City of Stirling
City of Choice

Herdsman Glendalough Precinct Structure Plan

Modified After Advertising 2021

CERTIFIED THAT THIS AGREED HERDSMAN GLENDALOUGH PRECINCT STRUCTURE PLAN
WAS RECOMMENDED FOR APPROVAL BY RESOLUTION OF THE COUNCIL OF THE CITY OF STIRLING ON

……..

AND THE SEAL OF THE MUNICIPALITY WAS PURSUANT TO THE COUNCIL'S
RESOLUTION HEREUNTO AFFIXED IN THE PRESENCE OF:

……..
MAYOR CITY OF STIRLING

……
CHIEF EXECUTIVE OFFICER, CITY OF STIRLING

AND

WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION
ON

……
CHAIRPERSON, WESTERN AUSTRALIAN
PLANNING COMMISSION

DATE OF EXPIRY

PART TWO - EXPLANATORY 41

PART THREE - APPENDICES 137

EXECUTIVE SUMMARY

1.0 FOREWORD

The Herdsman Glendalough Area covers 227 hectares of land is located in a strategic location 5.5km from the Perth CBD on the Yanchep Line and the Mitchell Freeway and only 6km from the beach. The Glendalough Station, Scarborough Beach Road and Herdsman Lake provide focal points for the area.

The area has been a long-established employment area that has transformed over recent decades from manufacturing and industry to bulky good showrooms, car yards, offices and light industry.

The Precinct Structure Plan area is bounded by the Osborne Park Industrial Area to the north, the Stirling City Centre To the west, Herdsman Lake to the south and residential areas to the east. (**Figures 1 and 2)**.

The existing public realm is characterised by roads with low amenity dominated by cars, car parks and signage.

The existing private realm is largely characterised by treeless lots dominated by car parks and disjointed buildings that create no sense of place.

The City of Stirling together with local business and residents have developed the Herdsman Glendalough Structure Plan. The plan is comprised of a suite of documents called 'the planning framework'.

The vision is to transition the area overtime into a number of distinct areas. Intense mixed use areas will be focussed around the Glendalough Station, Herdsman Lake and light rail stops along Scarborough Beach Road. Lower intensity mixed use will be along Main Street. Light industrial areas will be provided as a buffer between future mixed use areas and the existing industrial areas.

The plan promotes the retention of existing compatible uses transitioning over time into new high amenity buildings facing the street.

For this area to transition over time the public realm needs significant investment in new roads, upgraded roads with underground power, trees and light rail to the beach. This will promote a shift away from private vehicle use and will act as a catalyst for land use change and built form transformation.

The Structure Plan outlines how this investment should be staged and delivered over time.

The majority of improvements will occur in the private realm with new developments providing new road links, public open space and mixed use buildings facing the street edge to create a sense of place.

This vision is consistent with the broader objectives of Perth and Peel at 3.5 Million and the Scarborough Beach Road Activity Corridor Framework.

It is projected that by 2051 that the plan will allow for an additional 6,933 dwellings and 20,000 jobs.

Figure 1 - Location of Herdsman Glendalough Area


KING EDWARD ROAD
O'MALLEY STREET
SELBY STREET NORTH
SUNDERCOMBE
SCARBOROUGH
HUTTON STREET
WALTERS DRIVE
JON SANDERS DRIVE
BEACH
WALTERS DRIVE
LEGEND
STRUCTURE PLAN BOUNDARY

Figure 2 - Herdsman Glendalough Precinct Structure Plan

2.0 WHY DO WE NEED A PRECINCT STRUCTURE PLAN

A Precinct Structure Plan is needed for the Herdsman Glendalough Area to guide future development to transform from an industrial / business areas into a mixed use area with light rail.

The Precinct Structure Plan provides the guidance how this will occur with the following information:

- Location and design of new roads and right of ways;
- Identifies special land use areas;
- Transport plan for the area;
- Detailed background information on the area.

2.1 STATE GOVERNMENT PLANNING STRATEGY

The Central Sub Regional Planning Framework (**Figure 3**) for the Perth and Peel @ 3.5 Million strategy provides for the future of the Herdsman Glendalough area as follows:

- Scarborough Beach Road urban activity corridor with greater intensity of housing and commercial activity;
- Better pedestrian and cycling environment;
- Higher density housing close to Glendalough Train Station to make better use of public transport, with more offices and some retailing;
- Additional 60,330 dwellings across the whole of the City of Stirling to meet infill housing targets; and
- Light rail transit system on Scarborough Beach Road from Glendalough Station to Scarborough Beach by 2031.

The Scarborough Beach Road Activity Corridor Framework adopted by the State Government in 2013 identifies dedicated transit lanes from Scarborough Beach to Main Street as well as mixed use nodes along the corridor at transit stops. This framework enabled the City to undertake planning projects along the corridor, including Herdsman Glendalough, Stirling City Centre, Scarborough Beach Rd West and the MRA area in Scarborough.

2.2 CITY OF STIRLING LOCAL PLANNING STRATEGY

The City of Stirling's Local Planning Strategy, **Figure 4** is the City's key planning document that sets out long-term planning directions and objectives for the next 10-15 years. The directions for the Herdsman Glendalough are:

- The Stirling City Centre together with Herdsman Glendalough Area, is poised to be Perth's second largest employment location outside of the Perth CBD.
- Focus growth in employment and infill housing between Glendalough Train Station and Stirling City Centre along Scarborough Beach Road to maximise public transport infrastructure investment.
- Retain the City's current Employment Self Sufficiency Rate (i.e. the % of workers who work and live in the City) by ensuring sufficiently zoned land to facilitate growth in retail, tourism and service jobs, where the Herdsman Glendalough area grows an additional 20,000 jobs by 2031.
- A 'business as usual' approach to redevelopment of key areas in the City is not sustainable. The feasibility and success of the Herdsman Glendalough redevelopment is critically dependent on construction of a light rail (mass transit) system along Scarborough Beach Road to service the increased transport demand generated from employment and housing growth.
- A clear commitment to the timely delivery of a light rail (mass transit) will provide certainty for developers, attract significant employment generators and provide a convenient alternative to private motor vehicle use.

