flyt

Mandogalup Improvement Scheme

TRANSPORT REPORT

email: info@flyt.com.au twitter.com/flytplan web: www.flyt.com.au

PROJECT	81113-471-FLYT-REP-0002			
Revision	Description	Originator	Review	Date
0	Draft Reviewed	AJS/CXS	CAS/TBB/DPLH	09/12/19
1	Issued	AJS	CAS	27/03/20

Contents

1. Introduction 3
   1.1 Transport Report 3
   1.2 Improvement Plan 47 3
   1.3 Report Structure 5
2. Regional Perspective 6
   2.1 Development Context 6
   2.2 Surrounding Land Uses 7
      2.2.1 Mandogalup East and Mandogalup West Local Structure Plans 7
      2.2.2 Hammond Park 8
   2.3 Westport 9
3. Vehicle Movement and Access 12
   3.1 Road Network 12
      3.1.1 Rowley Road and Wattleup Road 14
      3.1.2 Anketell Road 16
      3.1.3 Mandogalup Road 19
      3.1.4 Other Regional Road Extension to Hammond Road 19
   3.2 Restricted Access Vehicle Network 21
      3.2.1 Wider RAV Network 22
      3.2.2 Oversize Over-mass 23
4. Public Transport 25
   4.1 Public Transport Network 25
5. Existing Pedestrian Network 26
   5.1 Pedestrian Network 26
6. Existing Cycling Network 28
   6.1 Cycling Network 28
7. Summary 30

Figures

Figure 1 Improvement Plan Area (Source: DPLH) 3

Figure 2 Area considered within Transport Report (source: TBB) 4

Figure 3 Regional location of Mandogalup Scheme Area (source: Nearmap) 6

Figure 4 Metropolitan Region Scheme 7
Figure 5 Combined Mandogalup East and West Concept Plan (Source: City of Kwinana) 8
Figure 6 Southern Suburbs District Structure Plan Stage 3 Hammond Park 9
Figure 7 Westport MCA-1 options 10
Figure 8 Westport MCA-2 options (source: DoT) 10
Figure 9 Road network surrounding Improvement Plan Area (Source: National Map) 12
Figure 10 Road hierarchy surrounding Scheme Area (source: MRWA) 13
Figure 11 Posted speed limits surrounding Scheme Area (Source: MRWA) 13
Figure 12 Rowley Road looking west (Source: Google Maps) 14
Figure 13 Rowley Road west of Kwinana Freeway average traffic volumes 2017-18 (source: Main Roads WA Traffic Map) 15
Figure 14 Configuration of Rowley Road and Kwinana Freeway interchange (source: Nearmap) 15
Figure 15 Planning Control Area 112 – Rowley Road 16
Figure 16 Anketell Road, looking west. (Source: Google Maps) 17
Figure 17 Anketell Road west of Kwinana Freeway average traffic volumes 2017-18 (source: Main Roads WA Traffic Map) 17
Figure 18 Configuration of Anketell Road and Kwinana Freeway interchange (source: Nearmap) 18
Figure 19 Planning Control Area 111 – Anketell Road 18
Figure 20 Mandogalup Road looking south (Source: Flyt) 19
Figure 21 Hammond Park – Frankland Avenue Lots 43-44 20
Figure 22 Main Roads WA RAV Network routes 22
Figure 23 Overall RAV Network – Perth Metropolitan Region 23
Figure 24 Metropolitan Oversize over mass corridors (source: Main Roads WA) 24
Figure 25 Transperth network map (source: Transperth) 25
Figure 26 Travel time Platform Walking and Cycling 26
Figure 27 Strava Heat Map – Walking and Running 27
Figure 28 Cockburn and Rockingham: Perth comprehensive bike map (Source: DoT) 28
Figure 29 Strava Heat Map – Cycling 29

Tables

Table 1 Liveable Neighbourhoods Function and Characteristics of Arterials 21

1. INTRODUCTION

1.1 Transport Report

This Transport Report has been prepared as a background technical investigation to feed into preparation of the Mandogalup Improvement Scheme. The purpose of this report is to inform the land use and transport elements of the proposed development scenarios and support the preparation of the draft Land Use Plan and draft Improvement Scheme.

This report will precede a more substantial Transport Assessment of the Mandogalup Improvement Scheme options developed early in 2020. The evolution of major projects, such as Westport, will have implications for the transport network and land use outcomes within the Mandogalup Improvement Scheme and therefore the information in this report is contextual and informative in nature rather than based on quantitative analysis.

1.2 Improvement Plan 47

In April 2019 the Mandogalup Improvement Plan came into effect. The plan provides the framework for an Improvement Scheme to facilitate future development of the Mandogalup area in the City of Kwinana.

The area subject to the Mandogalup Improvement Plan is shown in WAPC Plan 3.2715, reproduced as Figure 1. The area is bound by Rowley Road to the north and Anketell Road to the south. The Kwinana Freeway is to the east, and the Kwinana Industrial Area (KIA) is to the west.

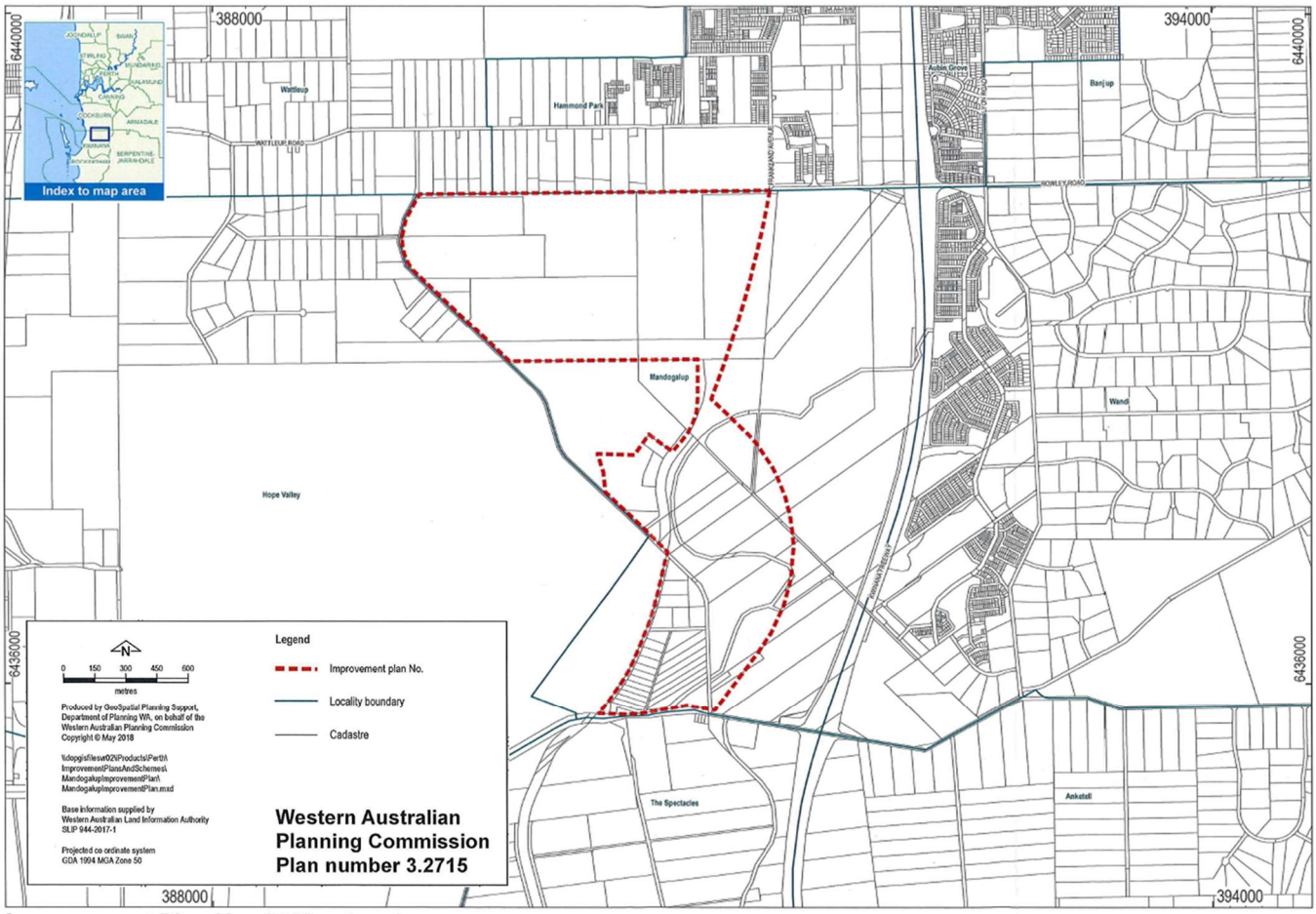

Figure 1 Improvement Plan Area (Source: DPLH)

Improvement Plan 47 covers an area of approximately 330 hectares. Existing land uses include agriculture, horticulture and associated residential dwellings. The Improvement Plan requires that preparation of the improvement scheme be

guided by the transport related objective to *facilitate the provision of an effective, efficient, integrated and safe transport network*. In addition to considering the lots within the boundaries of the plan, this report also considers implications for lots flanking the area to the west which front Mandogalup Road. These additional lots are shown in Figure 2.

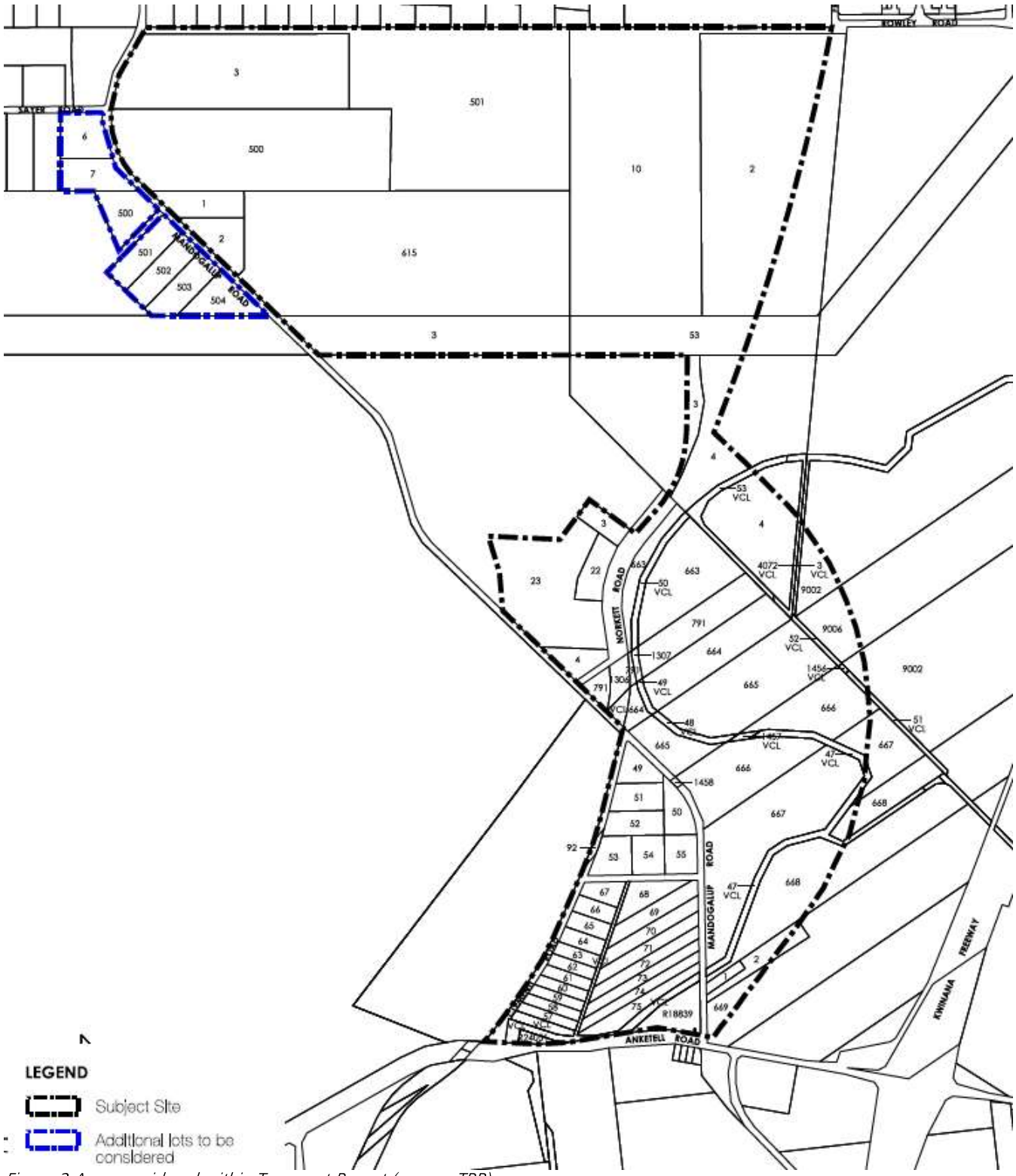

Figure 2 Area considered within Transport Report (source: TBB)

1.3 Report Structure

Outside of the introduction section of the Report, there are five key areas that are examined within the report, as follows:

- Regional Perspective
- Vehicle Movement and Access
- Public Transport
- Pedestrian Infrastructure
- Cycling Infrastructure.

