improvements to the riding network, including the provision of a highly connected, direct and safe network (e.g. separation from traffic, dedicated crossing points) are considered to be essential elements to get more people riding in the City.

9. THE TRANSPORT NETWORK

9.1 Existing

9.1.3 Public transport: train

There are four train stations located within the City, including Armadale Station, Sherwood Station, Challis Station and Kelmscott Station, as pictured in Figure 14.

All services stop at these stations, irrespective of the service pattern, with good service frequency during peak periods. Armadale Station is located in zone 4 of the Transperth network, with all other stations located in zone 3.

Regional connections are provided via Transwa coaches to the State's east and southeast, and the Australind service provides connections to Bunbury via rail.

Armadale Station is located within the Armadale City Centre and Kelmscott Station is located in relatively close proximity to the town centre. As outlined in Section 8.2, the areas surrounding these stations are expected to undergo significant development in the coming decades.

In response, both stations will have a heightened role in connecting people to these areas, not only in continuing to connect the current catchments, but also in supporting the increased number of trips to the Armadale City Centre and Kelmscott Town Centre as they further evolve into key attractors for both the local and wider community.

Both stations serve a large catchment area. Kelmscott Station is close to residential zones in the eastern hills catchment, and Armadale Station currently functions as an end-of-line station, servicing an extended area that extends through to Byford.

However, METRONET's Byford Rail Extension project (refer to Section 9.2.2 for more information) will see the extension of the Armadale rail line to Byford, which will function as the new end-of-line station and is expected to have a significant impact on travel patterns for these users, providing direct connectivity to the rail network.

In contrast, the catchments surrounding Sherwood Station and Challis Station are predominantly comprised of low-density residential housing, however have higher R-Codes to provide for housing diversity and intensification. Both are expected to continue to function as minor suburban stations.

With four train stations located in the City, the rail line provides excellent connectivity between Armadale, the Perth CBD and other key destinations along the line (e.g. Cannington). This, coupled with the large investment committed to improving public transport, provides a significant opportunity to promote multi-modal journeys, and encourage a greater share of trips via the train.

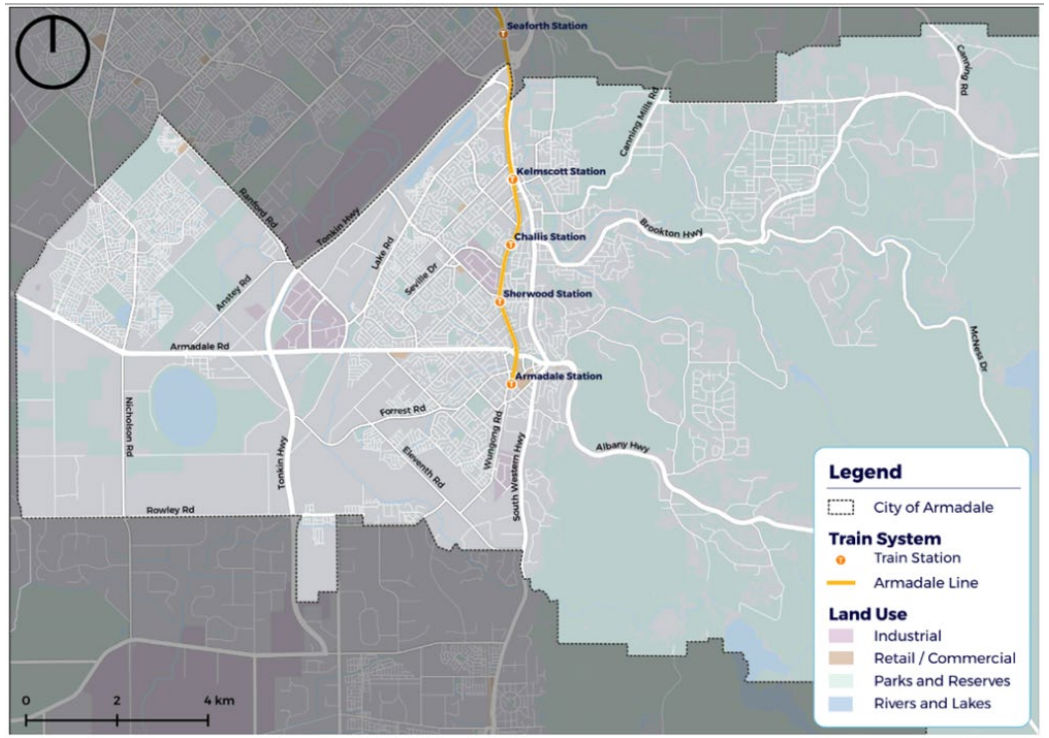


Figure 14: Train stations in the City of Armadale

9. THE TRANSPORT NETWORK

9.1 Existing

9.1.4 Public transport: bus (network coverage)

A total of 14 bus routes service the City, as shown in Figure 15. Each route's frequency is shown overleaf in Table 2.