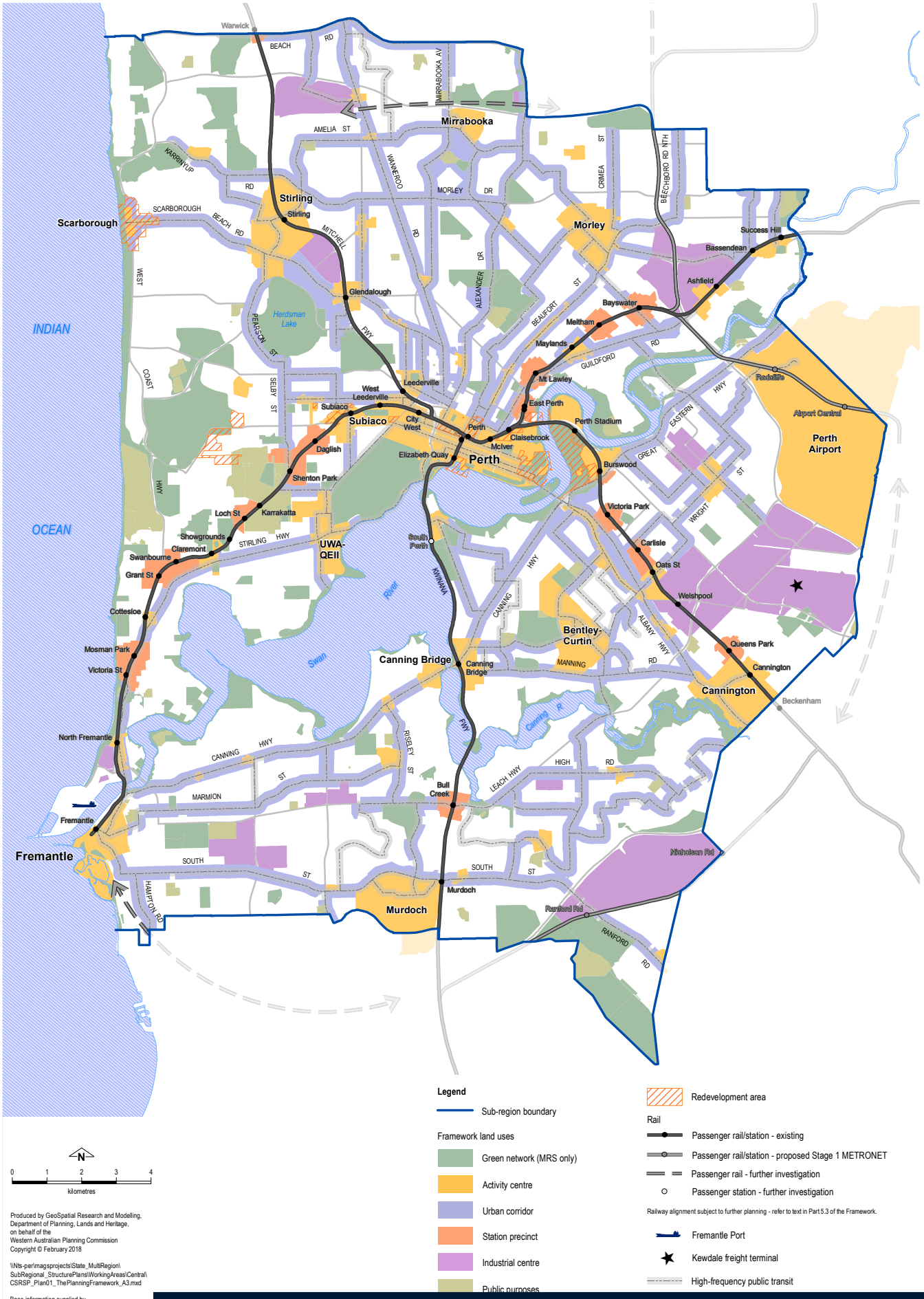
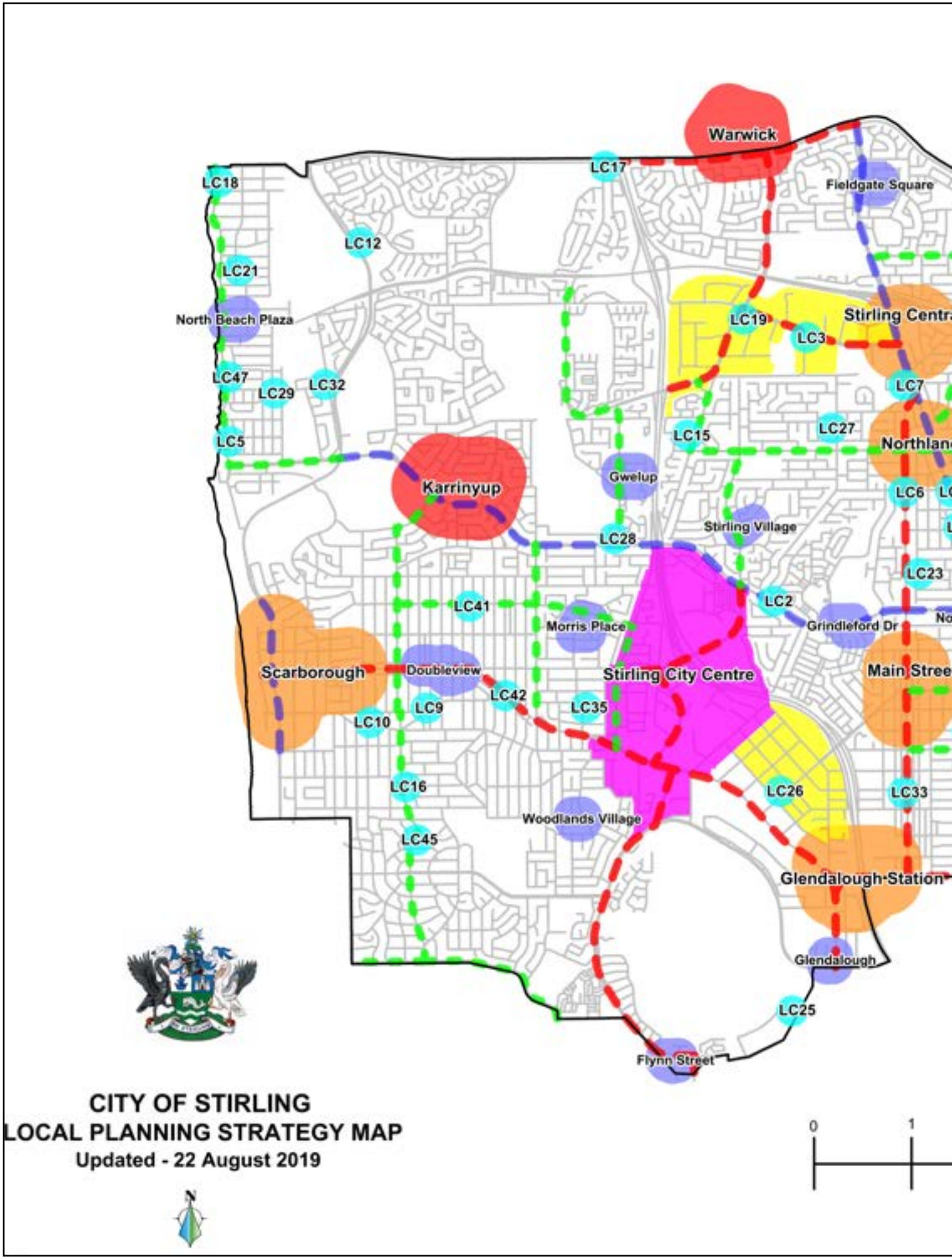