2. REGIONAL PERSPECTIVE

2.1 Development Context

The Mandogalup Scheme Area is located between Rowley Road and Anketell Road, east of the Kwinana Freeway and west of Rockingham Road. Existing land uses within the Mandogalup Scheme Area include a Hindu Temple, fire station, some residential, agricultural, horticultural and industrial uses.

In the wider context, as shown in Figure 3, Mandogalup is located adjacent to Latitude 32, is 5km east of Kwinana Naval Base and 8km east of the Australian Marine Complex (AMC). Rockingham is 13km to the south and Perth City is 25km to the north.

Figure 3 Regional location of Mandogalup Scheme Area (source: Nearmap)

The current zoning under the Metropolitan Region Scheme (MRS) is predominantly Rural with a small section zoned Urban deferred, as shown in Figure 4. Once the Improvement Scheme is gazetted, all local and regional planning schemes cease to apply.

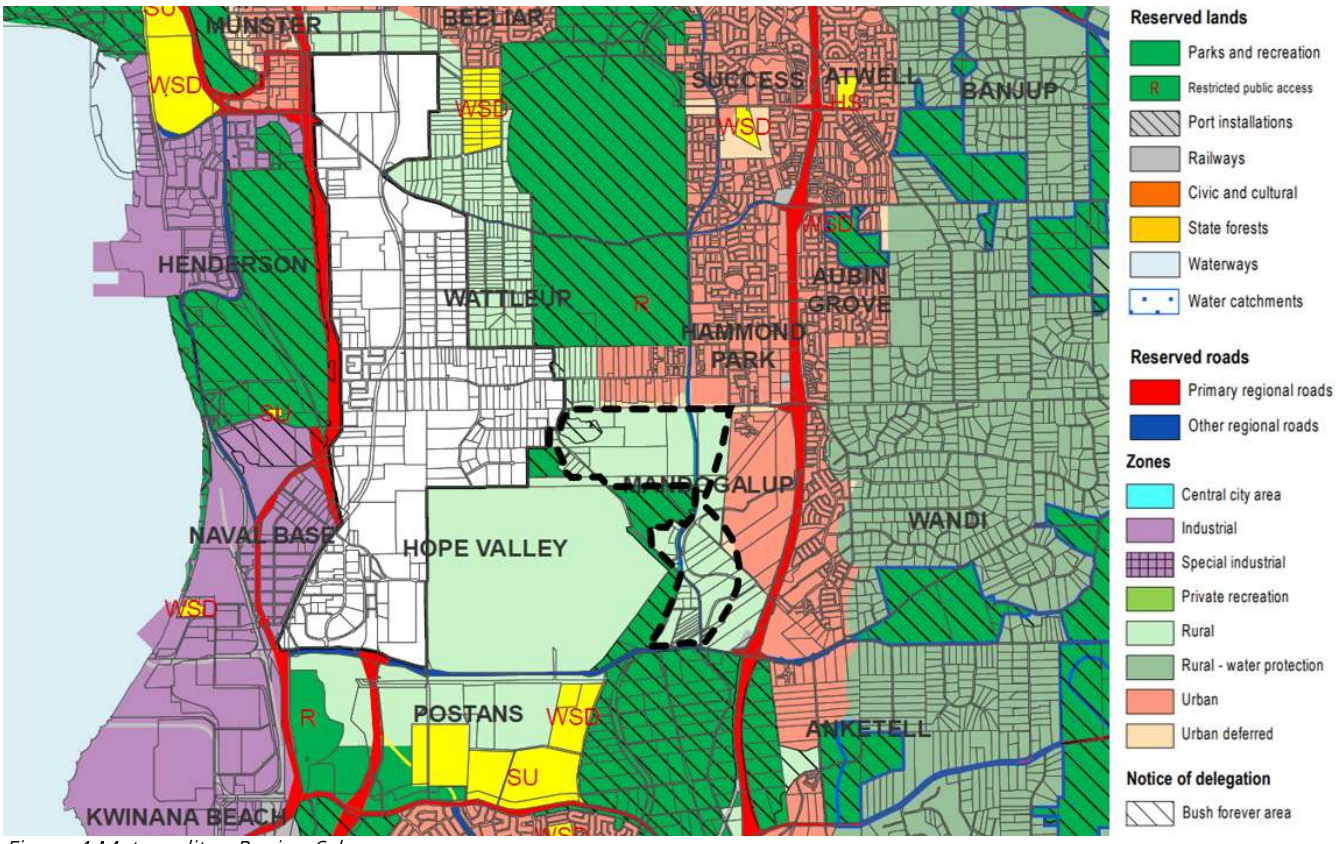

Figure 4 Metropolitan Region Scheme

2.2 Surrounding Land Uses

The subject area shown in Figure 2 is surrounded by various land uses. Land to the east and north east is zoned Urban and Urban Deferred under the MRS. Land on the eastern boundary is set to undergo significant residential development guided by the City of Kwinana's Mandogalup East and Mandogalup West Local Structure Plans.

South of the scheme area is The Spectacles within the Beeliar Regional Park where a 4.7km long Aboriginal Heritage Trail loops around the wetland. To the west are rural and industrial land uses, specifically Alcoa's Kwinana Residue Disposal Area (RDA) as well as a limestone quarry and the Kwinana Town Rubbish Tip.

2.2.1 Mandogalup East and Mandogalup West Local Structure Plans

The Mandogalup East Local Structure Plan (MELSP) and the Mandogalup West Local Structure Plan (MWLSP) depicted in Figure 5, were both endorsed in March 2018 by the WAPC. The MELSP is 42ha in area and proposes a total yield of 581 lots. The MWLSP is 68ha and proposes a total yield of 900 lots, a combined total of 1,481 new lots.

The proposed residential density is R30-R80, and other land uses include a primary school, local centre and public open space. The indicative subdivision layout has been designed using relatively short streets blocks to provide for a permeable and legible pedestrian, cycle and vehicle movement network. The MWLSP and the MELSP propose:

- An off road cycle path which travels north-south along the Neighbourhood Connector, the central movement corridor
- Dual use paths along all access streets
- Two connections to the PSP
- Extension of Hammond Road south to Rowley Road, ultimately connecting with Anketell Road.

Figure 5 Combined Mandogalup East and West Concept Plan (Source: City of Kwinana)

The proposed road network is based on a grid pattern with most blocks running east-west. The Concept Plan shows roads which can potentially connect into the Mandogalup Scheme Area and are indicative of the future pedestrian, cycle and vehicular network.

2.2.2 Hammond Park

The Southern Suburbs District Structure Plan for Hammond Park was approved in 2012. It is reproduced here as Figure 6.

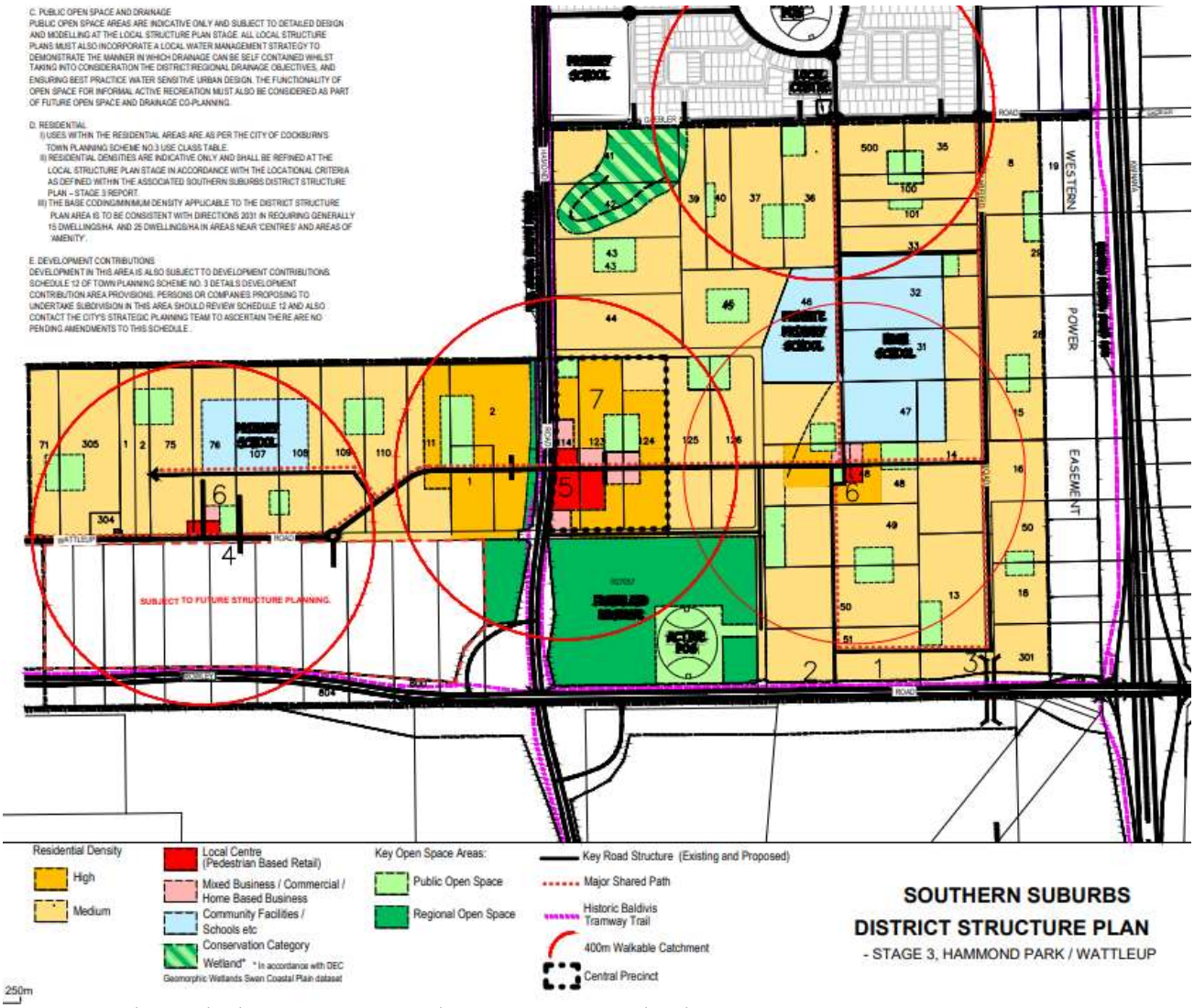

Figure 6 Southern Suburbs District Structure Plan Stage 3 Hammond Park

2.3 Westport

The Westport project has been evolving over the past two years and will have longer term, strategic implications for land use and transport network planning associated with the scheme area. As set out on the Westport website:

"The Westport Taskforce was established by the Minister for Transport in September 2017. Westport was tasked with developing a Strategy to guide the Government on the long-term development and growth of the Inner Harbour at Fremantle; the Outer Harbour at Kwinana; the required rail and road networks; and the potential for the Port of Bunbury to contribute to growing trade needs. The Strategy will look at Perth and the South West's freight, trade and logistics requirements for the next 50-100 years.".

The project has undertaken a range of analyses and assessments throughout 2019 that have culminated in an initial high level Multi-Criteria Assessment (MCA-1) being completed which refined broad based options looking at port usage in Fremantle, Kwinana and Bunbury and then a more detailed Multi-Criteria Assessment (MCA-2) which ranked the seven remaining options that focussed on Fremantle and Kwinana Ports.

The general arrangement of the initial MCA-1 options is shown in Figure 7 and the refined list of options being taken forward for a rapid cost-benefit analysis after the results of MCA-2 are shown in Figure 8.