Bus services are predominantly routed to feed into Armadale Station and Kelmscott Station, both of which have bus interchanges, supporting a sizeable number of bus-to-train transfer trips.

While the areas immediately west of Armadale Station are best serviced by bus routes, a number of service gaps throughout the broader area have been identified.

The suburbs of Hilbert and Haynes currently do not have bus services. While Piara Waters, Harrisdale, Forrestdale and the eastern residential catchment in the hills, such as Roleystone, Mt Nasura and Bedfordale, are considered to have limited bus coverage.

The expansion of the rail network, and corresponding changes to bus routes to support use of the new Thornlie-Cockburn link is expected to fill the existing service gap area in Piara Waters and Harrisdale (see Section 9.2.2 for more information).

However, a number of challenges remain through the eastern suburbs, which may be difficult to overcome. The hilly terrain and the indirect street network both create an environment that is hard to effectively and efficiently service by bus. There are also broader challenges in servicing a low-density area where there is only a limited potential demand.

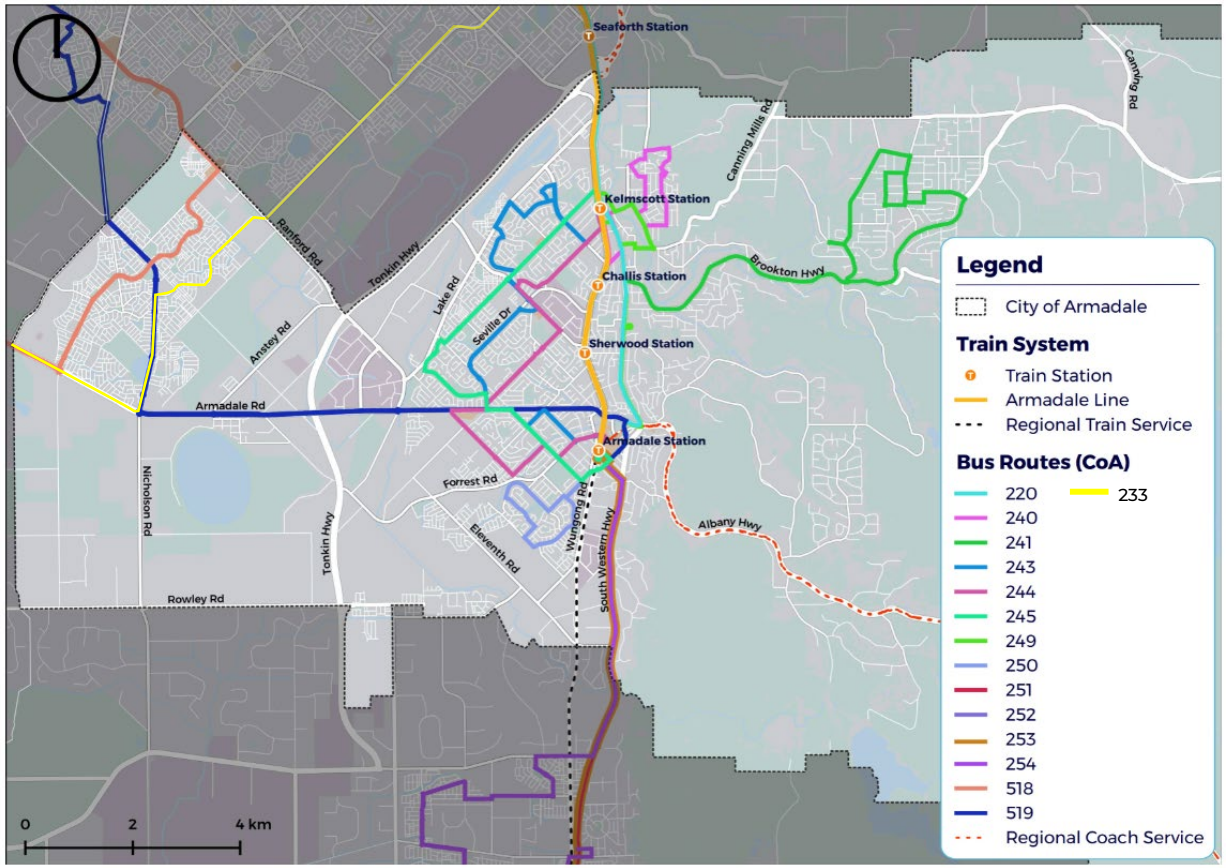


Figure 15: Bus routes in the City of Armadale

9. THE TRANSPORT NETWORK

9.1 Existing

9.1.5 Public transport: bus (service frequency)

As shown in Table 2, bus routes 233, 250, 518 and 519 operate approximately every 15 minutes during peak hours. Outside of peak hours, service frequencies decrease markedly.