Figure 3 - Perth and Peel@3.5 million – Central Sub Regional Planning Framework


Warwick
LC17
LC18
Fieldgate Square
LC12
LC21
North Beach Plaza
LC19
Stirling Centra
LC3
LC47
LC29
LC32
LC7
LC5
LC15
LC27
Northlan
Karrinyup
Gwelup
LC6
Stirling Village
LC28
LC23
LC41
LC2
Morris Place
Grindleford Dr
Scarborough
Doubleview
Stirling City Centre
Main Stree
LC42
LC9
LC35
LC10
LC16
LC26
LC33
Woodlands Village
LC45
Glendalough Station
Glendalough
LC25
Flynn Street
CITY OF STIRLING
LOCAL PLANNING STRATEGY MAP
Updated - 22 August 2019
0
1

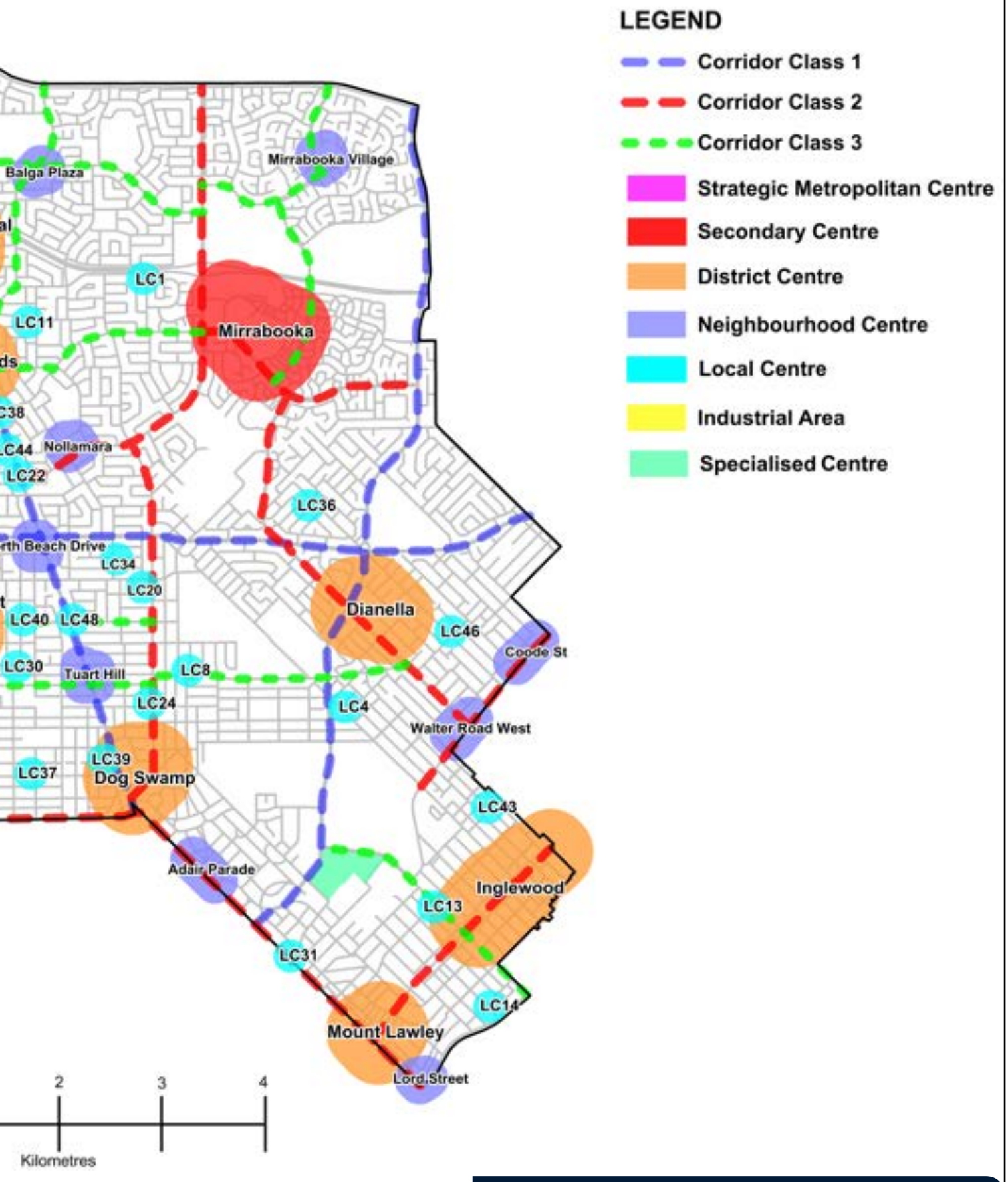
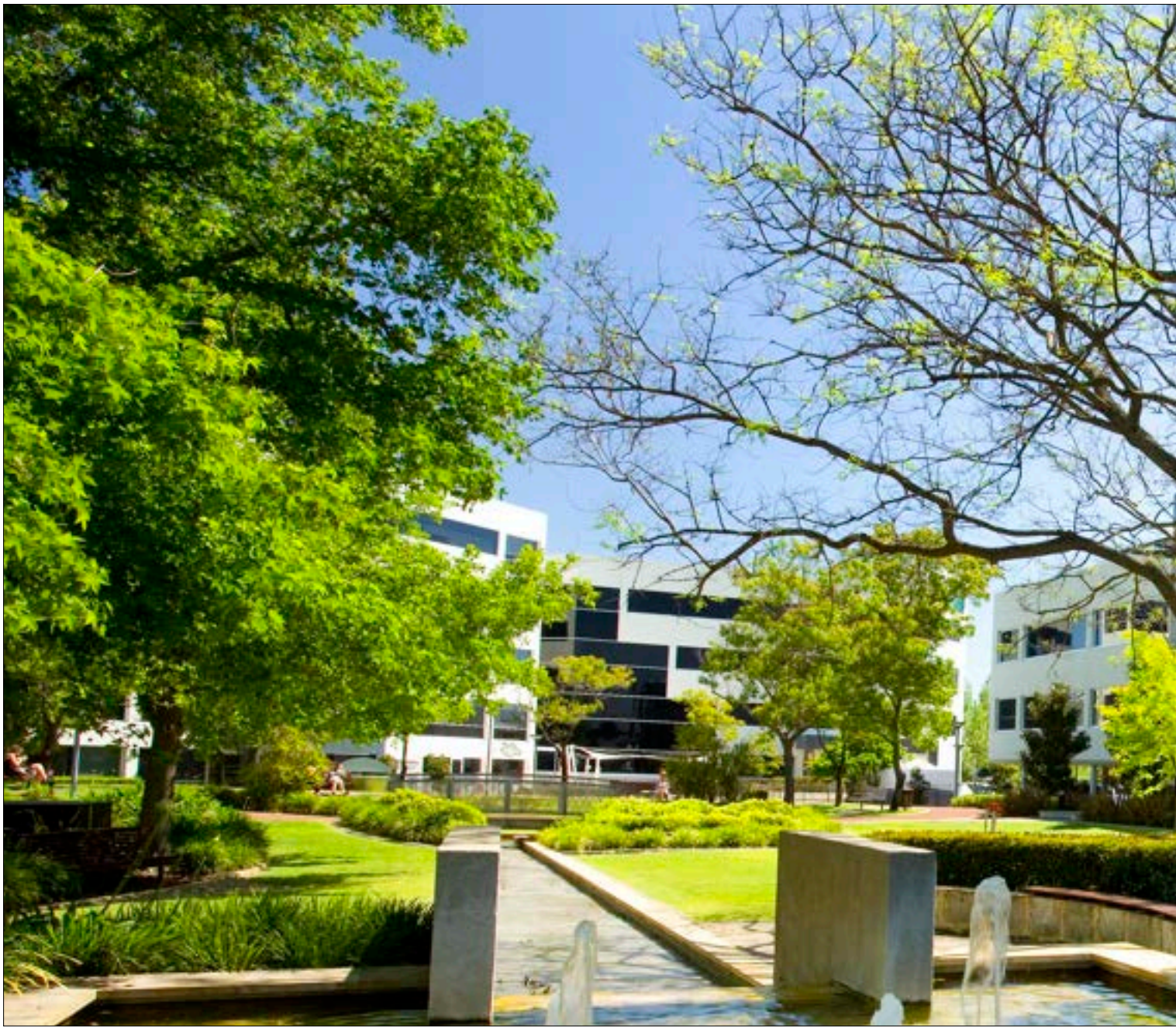