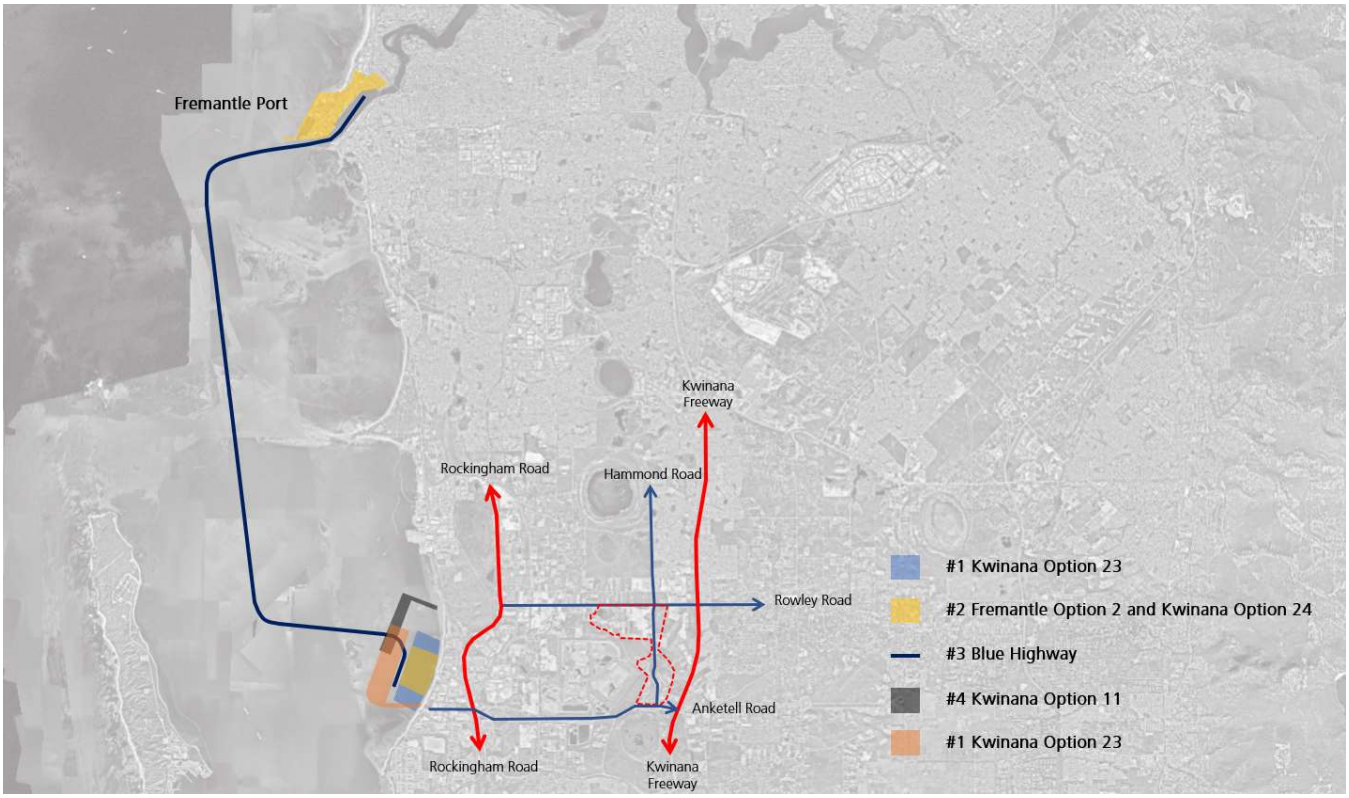

Figure 7 Westport MCA-1 options

Option	Description	Operation
Option A Kwinana	Cockburn Sound North (vicinity Rowley Road) narrow island port with intermodal operations at Latitude 32	End-state
Option B Kwinana	Cockburn Sound South (vicinity Anketell Road) conventional land-backed port	End-state
Option C Kwinana	Cockburn Sound South (vicinity Anketell Road) conventional island port	End-state
Option D Fremantle and Kwinana	Unmodified Fremantle Port shared with Cockburn Sound South (vicinity Anketell Road) medium conventional land-backed port	End-state
Option D2 Fremantle and Kwinana	Unmodified Fremantle Port shared with Cockburn Sound South (vicinity Anketell Road) medium land-backed port transitioning to Cockburn Sound South (vicinity Anketell Road) land-backed port (Option B)	Transition to Option B
Option E Fremantle and Kwinana	Slightly modified Fremantle Port shared with Cockburn Sound South (vicinity Anketell Road) medium conventional land-backed port with Blue Highway	End-state
Option E2 Fremantle and Kwinana	Slightly modified Fremantle Port shared with Cockburn Sound South (vicinity Anketell Road) medium land-backed port with Blue Highway, transitioning to Cockburn Sound South (vicinity Anketell Road) land-backed port (Option B)	Transition to Option B

Figure 8 Westport MCA-2 options (source: DoT)

Perth and Peel @ 3.5 million identifies the upgrading and/or extension of Anketell and Rowley Road to primary regional roads, in order to provide vital east–west freight linkages. These linkages will connect the future Outer Harbour and freight logistics centres in the region with other major road linkages, strategic industrial locations, future development in the Pinjarra-Ravenswood sector as well as provide for transit corridors within the sub-region.

The longer term, strategic outcomes for the scheme area relating to the Westport process are based around the ultimate configuration and role that both the Anketell and Rowley Road corridors have. The importance of these corridors for freight related access to the wider transport network varies between options, as would the delivery timetable of the required upgrades.

As set out in section 3.2, Anketell Road is already a primary freight and over-sized vehicle route and therefore it would be assumed that this role would continue in to the foreseeable future. The potential for the Rowley Road corridor to be a more critical corridor for road based freight movements will depend largely on the location of the land use elements of the final option supported through the Westport process.

Although the longer term configuration of these roads and the associated intersections and interchanges may vary, both are considered to be substantial road infrastructure corridors and therefore the overall impact on adjoining land use will be relatively consistent. Both will:

- Have control of access and be configured to support appropriate RAV network sized vehicles - most likely a RAV 4 vehicle type at a minimum
- Have minimal amount of intersections or potentially interchanges at key district and regional connections – this would largely dictate the spacing of intersections relative to the project area and funnel traffic into these locations
- Reduce the potential for any direct frontage of land uses along these corridors or require designs to facilitate access for lots adjacent to these corridors to be from the rear or side of the property
- Require relevant noise and environmental amelioration measures along the corridor – such as noise barriers and buffer areas
- Require substantial drainage features to cater for run off treatments
- Allow for regional based supporting infrastructure to be located in the corridor such as utilities or regional segregated shared path connections.

In order not to supplant planning for the land uses and transport outcomes of either this scheme or the Westport project, traffic modelling outputs for forecast years were not examined in any detail. Upon resolution of land use options being examined, it was agreed with the DPLH that modelling outputs used for the Westport project would be examined in 2020 to understand the implications for the scheme area.

3. VEHICLE MOVEMENT AND ACCESS

3.1 Road Network

Mandogalup's location enables quick and convenient access to the existing and future strategic road network, as shown in Figure 9. The Rowley Road corridor abuts the site to the north and Anketell Road is located to the south. The Kwinana Freeway is 1km to the east of the site.

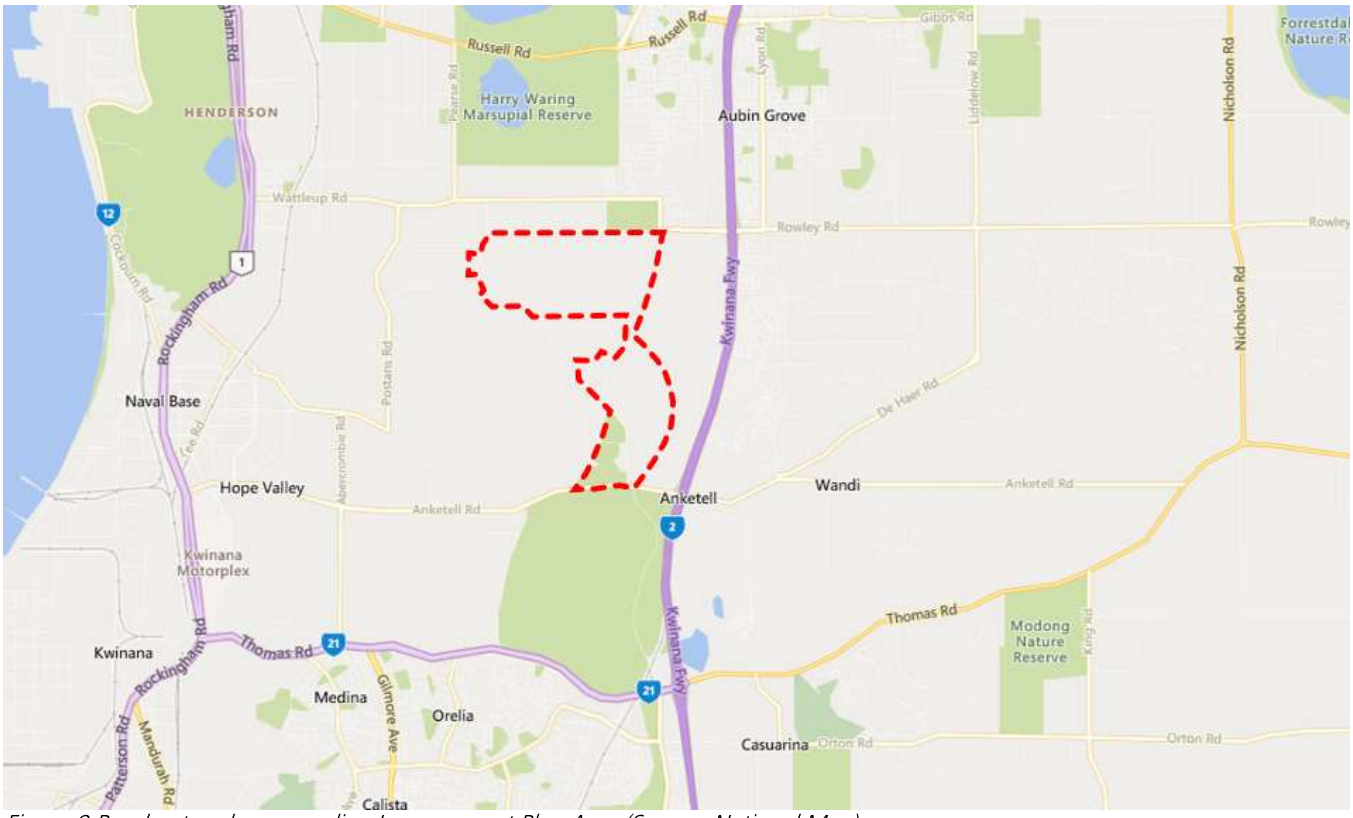

Figure 9 Road network surrounding Improvement Plan Area (Source: National Map)

The existing Main Roads WA road hierarchy for the area is shown in Figure 10, while the speed zoning is shown in Figure 11. There are very few gazetted roads within the scheme area, as described in the following sections.

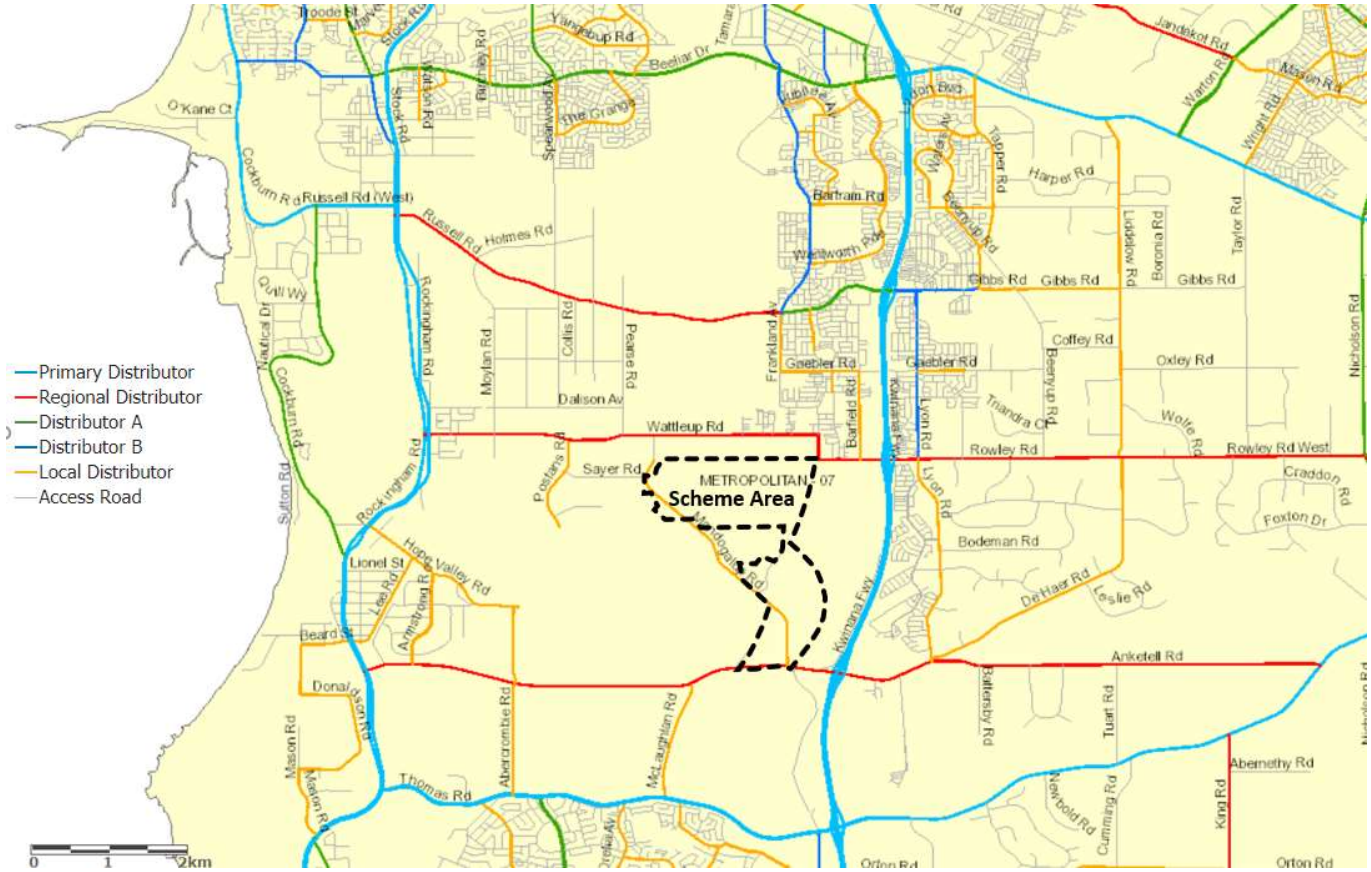

Figure 10 Road hierarchy surrounding Scheme Area (source: MRWA)