The 250 bus route operates inbound, connecting the suburbs of Armadale (south) and part of Brookdale to Armadale Station. Bus routes 519, 518 and 233 travel outbound, providing connections westwards to Murdoch TAFE, Cockburn Central and Gosnells Station.

A bus service is considered to be 'high frequency' where it runs at least:

— Every 15 minutes between 7am and 7pm Monday to Friday

— Every 15 minutes between 8am and 7pm on Saturdays

— Every 15 minutes between 9am and 7pm on Sundays

Based on this definition, there are no high frequency bus services currently operating in the City, even without considering the reduction in weekend service.

On the whole, bus service network coverage and frequency will need to be improved in future in order for the Armadale City Centre to be able to successfully fulfil its role as a Strategic Metropolitan Centre.

With more people expected to live in the City and travel to the City for work and leisure in the future, the public transport network, both train and bus, will have an essential role in getting people to / from and around the City.

As outlined in Section 3, the community survey identified improvements to public transport services as the most important measure to improve people's transport journeys.

The benefits of getting more people to use public transport are far reaching. Fewer cars on the road means less congestion, air pollution and noise pollution, safer environments for all forms of travel and more attractive spaces for activity. High quality public transport services are also the key to delivering an equitable transport system.

Table 2: Bus service frequencies in the City of Armadale

BUS NO.	DEPARTURE	DESTINATION	AM PEAK SERVICES	PM PEAK SERVICES	WEEKEND SERVICES
220	Perth Busport	Armadale Stn	1	2	1
220	Armadale Stn	Perth Busport	3	1	1
233	Gosnells Station	Cockburn Central Station	4	4	1
233	Cockburn Central Station	Gosnells Station	4	4	1
240	Kelmscott Stn	Kelmscott Stn	1	2	-
241	Kelmscott Stn	Kelmscott Stn	1	3	1
243	Armadale Stn	Kelmscott Stn	3	2	1
243	Kelmscott Stn	Armadale Stn	1	2	1
244	Armadale Stn	Kelmscott Stn	3	2	1
244	Kelmscott Stn	Armadale Stn	2	2	1
245	Armadale Stn	Kelmscott Stn	3	3	1
245	Kelmscott Stn	Armadale Stn	3	3	1
249	Armadale Station	Kelmscott Station	1	1	-
249	Armadale Station	Kelmscott Station	1	1	-
250	Armadale Stn	Armadale Stn	4	4	1
251	Kingsbury Dr / Jacaranda Av	Armadale Stn	1	-	1
251	Armadale Stn	Kingsbury Dr / Jacaranda Av	1	1	1
252	Kingsbury Dr / Jacaranda Av	Armadale Stn	2	1	1
252	Armadale Stn	Kingsbury Dr / Jacaranda Av	1	2	1
253	Kingsbury Dr / Jacaranda Av	Armadale Stn	1	-	1
253	Armadale Stn	Kingsbury Dr / Jacaranda Av	-	2	1
254	Clifton St / South Western Hwy	Armadale Stn	3	4	1
254	Armadale Stn	Clifton St / South Western Hwy	2	2	1
518	Murdoch TAFE	Cockburn Central Stn	4	4	1
518	Cockburn Central Stn	Murdoch TAFE	4	3	1
519	Murdoch TAFE	Armadale Stn	2	4	-
519	Armadale Stn	Murdoch TAFE	4	3	-

9. THE TRANSPORT NETWORK

9.1 Existing

9.1.6 Motor vehicles and road safety

The City is responsible for managing and maintaining 790 km of roads, making up almost half of the City's asset portfolio. The local and primary road network performs a critical role in connecting the community to local services and amenities and to the wider metropolitan network and beyond.

Armadale Road provides a crucial east-west connector to the suburb of Cockburn and the coastline, as well as linking to the State's southeast and Albany via Albany Highway. Rowley Road provides access to the west, while Brookton Highway connects the City to the State's eastern region.

Key north-south roads include Tonkin Highway, which transitions into Great Northern Highway, connecting to the State's north-eastern region, and Albany Highway which provides access to the Perth CBD to the north, and to State's southwest region via South Western Highway.

High speed roads with posted speed limits up to 100 km/h sever some residential areas from the broader network.

Speeding and hooning have also been identified by the community as a recurring issue along lower-speed streets.

There were a total of 3,557 reported crashes in the City between 2016 to 2020, the majority of these occurring on State managed roads, with a consistent occurrence per year (see Figure 16 and Table 3).

High concentrations of crashes have been identified at several locations: at and between the intersections of Streich Avenue / Denny Avenue (rail level crossing) and Brookton Highway / Albany Highway, as well as in close proximity to intersections along the Tonkin Highway (Figure 16).