Figure 4 - City of Stirling Local Planning Strategy

3.0 PURPOSE OF THE PRECINCT STRUCTURE PLAN

The purpose of the Herdsman Glendalough Precinct Structure Plan is to deliver State and Local Planning Strategies by:

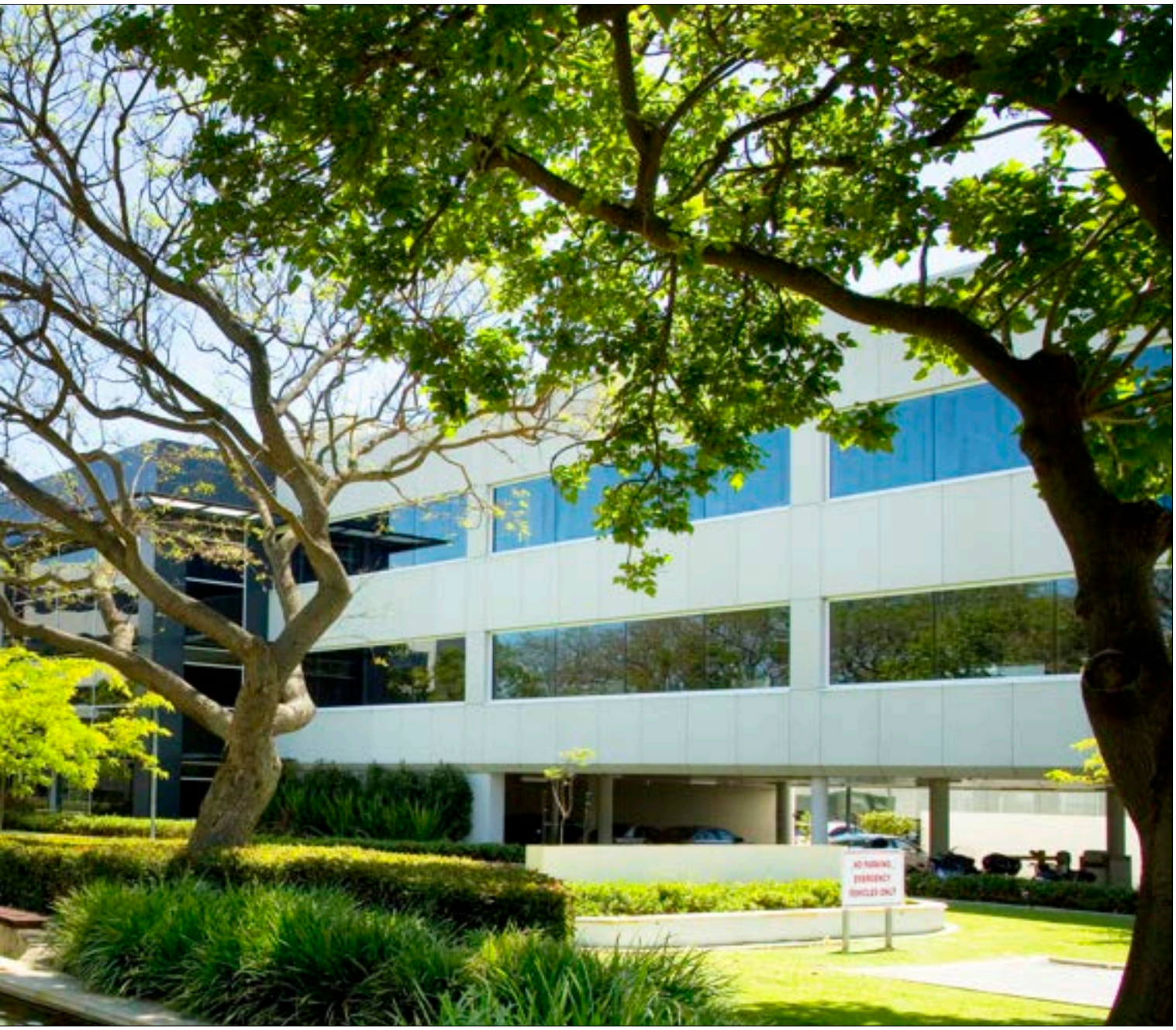
- Articulating a Vision of the future in accordance with key planning strategies and stakeholder aspirations.
- Providing a strategy for coordinating upgrades and development of new infrastructure.
- Providing a contemporary planning framework and detailed planning provisions to guide:
    - The location, scale and mix of land uses;
    - Design of the built environment; and
    - Quality of streetscapes to meet the Vision.
- The Herdsman Glendalough Precinct Structure Plan provides for the redevelopment of one of Perth's most strategically located employment centres to combine with the Stirling City Centre and create Perth's second CBD.
- To identify enabling infrastructure that will catalyse redevelopment of the area.



4.0 ENGAGEMENT PROCESS

A series of workshops and engagement activities were held from 2013 to 2015 to understand the needs and aspirations of the community, landowners and government agencies. The key issues and opportunities raised were:

- Getting around - lack of public transport, need for new road connections, poor parking arrangements and impacts, effectively manage regional vehicle movement, improve amenity of streets, ensure upgrades to road and public transport infrastructure are actually achieved and well-staged.
- Living and doing business - need to increase development potential without unduly impacting existing businesses, facilitate growth to form one of Perth's key employment areas, manage the interface between existing industry / commercial and residential areas.
- Landscaping, streets and open spaces - the need to improve urban amenity for pedestrians and cyclists, lack of quality urban spaces for employees, residents and visitors, create better links to Herdsman Lake.