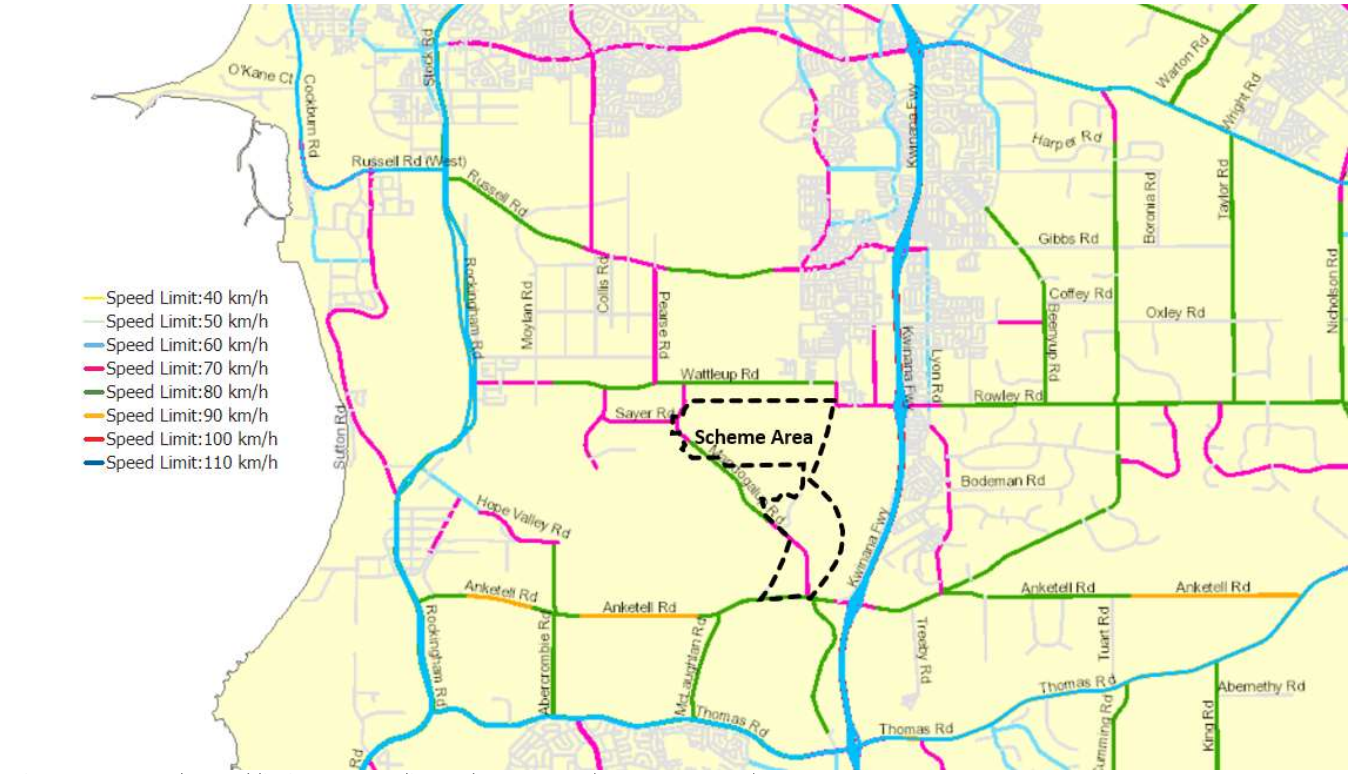

Figure 11 Posted speed limits surrounding Scheme Area (Source: MRWA)

3.1.1 Rowley Road and Wattleup Road

Rowley Road and Wattleup Road are classed as a Regional Distributor roads, with a posted speed limit between 70km/hr and 80km/hr. Wattleup Road runs east-west between Rockingham Road and Frankland Avenue, while Rowley Road runs east-west from Frankland Avenue almost to the South Western Highway.

Rowley Road and Wattleup Road are both constructed as a 7m single carriageway road within a 20m road reserve. The cross section of Rowley Road is shown in Figure 12.

Figure 12 Rowley Road looking west (Source: Google Maps)

The most recent traffic counts for Rowley Road at site 7006, immediately west of the Kwinana Freeway, collected by Main Roads in 2017/2018, reveals Rowley Road was carrying 7,900 vehicles per day with 14.9% heavy vehicles.

The average weekday profile for traffic volumes and freight vehicle movements along the Rowley Road corridor to the west of Kwinana Freeway are shown in Figure 13. The configuration of the Rowley Road interchange with Kwinana Freeway is shown in Figure 14. At present, the bridge structure over the Freeway reserve is a single lane carriageway and turning lanes to facilitate movement on to the Freeway in both directions however the area within the reserve indicates that there is room for substantial expansion of the carriageway and interchange itself.

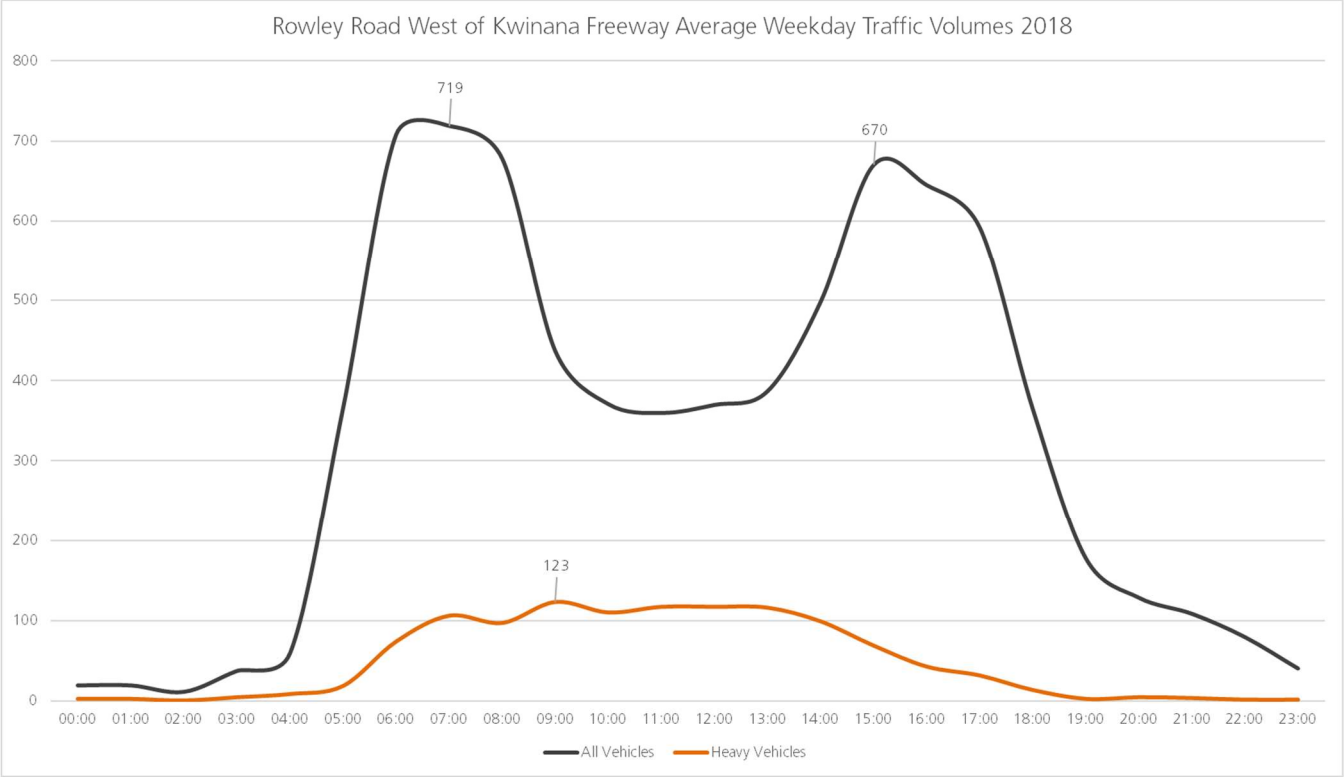

Figure 13 Rowley Road west of Kwinana Freeway average traffic volumes 2017-18 (source: Main Roads WA Traffic Map)

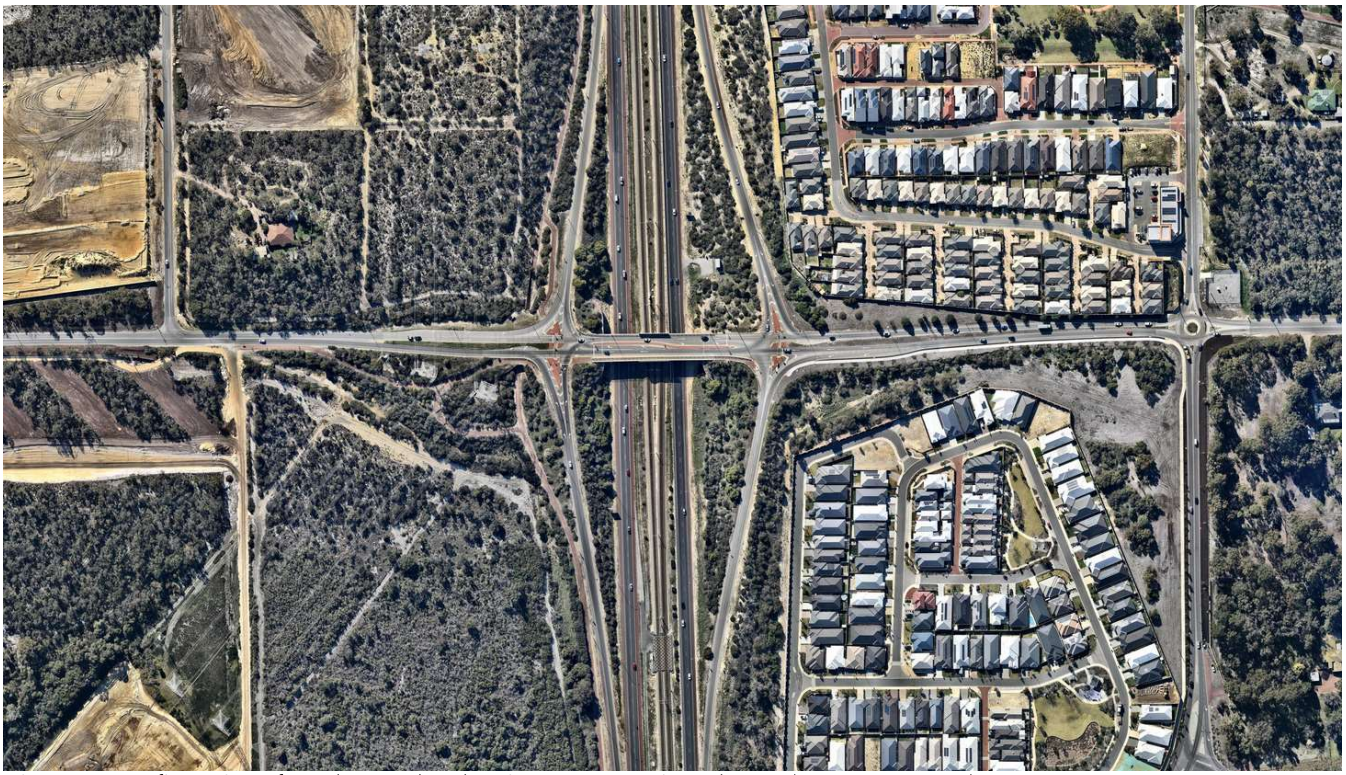

Figure 14 Configuration of Rowley Road and Kwinana Freeway interchange (source: Nearmap)

Rowley Road has historically been identified as a primary freight route to the Kwinana Industrial Area and future container port, however as discussed in section 2.3 the final outcome from the Westport Study will further confirm the preferred freight route(s) to connect any proposed alterations to the configuration of port activities at Kwinana and the broader heavy vehicle network.

The Minister for Planning granted approval to the declaration of a planning control area (Planning Control Area 112) over the proposed Rowley Road alignment between Kwinana Freeway and the coast, with Figure 15 showing the

section relevant to the Scheme Area. The purpose of the Planning Control Area is for the protection of the proposed road and rail freight transport access corridor of Rowley Road, between Kwinana Freeway and the coast. The WAPC considers that the Planning Control Area is required to ensure that no further development occurs on this property which might prejudice this purpose until it may be reserved in the Metropolitan Region Scheme. The declaration remains in effect for a period of five years (with an expiry date of 28 October 2020), until enacted or revoked.

Figure 15 Planning Control Area 112 – Rowley Road

Within the improvement Scheme Area, Planning Control Area 112 extends up to 80m into Lot 10 and Lot 501, and up to 84m into Lot 2. Any potential land use abutting the PCA 112 will need to consider its ultimate land use as a road and freight rail corridor.