More people living, working and visiting the City in future, will increase demand on the City's road network. ***The Road Safety Strategy for Western Australia 2020 - 2030 specifies the need to "ensure that investments in road infrastructure planning, design and construction align with safe system principles"*** which focus on safer roads, safer speeds, safe vehicles and safer driver behaviour.

Ultimately, road safety is the shared responsibility of everyone. The City will continue to work with key partners and the community to support a safe transport network for all road users.

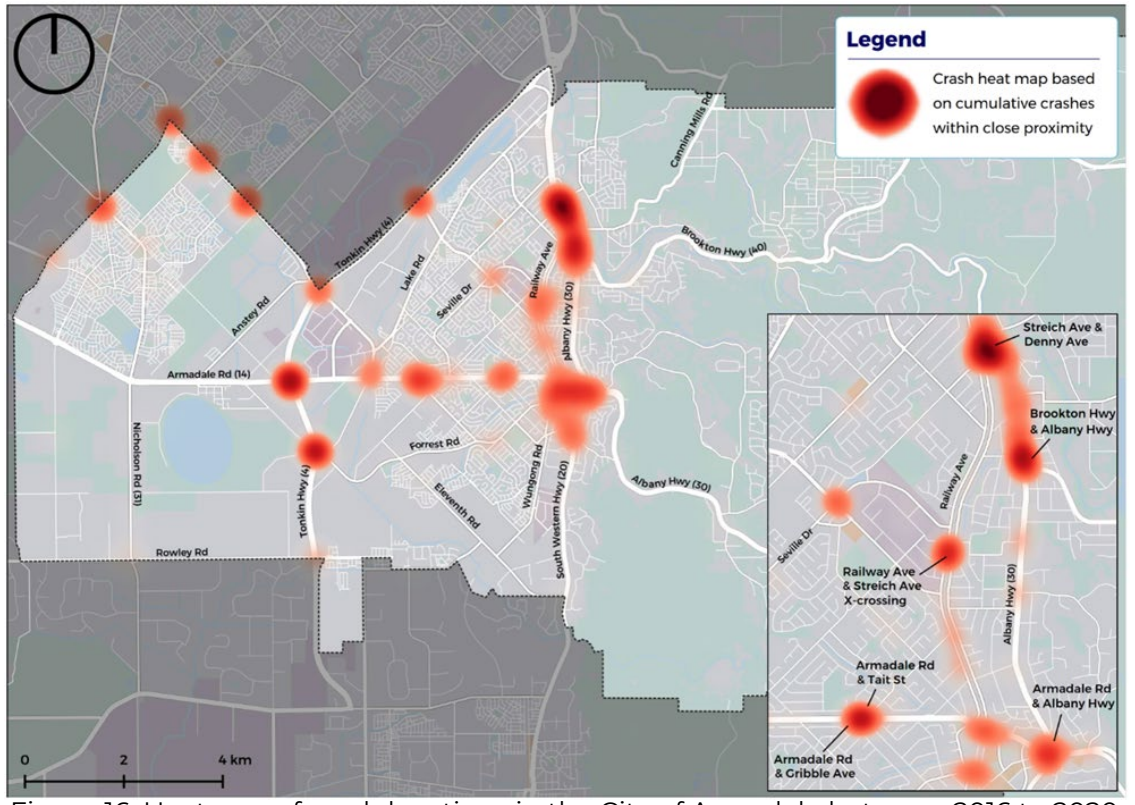


Figure 16: Heatmap of crash locations in the City of Armadale between 2016 to 2020 (fatal, hospital and medical categories only)

Table 3: Total number of crashes in the City of Armadale 2016 – 2020

YEAR	CRASH SEVERITY				
	Fatal	Hospitalisation	Medical	Property Damage	TOTAL
2016	3	37 (3)	93 (1)	642 (3)	**775** (7)
2017	5 (1)	46 (2)	93 (2)	549 (3)	**693** (8)
2018	2	34 (2)	90	604 (5)	**730** (7)
2019	5 (1)	36 (1)	83	624 (4)	**748** (6)
2020	5	41(4)	79 (1)	486 (1)	**611** (6)
TOTAL	**20** (2)	**194** (12)	**438** (4)	**2,905** (16)	**3,557** (34)

Note: (x) Number of crashes that involve bicycles

9. THE TRANSPORT NETWORK

9.1 Existing

9.1.7 Freight

In addition to the movement of people, the transport network performs an important task in the movement of goods.

The movement of goods through the City is expected to significantly increase in the future. An efficient and effective freight network is therefore critical to the State's long-term development and continued economic growth.

As can be seen in Figure 17, the City is well-positioned in terms of connectivity to the wider freight network, and benefits from being close to major movement corridors including Tonkin Highway, Albany Highway, South Western Highway, Armadale Road and Brookton Highway.