5.0 VISION

5.1 VISION FOR THE HERDSMAN GLENDALOUGH AREA

The Herdsman Glendalough Area together with the Stirling City Centre, will form Perth's second central business district, with a vibrant urbanism that embraces mixed use development, dense built form, light rail and quality public spaces for the enjoyment of residents, workers and visitors.

The vision for the Herdsman Glendalough Area includes:

- Main Street will be transformed with transit lanes and mid rise mixed use and residential development (**Figure 5**);
- On the eastern side of the Freeway light industry areas will be maintained for industrial strata units to service the local needs of the City (**Figure 5**);
- In the north east the existing residential areas will be transformed with new low rise apartments (**Figure 5**);
- Around Herdsman Lake there will be new high intensity commercial and residential developments overlooking the lake (**Figure 6**); and
- Along the freight route of Hutton Street there will be commercial and showroom developments (**Figure 6**).

Figure 5 - Main Street and Eastern Side of the Freeway Vision

Figure 6 - Vision Herdsman Glendalough Area Vision

The vision for the Herdsman Glendalough Area includes:

- Between Transit Stops on Scarborough Beach road there will be mixed commercial, showroom, car yards and residential developments (**Figure 7**);

- Between the remaining industrial land of Osborne Park and Scarborough beach Road there will be an area of light industry to create a buffer (**Figure 7**).

- Around the Glendalough Station there will be a new mixed use high rise area with residential and a new District level shopping centre (**Figure 8**); and

- Scarborough Beach Road will be transformed by light rail (mass transit) with high rise mixed use, including residential and shops areas around future transit stops (**Figure 9**).

Figure 7 - Vision Herdsman Glendalough Area Vision


Glendalough Station
P

Figure 8 - Scarborough Beach Road, Glendalough Station - 2050


CITROËN

Figure 9 - Drake Street Transit Stop - 2050

Figure 10 - Scarborough Beach Road - 2020

Figure 11 - Drake Street - 2020

5.2 STRATEGIC PLANNING PRECINCT STRUCTURE PLAN SUMMARY

ITEM	RELEVANT DATA (APPROXIMATE)
Precinct Structure Plan Area	227.3 hectares (ha)
Zones (Proposed)	
Mixed Use	96.9 ha
Business	20.4 ha
Light Industry	31.1 ha
Residential	16.1 ha
Commercial Floor Space (Estimated)	183,954 m²
Retail Floor Space (Estimated)	16,815 m²
Industrial Floor Space (Estimated)	11,653 m²
Employment Generation By 2031 (Estimated)	8,309 workers
Dwelling Yield By 2031 (Estimated)	3,449 dwellings
Population By 2031 (Estimated)	6,275 residents
Public Open Space (Estimated)	11,822 m²

PART ONE - IMPLEMENTATION

1.0 INTRODUCTION

1.1 PRECINCT STRUCTURE PLAN AREA

The Herdsman Glendalough Precinct Structure Plan area comprises all of the land contained within the inner edge of the line denoting the Herdsman Glendalough Precinct Structure Plan Area as shown on **Figure 12** – Precinct Structure Plan Area.

1.2 PRECINCT STRUCTURE PLAN CONTENTS

The Herdsman Glendalough Precinct Structure Plan comprises:

Part One – Implementation
Part One is used by decision makers to assess subdivision and development proposals.

This Part contains:

- Subdivision and development provisions that supplement Scheme provisions; and
- Precinct Structure Plan maps.

Part Two – Explanatory Report
Part Two provides information to guide decision-making, including the provision of supporting urban infrastructure by other agencies.

This Part contains:

- Analysis of the Herdsman Glendalough area;
- Future trends and opportunities;
- Stakeholder and community engagement ;
- State policy requirements;
- Description of the Precinct Structure Plan rationale; and
- Key implementation measures.

Part Three – Appendices
Part three contains the following:

- Technical reports used to prepare the Precinct Structure Plan

2.0 OPERATION

The date the Precinct Structure Plan comes into effect is the date the Precinct Structure Plan is approved by the Western Australian Planning Commission (WAPC), as shown on the Endorsement page, in accordance with Schedule 2, Part 4 (Precinct Structure Plans) of the Planning and Development (Local Planning Schemes) Regulations 2015.

Note:

- Decision-makers may approve applications prior to a Precinct Structure Plan being approved by the WAPC where they are satisfied that the proposed development or subdivision does not conflict with the principles of orderly and property planning; and the proposed development or subdivision would not prejudice will not prejudice the specific purposes and requirements of the development area as outlined in clause 6A4.2 of Local Planning Scheme No.3.
- Other statutory provisions giving effect to the Precinct Structure Plan are being implemented via an amendment to Clause 6.4 Herdsman Glendalough Special Control Area in Local Planning Scheme No.3.
- Variations are to be assessed against the objectives of the Precinct Structure Plan.