3.1.2 Anketell Road

Anketell Road is a classed as a Regional Distributor and is an 'Other Regional Road' under the MRS. The posted speed limit is 80km/hr immediately adjacent to the scheme area, increasing to 90km/hr further west. Anketell Road runs east-west between Rockingham Road and Thomas Road. Anketell Road is constructed as a standard single carriageway, approximately 8m wide. To the east of Mandogalup Road, the Anketell Road reservation is 20m. To the west of Mandogalup Road, the reserve width varies but is at least 30m wide. The cross section of Anketell Road at the intersection of Mandogalup Road is shown in Figure 16.

Figure 16 Anketell Road, looking west. (Source: Google Maps)

The most recent traffic counts for Anketell Road at site 7003, immediately west of the Kwinana Freeway, collected by Main Roads in 2017/2018, reveals Anketell Road was carrying 14,300 vehicles per day with 19.8% heavy vehicles. The profile of the average weekday traffic volumes recorded at this location are shown in Figure 17.

The configuration of the Anketell Road interchange with Kwinana Freeway is shown in Figure 18. At present, the bridge structure over the Freeway reserve is a single lane carriageway however the area within the reserve indicates that there is room for substantial expansion of the carriageway and interchange itself.

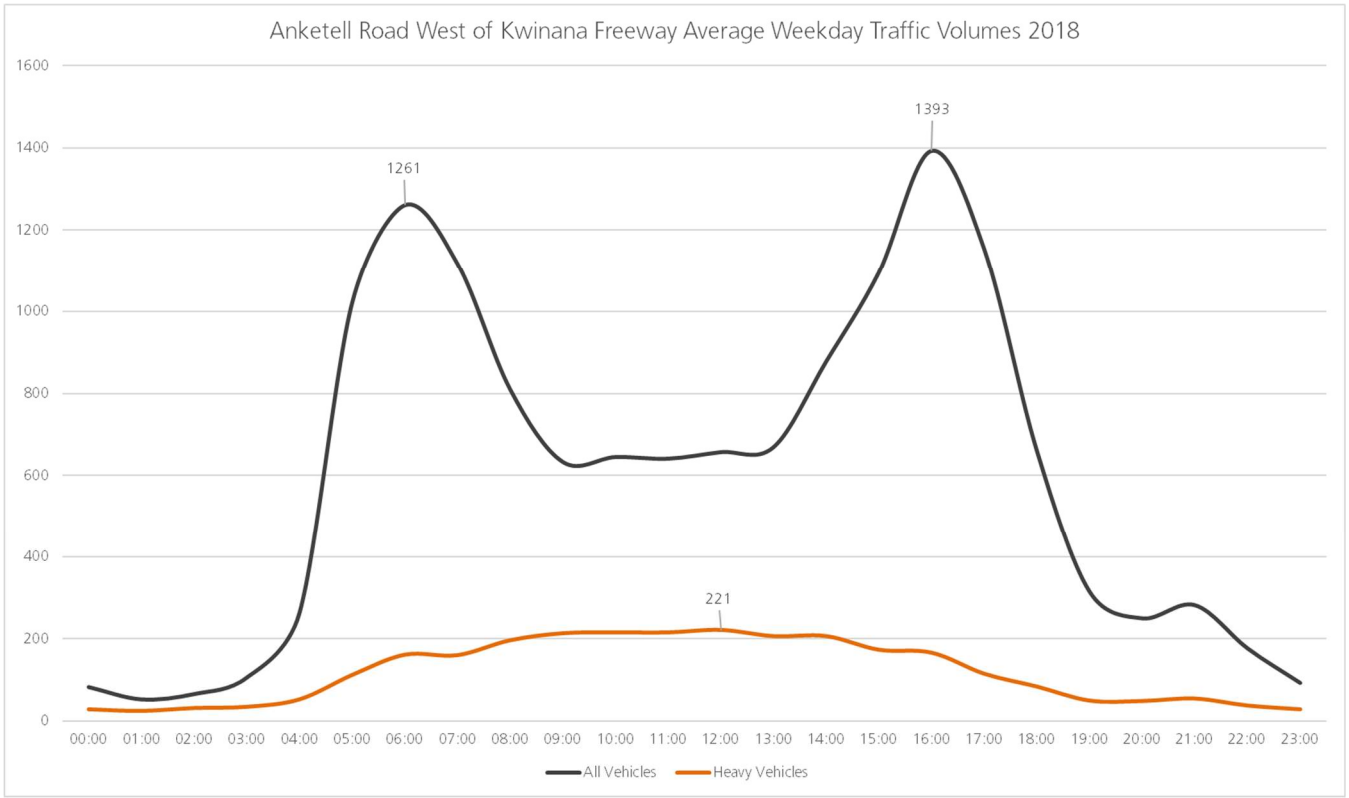

Figure 17 Anketell Road west of Kwinana Freeway average traffic volumes 2017-18 (source: Main Roads WA Traffic Map)

Figure 18 Configuration of Anketell Road and Kwinana Freeway interchange (source: Nearmap)

The Minister for Planning granted approval to the declaration of a planning control area (Planning Control Area 111) over Anketell Road, Kwinana (between Kwinana Freeway and Rockingham Road) with the section relevant to the Scheme Area shown in Figure 19.

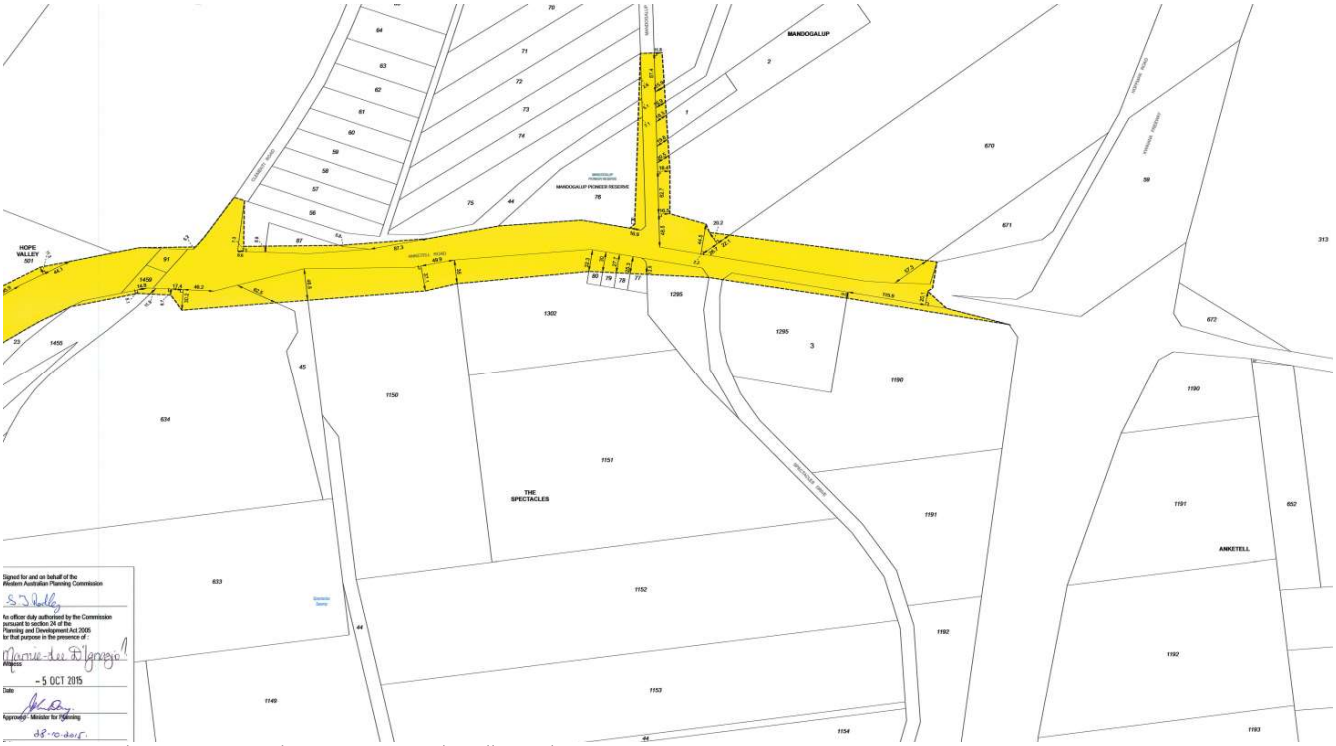

Figure 19 Planning Control Area 111 – Anketell Road

The purpose of the planning control area is to protect the proposed road freight transport access corridor along Anketell Road between the Kwinana Freeway and Rockingham Road.

The Western Australian Planning Commission considers that the planning control area is required over the whole of the property to ensure that no development occurs on this land which might prejudice this purpose until it may be reserved in the Metropolitan Region Scheme. The declaration remains in effect for a period of five years (with an expiry date of 28 October 2020), until enacted or revoked.

Planning Control Area 111 extends up to 48.5m into Lot 669 and up to 8.9m into Lot 87. Any potential land use abutting the PCA 111 will need to consider its ultimate land use as a road and freight rail corridor.

3.1.3 Mandogalup Road

Mandogalup Road is classed as a Local Distributor and generally runs north-south between Wattleup Road and Anketell Road. The posted speed limit ranges between 70 and 80km/hr. Mandogalup Road is a rural standard single carriageway within a 20m road reserve. There is no pedestrian or cycling infrastructure. A typical cross section is shown in Figure 20.

Figure 20 Mandogalup Road looking south (Source: Flyt)

3.1.4 Other Regional Road Extension to Hammond Road

A north-south 'Other Regional Road' is indicated in the MRS running through the scheme area. The road is planned to intersect with Anketell Road to the south and to the existing alignment of Hammond Road to the north where it continues to Cockburn Central. Planning for this road has already begun, with the allocation of a reserve identified in various structure plans within the City of Cockburn.

Figure 21 shows a structure plan approved by the City of Cockburn in 2011 with the reserve to accommodate the future Regional Road.

City of Cockburn IntraMaps shows that the current reserve for the Regional Road is 40m.

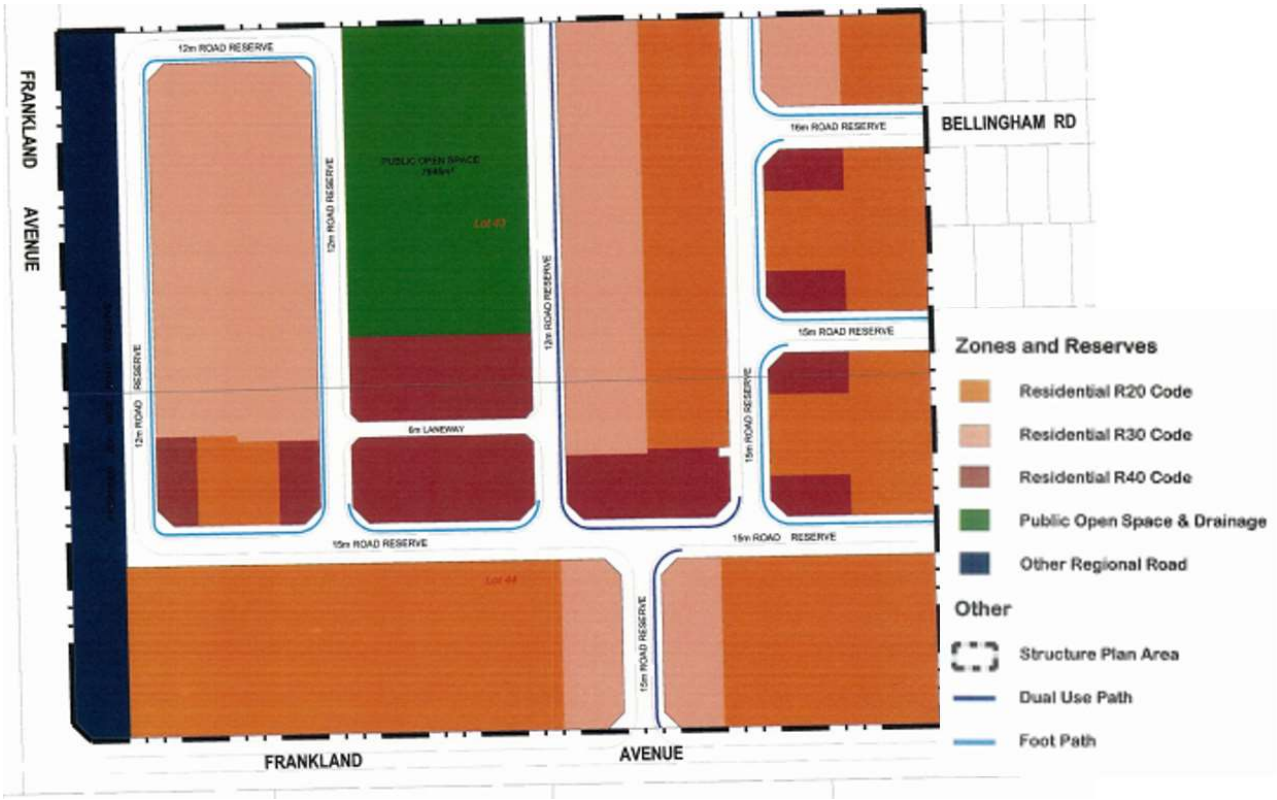

Figure 21 Hammond Park – Frankland Avenue Lots 43-44

Its designation as a Regional Road will generally prohibit frontage access (as outlined in DPLH's D.C. Policy 5.1 Regional Roads) to all land uses excluding major shopping, recreation or community centres (or similarly large traffic generators). The safe and efficient movement of traffic is prioritised along Regional Roads. This is generally achieved through minimising the number of intersections and driveways.