There are large areas of industrial land within the locality that are fully established or available for development. Major industrial estates within the City include Forrestdale Business Park, South Forrestdale - Rowley Road Precinct, South Armadale and Kelmscott Industrial Precinct.

In addition to the above, the State Government, through the established Westport Taskforce, is in the process of planning for a new land-backed container port in the Kwinana Industrial Area (see Section 9.2.3 for more information). This will affect the frequency and distribution of freight traffic across the Perth Metropolitan Area, including within the City.

The planned growth and importance of industrial land uses within the City will only strengthen in future. To ensure that businesses and communities continue to have reliable access to goods and services in light of increasing demand, the transport network will need to be managed and upgraded accordingly.

However, it will be vital to ensure that the City's residents aren't negatively impacted by any increase in freight throughput. This requires consideration for increased congestion, noise and air pollution or increased conflicts between heavy vehicles and other road users. Mitigation measures will be required to protect people and places from these effects.

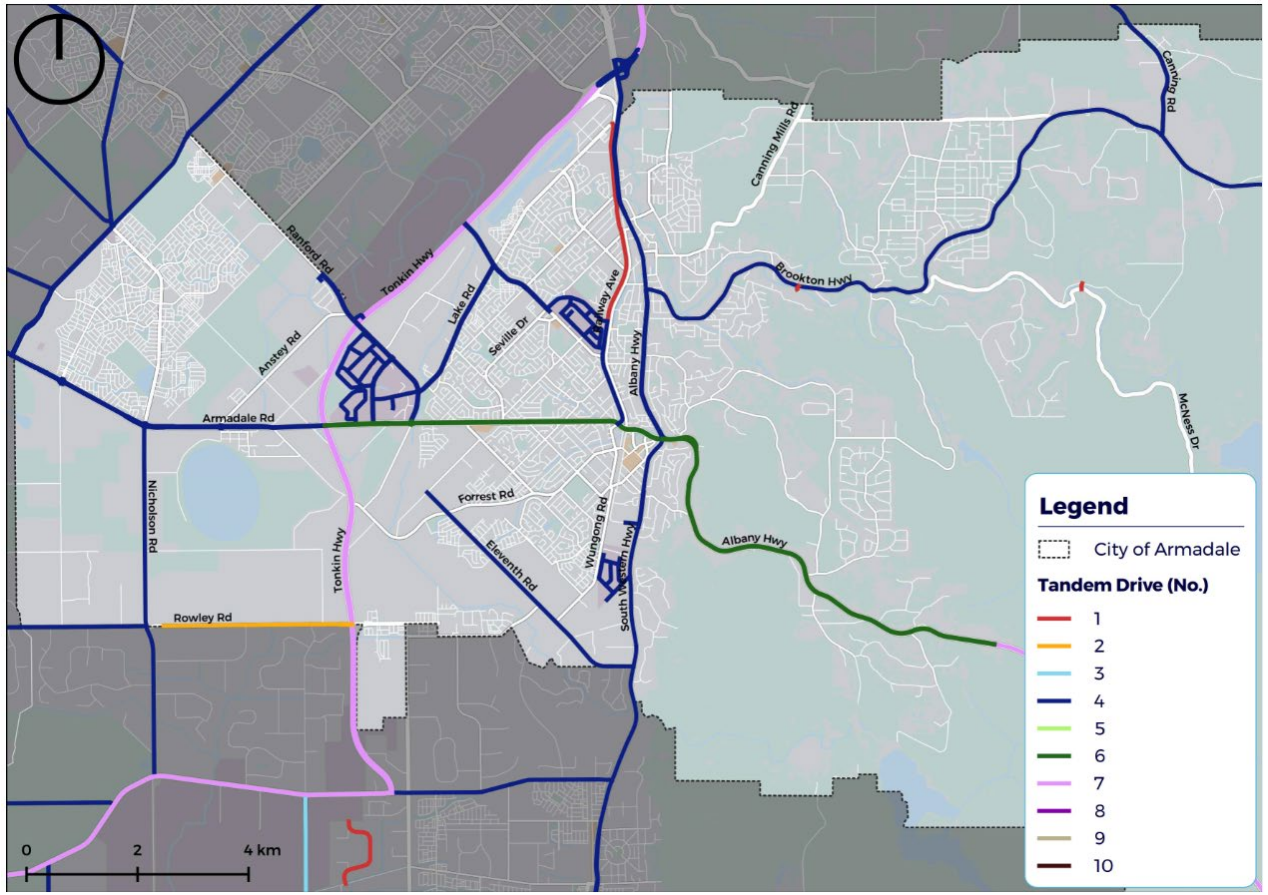


Figure 17: Freight network in the City of Armadale (Tandem Drive 1 – 10)

9. THE TRANSPORT NETWORK

9.2 Future

The level of investment in transport infrastructure and activity centre revitalisation projects concentrated within and around the City is significant, both planned or in delivery.