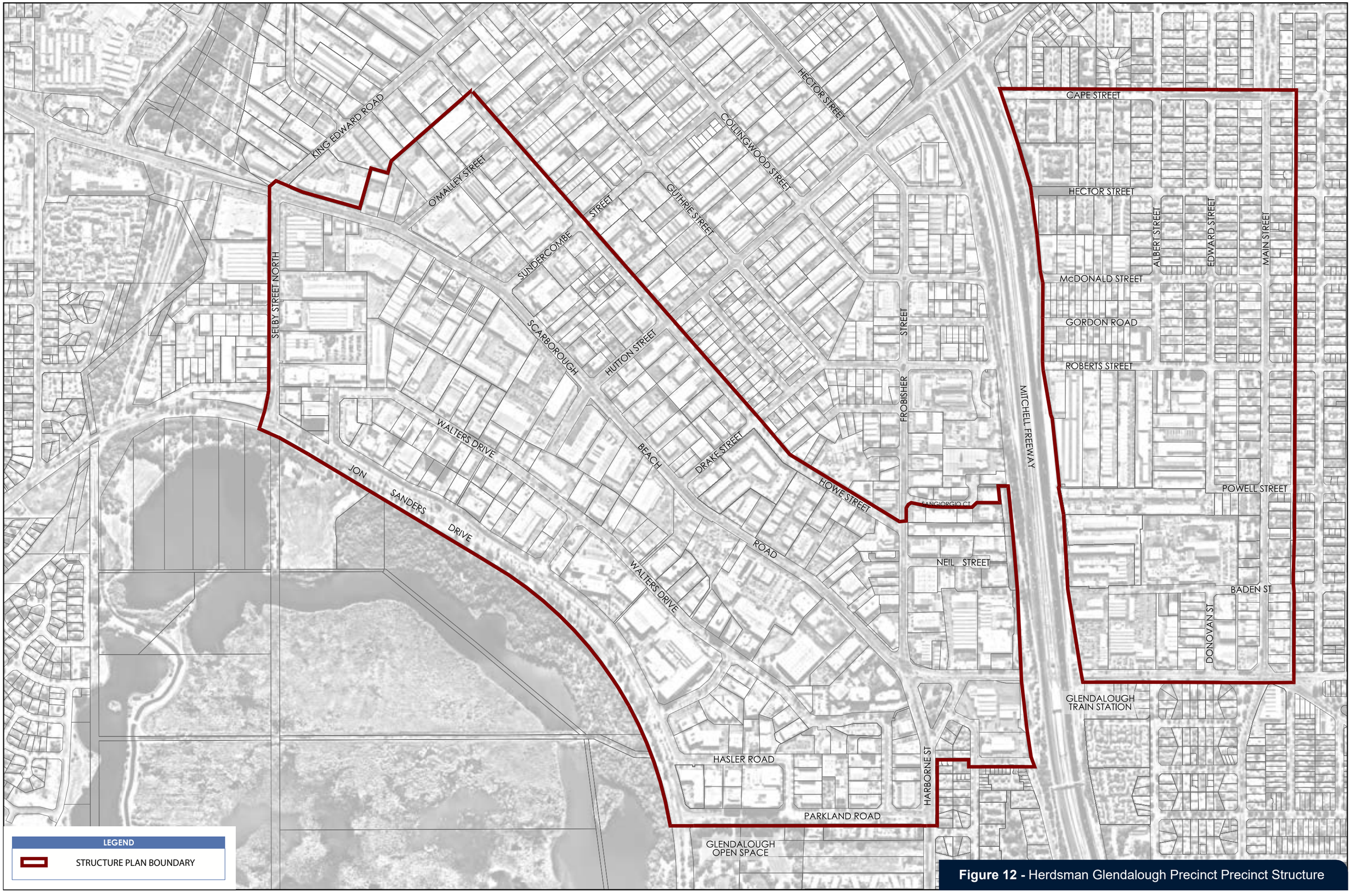


Figure 12 - Herdsman Glendalough Precinct Precinct Structure

3.0 RELATIONSHIP WITH STATE & LOCAL PLANNING FRAMEWORK

3.1 STATE

The following State Government policies and statutory documents also apply to the Herdsman Glendalough area as follows:

- Development adjacent to Metropolitan Region Scheme Road Reservations:
  - Primary Regional Road – Mitchell Freeway
  - Other Regional Roads – Jon Sanders Drive, Scarborough Beach Road, Hutton Street;
- Clause 32 Resolution 2015/01 No. 5 – Stirling and Glendalough Station Precincts under the Metropolitan Region Scheme;
- Planning Control Area No. 127 - Scarborough Beach Road - Main Street to King Edward Road – for the purpose of allowing the future reservation of the land as an Other Regional Road;
- State Planning Policy 5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning;
- State Planning Policy 7.3 Residential Design Codes Volumes 1 and 2. The specific parts of each policy that apply are outlined in the Local Development Plan for the Herdsman Glendalough Area; and
- State Planning Policy 4.1 Industrial Interface.

3.2 LOCAL

The Herdsman Glendalough Precinct Structure Plan has been prepared in accordance with:

- Part 4 (Precinct Structure Plans) of the Planning and Development (Local Planning Schemes) Regulations 2015;
- Clauses 6A.2 and 6A.3 of Local Planning Scheme No. 3'; and
- Schedule 10 Development (Precinct Structure Plan) Areas 'Herdsman Glendalough Precinct Structure Plan' of Local Planning Scheme No.3.

The Precinct Structure Plan will facilitate development within the Herdsman Glendalough Precinct Structure Plan Area in a manner consistent with the objectives in Clause 6.4.1 of Local Planning Scheme No.3.

The Herdsman Glendalough Precinct Structure Plan should be read in conjunction with:

- Clause 6.4 - Herdsman Glendalough Special Control Area of Local Planning Scheme No. 3;
- Herdsman Glendalough Local Development Plan provides development standards for single, grouped and multiple dwellings as well as mixed use and non - residential development;
- Herdsman Glendalough Parking Policy; and
- Relevant Local Planning Policies.