The road will function as an Integrator Arterial as outlined in Liveable Neighbourhoods. An extract of Liveable Neighbourhoods discussing the function and characteristics of arterial roads is reproduced in Table 1. This demonstrates the proposed road will most likely have a speed limit up to 60km/hr and will cater for volumes between 7,000-25,000 vpd.

Table 1 Liveable Neighbourhoods Function and Characteristics of Arterials

Type and function	Classification	Max speed limit (km/h)	Volume (vehicles per day)	Indicative street reserve width (metres)	Minimum street pavement width (metres)
Primary distributors Form the regional grid of MRWA traffic routes, including highways, and catering for inter-and intra-regional traffic. Major freight routes.	Six lane **Primary distributor**	≥80	30,000-50,000	Determined by Main Roads WA (Note, MRWA determines speed limits on these roads which can be up to 110k/hr.)	
	Four lane **Primary distributor**	80	20,000-35,000		
Integrator arterials Form a finer grain of routes than the primary distributors, with frequent connections to local streets. Low percentage of trucks. Usually bus routes. On-street bike lanes and separate dual-use paths are usually required.	**Integrator A** (Four lanes, outside centres)	70	15,000-35,000	53.6	2 x 8.3 including bike lane and 2 x 5.5 service street with parking.
	Integrator A - centres (Four lanes, in centres)	≤60	10,000-25,000	37.8	2 x 10.9 in centres including combined on-street parking and bike lane.
	Integrator B (Two lanes, outside centres)	60	7,000-15,000 15,000-20,000	31.2	2 x 7.6 including on-street parking and bike lane. Parking requires special consideration, or service street may be needed.
	Integrator B - centres (Two lanes)	≤50	7,000-15,000	28.2	2 x 7.6 including on-street parking.

3.2 Restricted Access Vehicle Network

The Restricted Access Vehicle Network (RAV) is a mandated classification of state and local roads that is designed to foster the outcomes of the Network Access Strategy developed in 2016 for the Strategic Road Freight Network (SRFN).

The RAV network is a critical infrastructure link for access between the future Kwinana port and wider transport network. This network will have direct implications for Mandogalup given its proximity to the future Kwinana Port. The existing network in the vicinity of Mandogalup is shown in Figure 22.

Rowley Road, Wattleup Road and Anketell Road are part of Network 4, accommodating vehicles up to 27.5m in length (pocket road train, B-Double). Thomas Road and the Kwinana Freeway are part of Network 7, accommodating vehicles with a maximum length of 36.5m and a mass of up to 107.5 tonnes.

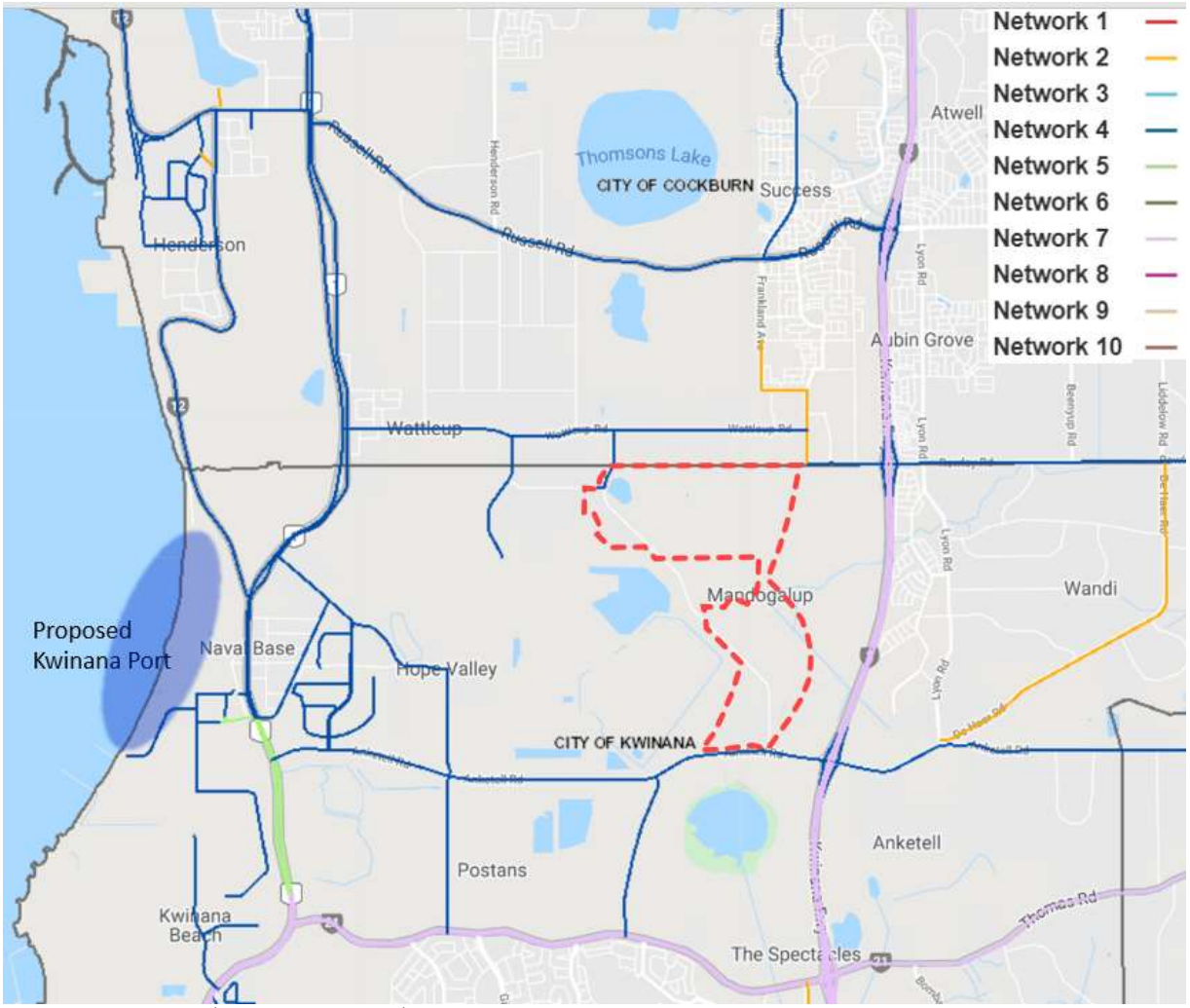

Figure 22 Main Roads WA RAV Network routes

3.2.1 Wider RAV Network

The RAV network covering the metropolitan area is shown in Figure 23. East-west connections along the existing regional road network are particularly critical for development west of Mandogalup that is supported by large volumes of freight vehicle movements.

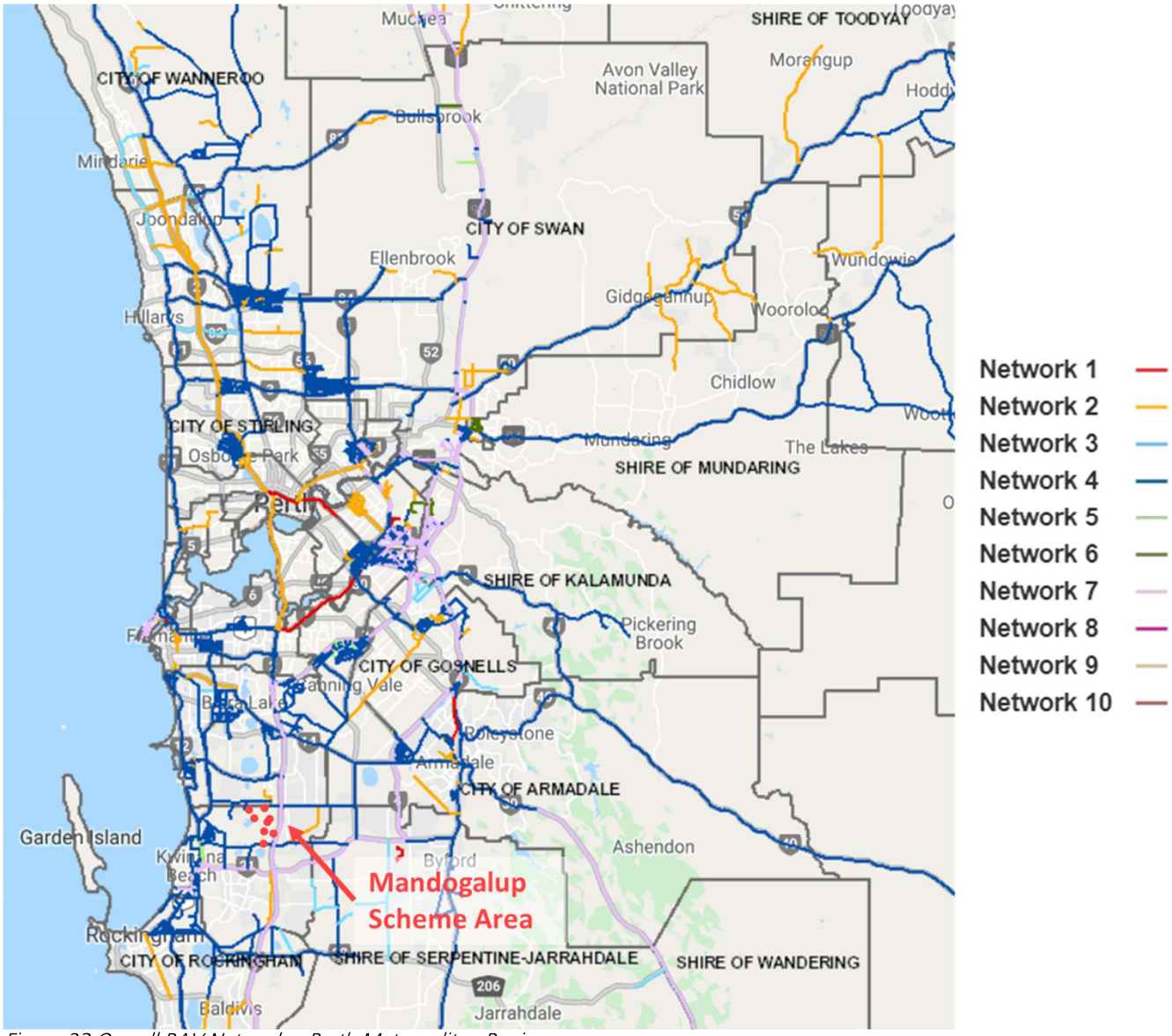

Figure 23 Overall RAV Network – Perth Metropolitan Region

3.2.2 Oversize Over-mass

An oversize over-mass (OSOM) vehicle is any Restricted Access Vehicle carrying, or designed to carry, an over-dimensional indivisible load. Typically, an OSOM vehicle and its load can have the following dimensions and mass:

- Up to 8.0 metres in height
- Up to 8.5 metres in width
- Up to 50 metres in length
- Up to 500 tonnes gross mass.

An OSOM corridor is made up of roads capable of accommodating OSOM vehicles as they travel between heavy fabrication centres and the Australian Marine Complex in the Perth Metropolitan area with mine sites, refineries and other industrial areas that require large machinery and plant.

The OSOM network for the Perth metropolitan area is shown in Figure 24. Near Mandogalup, Rockingham Road and Thomas Road form part of an OSOM corridor capable to transporting large loads up to 10m wide. In previous years Anketell Road had been part of the OSOM corridor.