There is an opportunity to leverage on this investment to ensure high quality transport and land use outcomes are delivered as part of these projects.

Fundamentally, on completion these projects need to support the provision of a well-connected, inclusive, safe and highly integrated transport network, providing people with travel options and alternative transport modes. Key projects are listed below.

9.2.1 Cycling projects / initiatives

LONG-TERM CYCLE NETWORK (LTCN)

WA's LTCN provides a strategic approach to the provision of cycling links for the entire Perth and Peel region, rather than looking at individual areas in isolation.

This approach acknowledges that a well-connected cycling network that is safe, legible and intuitive to use is the key to attracting more people to ride.

Central to the LTCN is the WA cycling network hierarchy, as pictured in Figure 18 alongside the City's Council-endorsed LTCN, which is made up of primary, secondary and local routes.

The WA cycling network hierarchy is categorised by "function", that is, the role that each route plays in connecting people to places, rather than "form" (i.e. specific infrastructure type).

Within the City, primary routes are identified along the major east-west road corridors of Armadale Road and Rowley Road (and part of Wungong Road), as well as along the major north-south road corridors of Tonkin Highway and Railway Avenue / Wungong Road, following the Armadale train line alignment and continuing southwards to Byford.

The primary routes are complemented with a number of secondary and local routes, which collectively form the LTCN.

ARMADALE LINE PRINCIPAL SHARED PATH (PSP)

Along the Armadale train line, several PSP projects have been delivered in recent years as part of DoT's PSP Expansion Program. This includes completing missing sections of path between Lake Road to Challis Station and Kelvin Road to Albany Highway. As mentioned above, the PSP is planned to continue southwards of Armadale Station, as part of the Byford Rail Extension project (see Section 9.2.2).

Function	1. PRIMARY ROUTE	2. SECONDARY ROUTE	3. LOCAL ROUTE
	Primary routes are high demand corridors that connect major destinations of regional importance. They form the spine of the cycle network and are often located adjacent to major roads, rail corridors, rivers and ocean foreshores. Primary routes are vital to all sorts of bike riding, including medium or long-distance commuting / utility, recreational, training and tourism trips.	Secondary routes have a moderate level of demand, providing connectivity between primary routes and major activity centres such as shopping precincts, industrial areas or major health, education, sporting and civic facilities. Secondary routes support a large proportion of commuting and utility type trips, but are used by all types of bike riders, including children and novice riders.	Local routes experience a lower level of demand than primary and secondary routes, but provide critical access to higher order routes, local amenities and recreational spaces. Predominantly located in local residential areas, local routes often support the start or end of each trip, and as such need to cater for the needs of users of all ages and abilities.

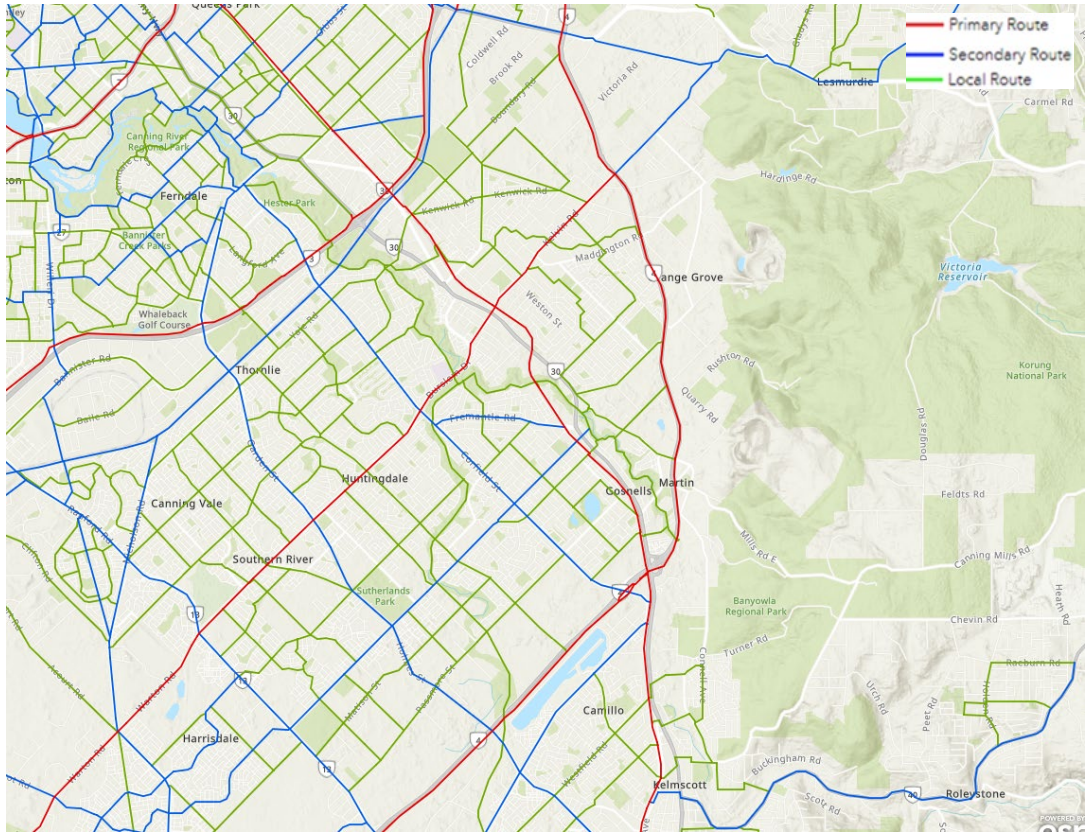


Figure 18: WA LTCN Hierarchy and LTCN in and around the City of Armadale
Source: Department of Transport

9. THE TRANSPORT NETWORK

9.2 Future

9.2.2 Public transport projects / initiatives

DENNY AVENUE LEVEL CROSSING REMOVAL

The Denny Avenue Level Crossing in Kelmscott is now permanently closed, making it the first crossing to be removed under the METRONET Level Crossing Removal program. As part of this, a new east-west connection rail-over-road underpass was built at Davis Road.

While the City is in the process of developing the Kelmscott District Centre Precinct Structure Plan, this excludes a portion of land near Kelmscott Station which comes under the planning control of DevelopmentWA.

The City will continue to work with key partners to ensure that the full benefits of station precincts can be realised in this project location as envisaged through METRONET (see Figure 19).

BYFORD RAIL EXTENSION

The METRONET project will connect Byford to the existing Armadale Station and remove level crossings at Armadale Road, Forrest Road, Church Avenue, Byron Road and Eleventh Road (see Figure 20).

Armadale Station will be upgraded, with brand new station facilities and a higher level of amenity, presenting an opportunity to attract new users to public transport.

Much like the Denny Avenue Level Crossing Removal project, the City will continue working with key partners to ensure high quality station precinct and urban realm outcomes are achieved though the design and delivery of the project, as well as aligning with the City's local planning aspirations for the area (see Section 8.2).

THORNLIE-COCKBURN LINK

The Thornlie-Cockburn Link will connect the Mandurah Line and Thornlie Line, with two new stations developed on the existing freight rail line.

This project will improve the accessibility and growth of the southern suburbs and support future development opportunities.

While not directly within the City, the new Ranford Road and Nicholson Road Stations will be adjacent to the locality's north western border, near Piara Waters and Harrisdale. This will serve in filling an existing public transport service gap surrounding these areas.

Figure 19: Excerpt from 'Delivering successful METRONET station precincts' document
Source: METRONET

Figure 20: Byford Rail Extension project overview
Source: METRONET

9. THE TRANSPORT NETWORK

9.2 Future

9.2.2 Public transport projects / initiatives (continued)

PUBLIC TRANSPORT FARE ZONE CAP

The State Government has capped public transport fares at a 2 zone fare rate (standard fare costing $4.90).

This presents an opportunity to promote the initiative with a view to encourage more residents, especially in outer suburbs, to travel using public transport as it becomes more affordable.

In particular, this will provide positive benefit to the City's residents with all stations in the locality located in zone 3 ($5.80 standard fare) and zone 4 ($6.90 standard fare).

This initiative, combined with other rail upgrades and extensions, both planned and in delivery, will significantly increase the attractiveness of public transport, and has real potential to encourage a mode shift from motor vehicle to public transport, thereby reducing pressure on highways and major roads.

RAIL GROWTH PLAN

The Rail Growth Plan outlines the PTA's long-term strategy to support forecasted growth in population and rail patronage through to 2051, with the following objectives:

- Provide sufficient capacity on the rail network
- Meet increased dependency on public transport
- Integrate Government land use policies with transport planning

As part of the plan, a series of supporting initiatives are identified. This includes Station Access Strategies, which form part of the broader Station Access Improvement Program.

The strategies determine requirements for future investment, to ensure people can safely, efficiently and conveniently access their closest station, with a preference for sustainable modes of access.

Added to this, the PTA has initiated the Platform and Signalling Upgrade Program to enable higher service frequencies and train capacities along Perth's heritage lines (Armadale, Midland and Fremantle Lines).

The program developed from the PTA's Rail Growth Plan, which aims to meet increased demand on public transport and provide sufficient capacity across the rail network.