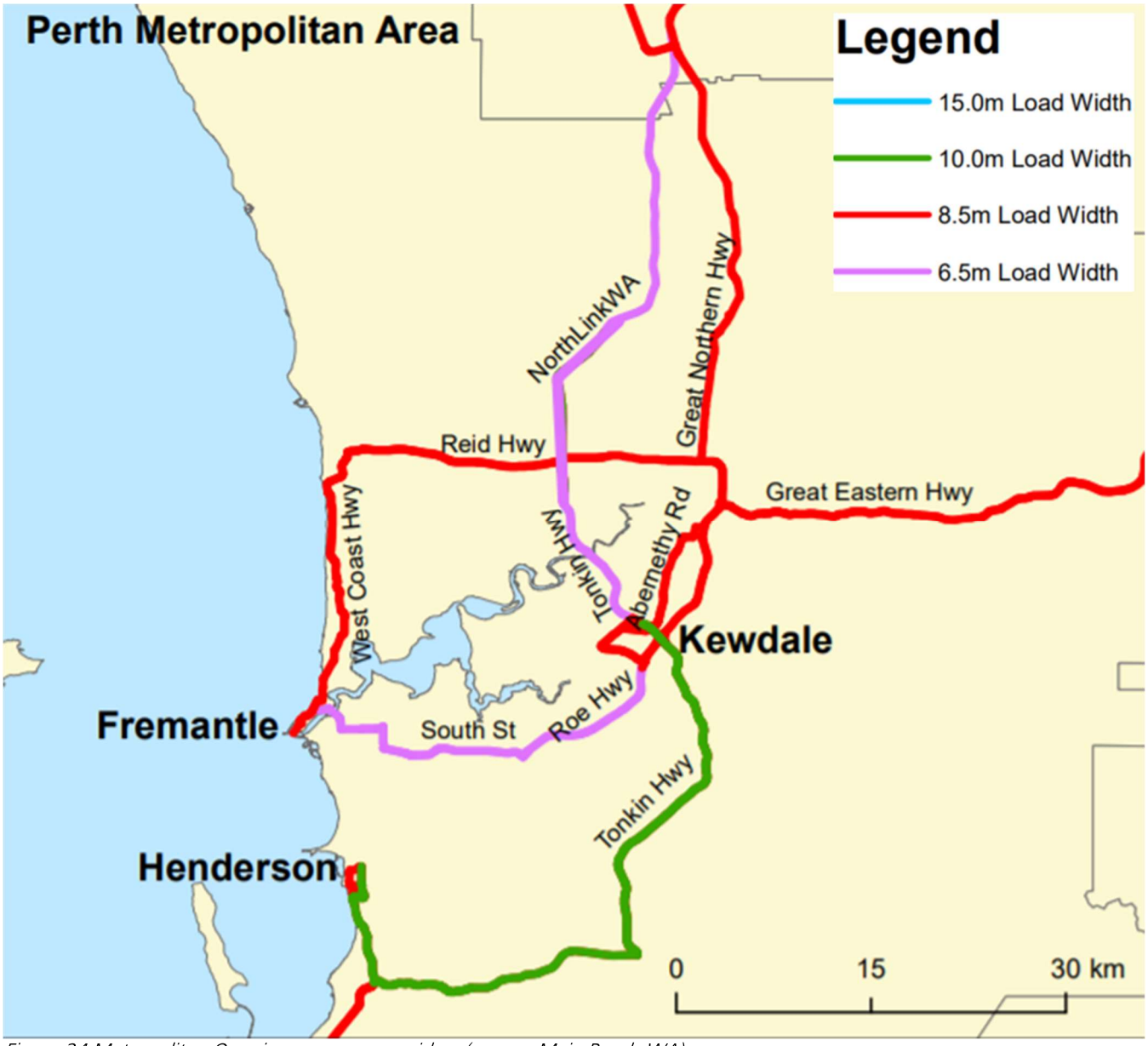

Figure 24 Metropolitan Oversize over mass corridors (source: Main Roads WA)

4. PUBLIC TRANSPORT

4.1 Public Transport Network

The existing public transport network adjacent to the scheme area is shown in Figure 25. The network includes Aubin Grove and Kwinana stations on the Mandurah line, which runs within the Kwinana Freeway median, approximately 1.5km to the east of Mandogalup. There is just over 9km spacing between Kwinana and Aubin Grove stations.

Train station feeder bus routes serve the residential land uses to the north, east and south, while to the west Rockingham Road and Cockburn Road carry bus service between Fremantle and Rockingham.

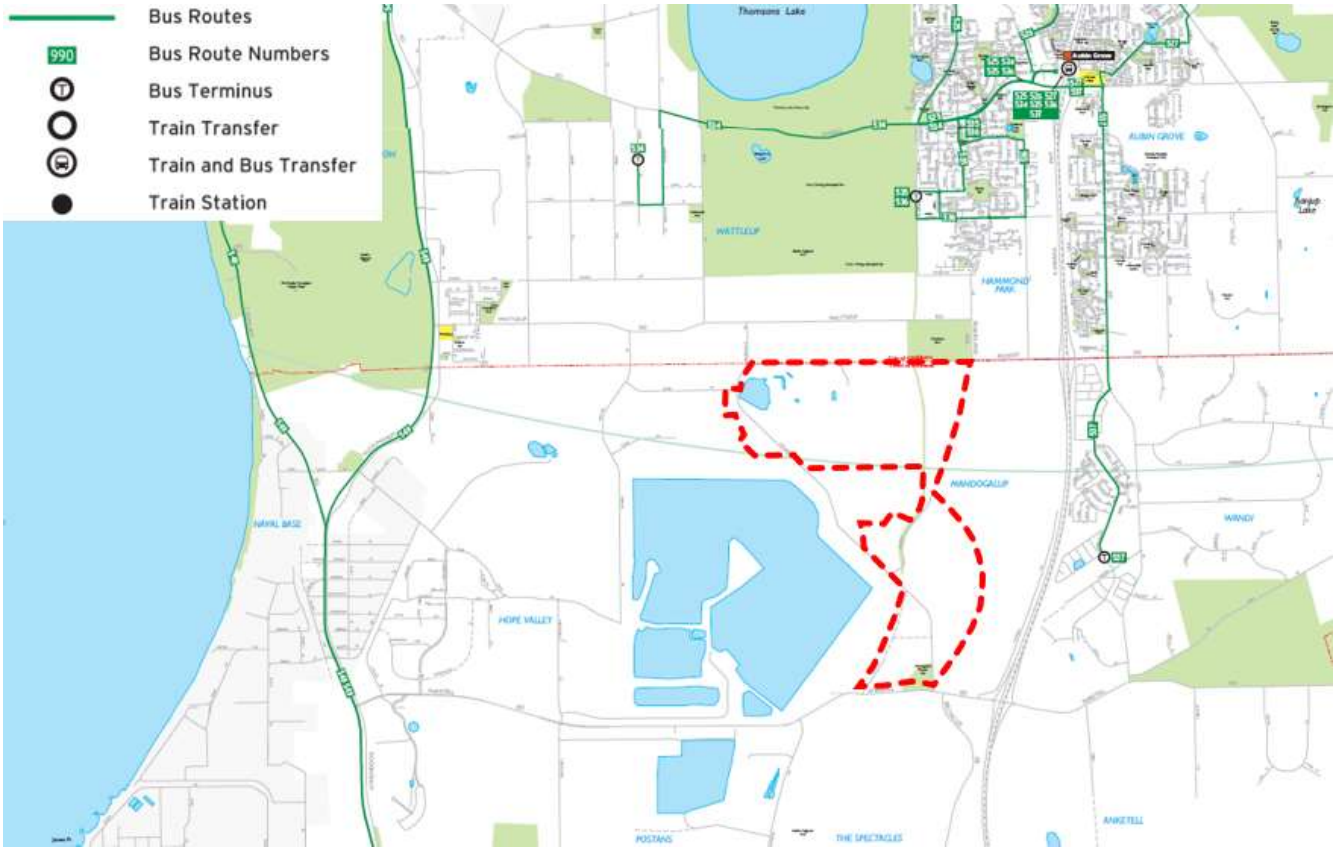

Figure 25 Transperth network map (source: Transperth)

As identified in the Jandakot Structure Plan (2007) and in the MRS (amendment No. 1032/33), land was reserved for a possible Mandogalup Station located at Rowley Road adjacent to the primary regional road reserve. However, on April 23, 2013, the WAPC resolved the following:

> *That the Western Australian Planning Commission endorses, that due to the Governments' announcement of a new rail station to be developed at Aubin Grove (Russell Road) on the Perth-Mandurah line, a station is no longer intended to be developed for Mandogalup (Rowley Road); and that the direction of government shall now be reflected in future planning for the area.*

The final decision to remove Mandogalup Station included liaison and input from PTA.

5. EXISTING PEDESTRIAN NETWORK

5.1 Pedestrian Network

There is no existing pedestrian network within the Scheme Area. The limited road network has no pedestrian paths.

To assess potential existing usage, two separate software based tools were examined for outputs – Travel Time and Strava.

The Travel Time application contrasts the various transport modes, using isochrones to demonstrate the extent of movement possible within a timeframe. The 15-minute catchment is shown in Figure 26. The existing walking and cycling networks clearly follow the limited road network.

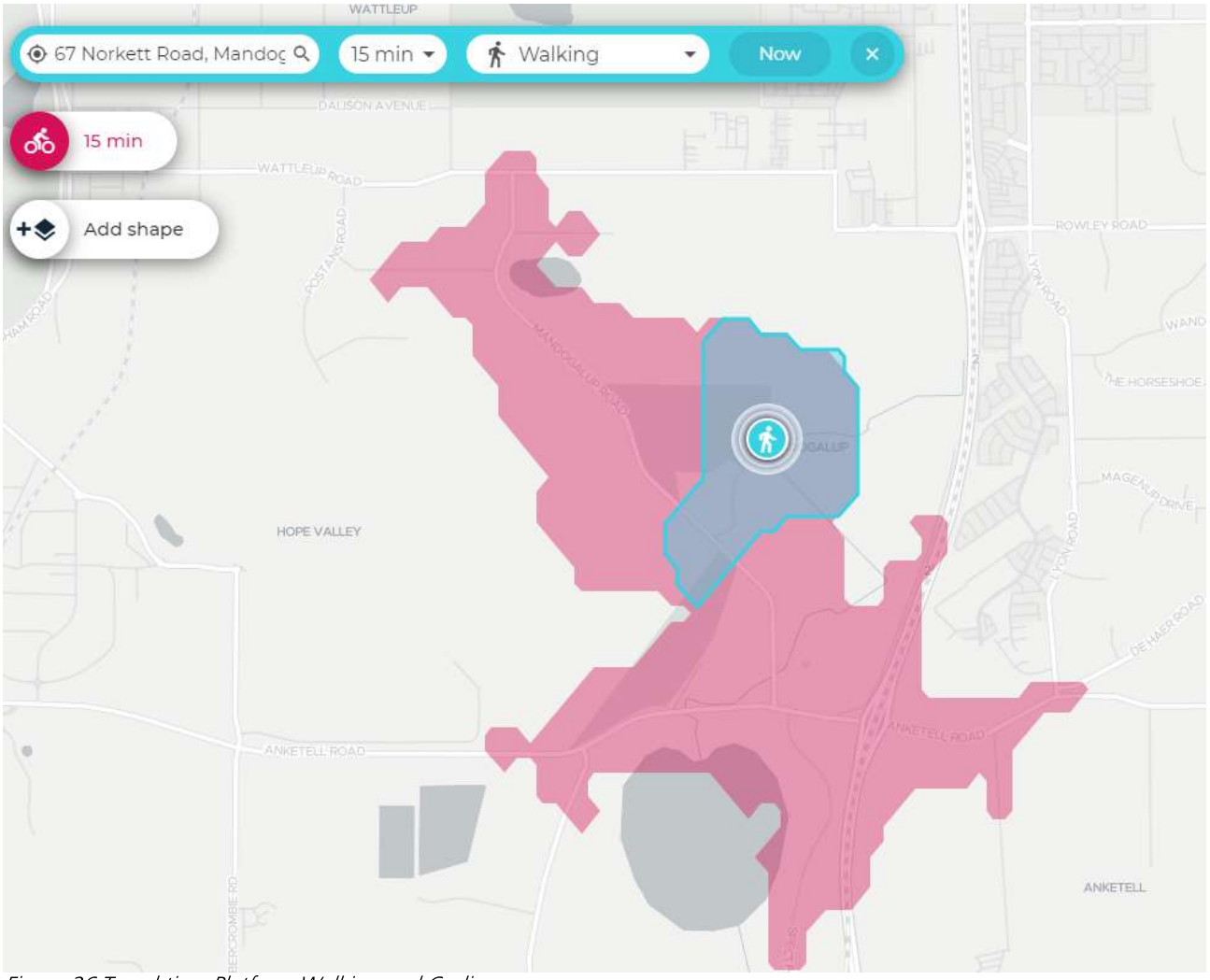

Figure 26 Travel time Platform Walking and Cycling

Strava is a social fitness network, primarily used to track cycling and running exercises, using GPS data. The data can be recorded and displayed as a heat map, showing true and accurate route preferences for walkers, runners and cyclists.

As shown in Figure 27, there is no recorded walking or running activity within the scheme area from users of the app, however it is common within the Beeliar Regional Park and the residential area to the east of the Freeway.