A business case is currently being prepared to explore options for lengthening the platforms, with all stations along the Armadale Line requiring platform lengthening / station upgrades in order to support the potential for longer and higher frequency train services in the future

9. THE TRANSPORT NETWORK

9.2 Future

9.2.3 Road projects / initiatives

TONKIN HIGHWAY EXTENSION

The Tonkin Highway extension is currently in development and will connect Thomas Road to South Western Highway (see Figure 21). This will accommodate the growing travel demand in Perth's southeast, while supporting safe and reliable freight connection.

WESTPORT

Westport is the State Government's long-term program to build a future port in Kwinana with integrated road and rail transport networks.

A business case is currently being developed to recommend to Government high-level designs and staging options / timeframes and scenarios to transition from the Inner Harbour in Fremantle to the Outer Harbour in Kwinana.

While Anketell-Thomas Rd (in the Shire of Serpentine Jarrahdale) is identified as the key strategic corridor from Westport (Outer Harbour) in Kwinana to Tonkin Highway, the role of Rowley Road as a key east-west route which runs within the council area is also a consideration for the City. With opportunities to strengthen the City's industrial economy (e.g. South Forrestdale – Rowley Road industrial areas).

LONG-TERM ROAD PLANNING

In support of the longer term vision for Perth's transport network, a number of transport planning studies and investigations have been undertaken over the years by both the City and stakeholders.

This includes strategic transport modelling to determine future demand on the road network in response to development, as well as road reservation studies to support changes to the relevant statutory planning frameworks, so that the ultimate form and function of the road can adequately support the future demand.

Ongoing studies will likely be required to ensure currency of the information and to consider changes materialising from any revised planning context.

It's an exciting time for the future of transport with the number of projects and initiatives planned and currently in delivery within and around the City.

Through this ITS, we hope to positively shape the project outcomes, to provide great places for people and deliver a well-connected network of paths, streets and roads that are used safely by all.

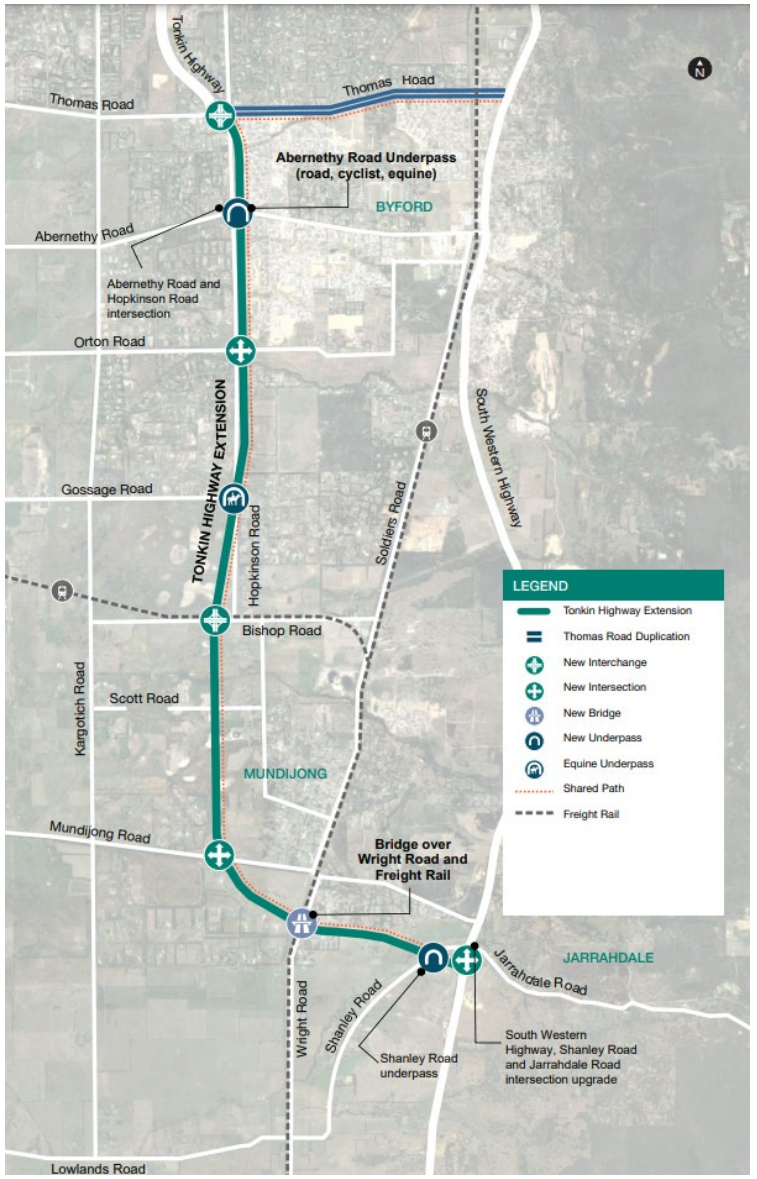


Figure 21: Tonkin Highway Extension project overview
Source: Main Roads WA

CITY OF Armadale wsp