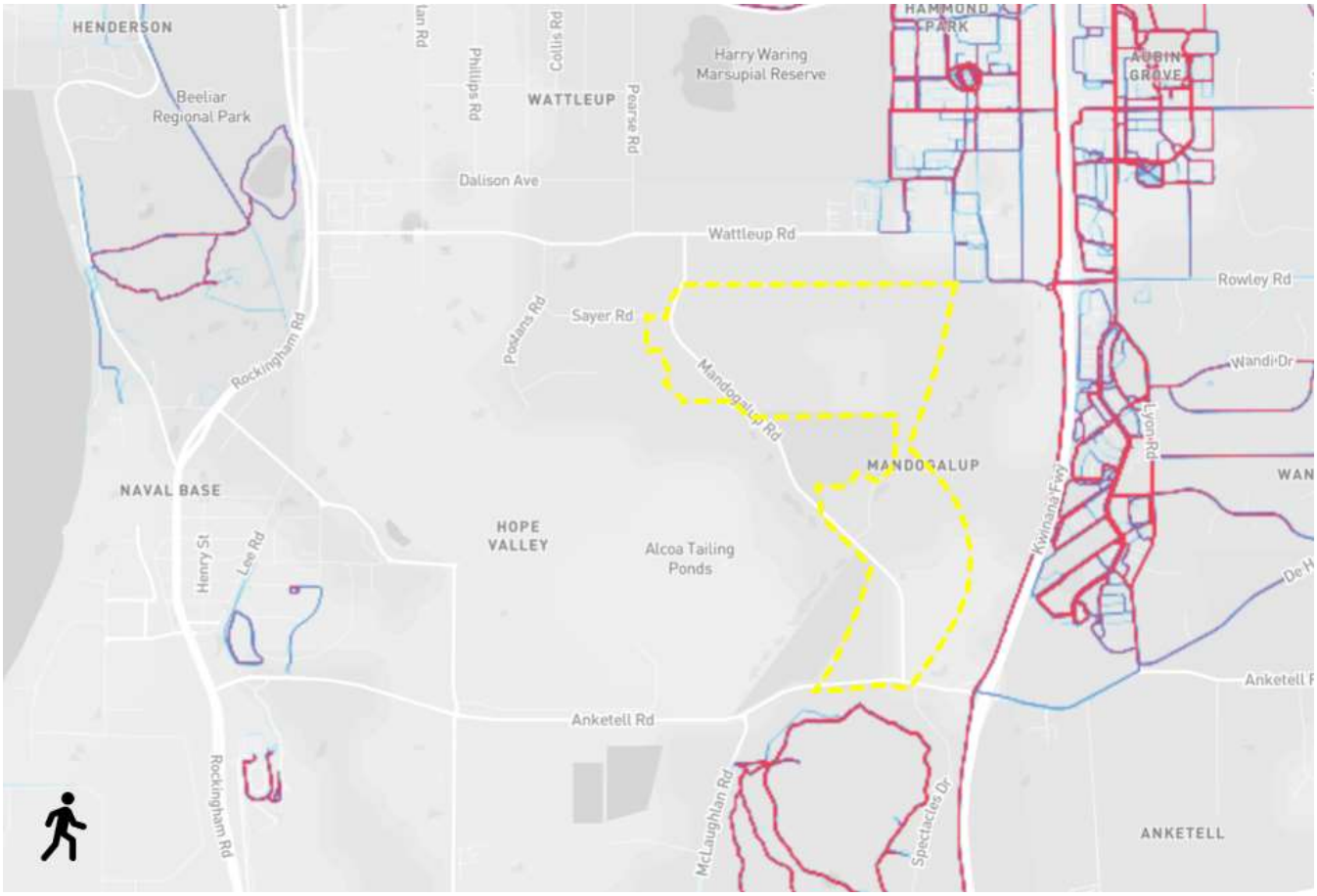

Figure 27 Strava Heat Map – Walking and Running

6. EXISTING CYCLING NETWORK

6.1 Cycling Network

The City of Kwinana have a draft Bike and Walk Plan, however this has not yet been publicly released or available for the purposes of this study at the time of completing the Transport Report.

The existing cycle network within and around Mandogalup is shown in Figure 28. The main elements include the Principal Shared Path (PSP) which runs north-south along the western side of the Kwinana Freeway and the various Perth Bicycle Network routes along Wattleup Road, Rowley Road, Mandogalup Road and a section of Anketell Road.

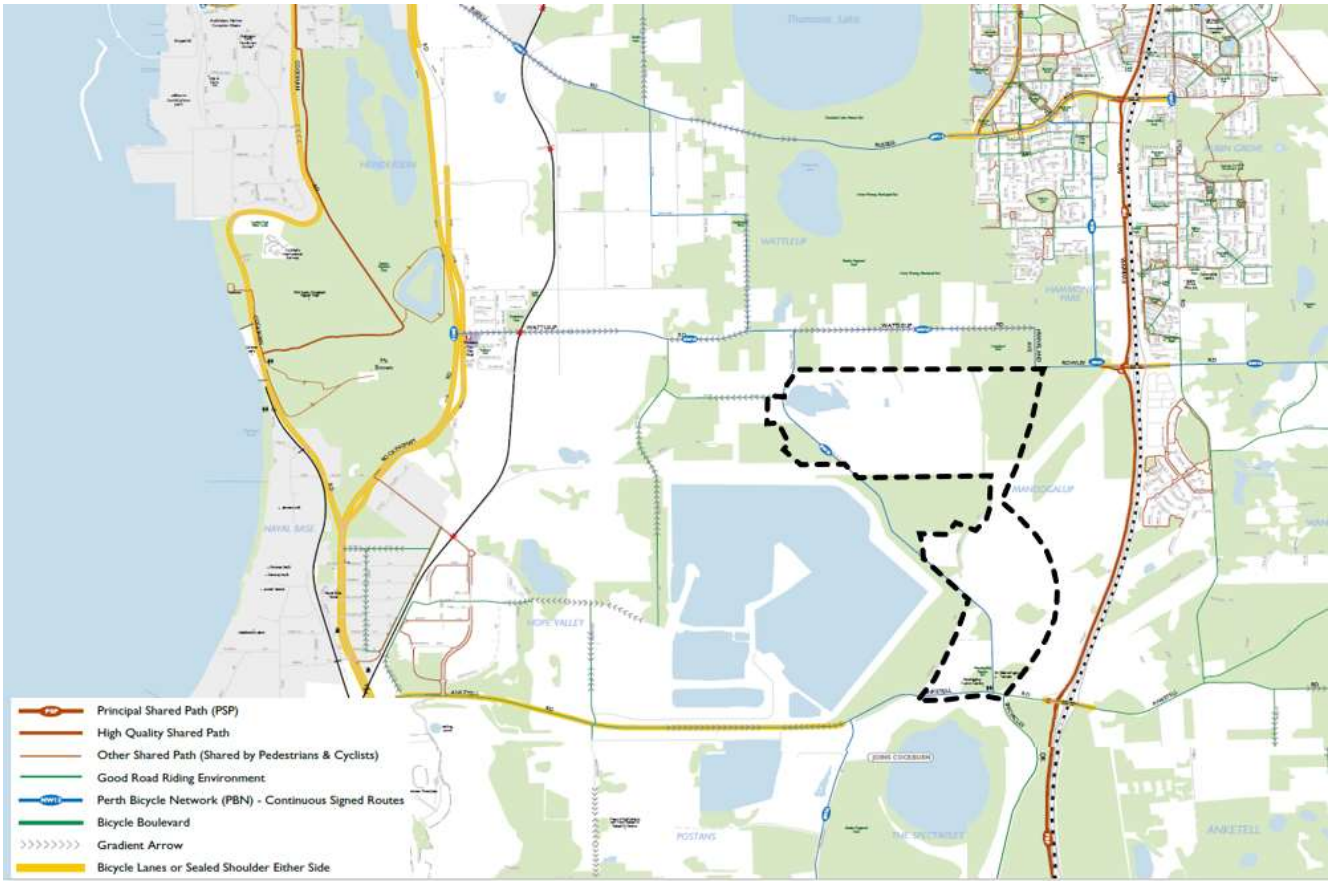

Figure 28 Cockburn and Rockingham: Perth comprehensive bike map (Source: DoT)

The Strava heat map for cycling near Mandogalup is shown in Figure 29. There is limited activity along Mandogalup Road.

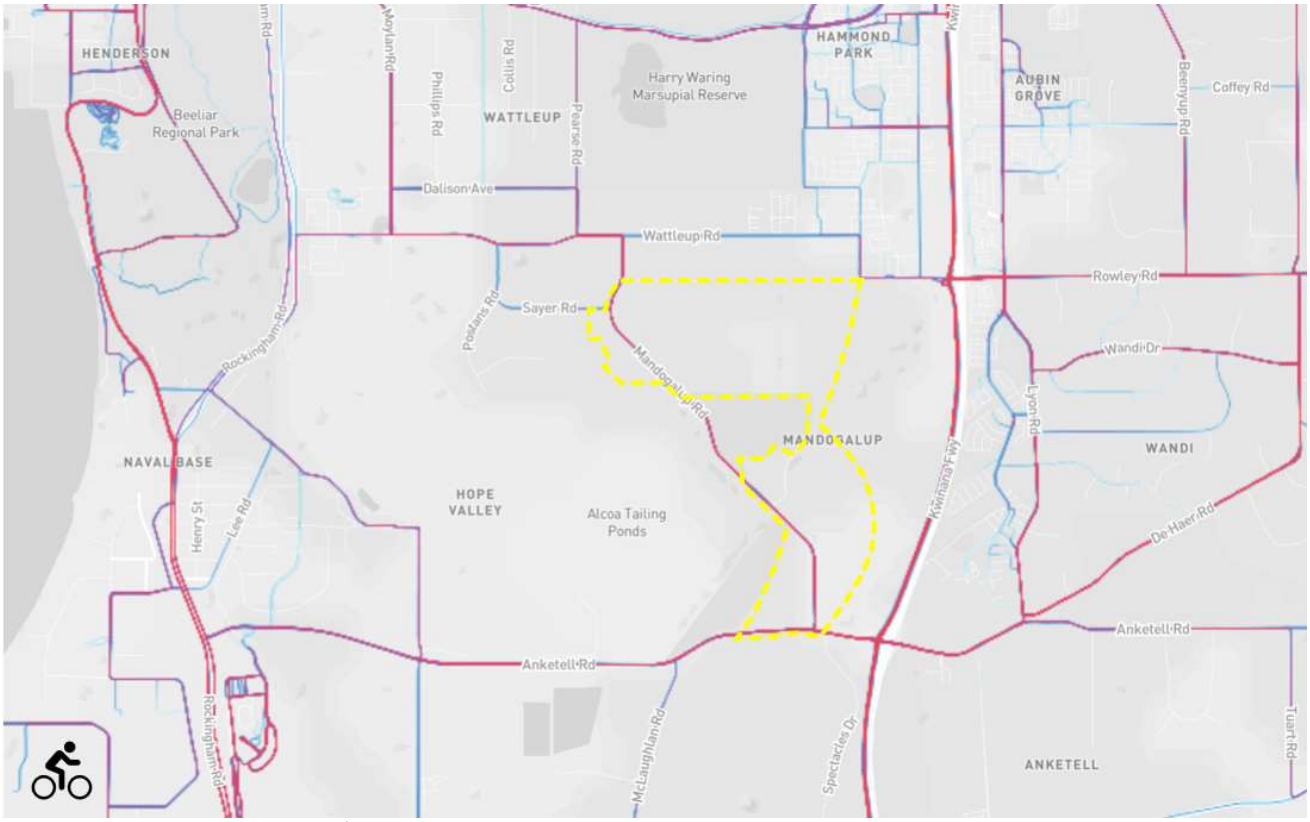

Figure 29 Strava Heat Map – Cycling

7. SUMMARY

This Transport Report has been prepared as a background technical investigation to feed into preparation of the Mandogalup Improvement Scheme; specifically, to inform the land use and transport elements of the proposed development scenarios and support the preparation of the draft Land Use Plan and draft Improvement Scheme.

The findings of this technical investigation are:

- Existing regional road reservations and Planning Control Areas are in place to support future widening, with Westport road corridor requirements to be progressed in 2020.
- There will be substantial freight movements along the Anketell Road corridor and potentially the Rowley Road corridor associated with activities along the Kwinana Industrial Area. This is irrespective of what option the Westport project pursues as the longer term strategy for port facilities servicing Western Australia.
- Anketell Road is a strategic freight corridor and therefore the infrastructure required to support this consistent and increasing movement of freight by road will impact on traffic movements into and out of Mandogalup.
- The distributor road network within the site will likely consist of Mandogalup Road and the extension of the Hammond Road corridor as already set down in regional planning documents. The other constraints of the site mean that larger road corridors through other areas of the site are unlikely.
- Access to the main distributor road corridors will be limited and therefore any development propositions along these corridors would need to have rear access.
- There are existing recreational corridors through the site that can provide regional shared path connections to the existing and future residential development to the east. The main road corridors should incorporate high quality shared path connections that ultimately link up with the PSP along the Kwinana Freeway.
- Public transport demands will be serviced by bus. There is no longer a provision for an additional station at Mandogalup and therefore the main north-south corridor along Hammond Road will be critical in providing bus priority.

The following additional studies/investigations are required to inform land use and the proposed transport network:

- Modelling outputs of the Westport project need to be utilised in the assessment of the project in early 2020. These modelling outputs should be used as a base for assessing the land use options being considered for Mandogalup. This work would be undertaken in conjunction with Main Roads WA.
- Examination of public transport connections to Aubin Grove with PTA once a road network has been determined.
- Requirement for the civil engineers to look at the existing road reserve along Norkett Road (the Hammond Road extension) to understand how the road can avoid the bush forever site.
- Need to understand the staging delivery to facilitate changes to the road network and when connections are required to the Anketell Road or Rowley Road corridors.