Where there is a conflict with a Local Planning Policy and the Precinct Structure Plan, the Precinct Structure Plan shall prevail.

Unless otherwise specified in the Precinct Structure Plan, the words and expressions used in this Precinct Structure Plan shall have the same meaning as those in City of Stirling Local Planning Scheme No. 3.

4.0 PRECINCT STRUCTURE PLAN OBJECTIVES

The Objectives of the Herdsman Glendalough Precinct Structure Plan are:

a) To provide a strategy for the integrated development of public and private land to facilitate the creation of a safe, vibrant mixed use environment based on main street design principles;

b) To enable the provision of an effective, efficient integrated and safe transport network that prioritises the needs of pedestrians, cyclists and public transport users over motorists;

c) To ensure greater utilisation of Glendalough Station through increased density of both residential and commercial uses;

d) To ensure the development of affordable and diverse housing types;

e) To ensure the development of a convenient network of public open space;

f) To ensure the development of a range of commercial centres around transit stations that contribute towards economic development, local employment and the viability of the area;

g) To ensure the development of a range of community facilities;

h) To create a more permeable transport network through the provision of additional road connections;

i) To limit Shop Use to those areas in close proximity to transit stations and stops in the 'Shop Use Areas';

j) To limit Showroom, Hardware Showroom, Garden Centre and Retail Establishment Uses on the ground floor to those areas outside of the 'Shop Use Areas'

k) Where Showroom, Hardware Showroom, Garden Centre and Retail Establishment Uses are permitted ensure there is a mixture of land uses within developments;

l) To ensure orientation of major openings and outdoor areas of Residential uses within the 'Sensitive Use Area' minimises the impact of odour from external sources;

m) To ensure Residential development is delivered around transit stations and stops;

n) To ensure land is ceded to the Crown along Scarborough Beach Road for widening to accommodate light rail;

o) To ensure the amount of vehicle parking provided and the associated vehicle trips generated, do not exceed the capacity of the road network;

p) To limit vehicle access to properties from Scarborough Beach Road and Main Street;

q) To provide for a transition between the existing Industry Zone and the Mixed Use and Business Zones;

r) Improving the streetscapes of the area to increase tree numbers and tree canopy coverage;

s) Increase the amount of public and private public open space to cater for the needs of future residents.

t) To encourage amalgamation of smaller lots and to ensure the lots are large enough to accommodate the development envisioned for the Herdsman Glendalough Special Control Area; and

u) To enable the staged development of sites whilst preserving land for future uses, roads, Rights of Way and Public Open Space.

5.0 SUBDIVISION & DEVELOPMENT REQUIREMENTS

The subdivision and development of all land within the Herdsman Glendalough Special Control Area shall be in accordance with the Scheme and have due regard to the Herdsman Glendalough Precinct Structure Plan, the Herdsman Glendalough Local Development Plan and Local Planning Policies that applies to that land.

Variations to subdivision and development standards shall be assessed against the objectives of the Scheme, Precinct Structure Plan and the specific objectives of each clause in Part 1 of this Precinct Structure Plan.

5.1 LOT AREAS

Intent
Minimum lot sizes are provided for different development types. Taller buildings require larger lot sizes so that they can be accommodated in accordance with the building standards outlined in the Local Development Plan.

Objective
To ensure the lots are large enough to accommodate the development of the street character types outlined in the Local Development Plan.

Requirements
a) The green title / survey strata subdivision of land within the 'Mixed Use' and 'Business' zones shall not result in the creation of any lot with a total area of less than 1,500 square metres and a frontage of less than 40 metres.

b) The green title subdivision of any land in the 'Light Industry' zone shall be in accordance with the lot size and lot width provisions for the Osborne Precinct in the Local Planning Policy 4.3 - Industrial Design Guidelines.

c) The green title / survey strata subdivision of land within the 'Residential' zone for single and grouped dwellings shall be in accordance with the R40 provisions of Volume 1 of the Residential Design Codes.

d) The green title / survey strata subdivision of land for grouped dwellings within the 'Mixed Use zone for lots on Main Street shall be in accordance with the R80 provisions of Volume 1 of the Residential Design Codes and grouped dwellings shall not front Main Street.

e) The green title / survey strata subdivision of land within the 'Mixed Use' zone on Main Street shall not result in the creation of any lot fronting Main Street with a total area of less than 400m² and with a frontage of less than 20 metres.

f) Lot area calculations may include land given up for road / Rights of Way widening.

5.2 MOVEMENT NETWORK

Intent

The Herdsman Glendalough Precinct Structure Plan will deliver a movement network that accommodates the future growth in movement needs and prioritises movement by pedestrians, cyclists and public transport.

The Herdsman Glendalough Precinct Structure Plan delivers a movement system that facilitates a decrease in trips by private vehicle and an increase in trips by walking, cycling and public transport modes. The delivery of light rail (mass transit) will enable the development of higher intensity uses as the existing and planned road network is not capable of handling all of the additional trips. Light rail stations are integrated with higher intensity land use precincts along Scarborough Beach Road.

New roads and rights-of-way are categorised into street character types in accordance with **Figure 54**. These street character types are summarised in **Section 7.8.6** and are also referenced in the Local Development Plan.

Objectives

- To allow for the ceding, widening requirements and construction of roads and rights-of-way.
- To allow for the widening of rights-of-way to accommodate primary vehicle access to private property from the right-of-way where they exist.
- To allow for widening of Main Street to accommodate public transport lanes and on-street parking to accommodate the additional trips generated by redevelopment.
- To allow for widening of Scarborough Beach Road to accommodate light rail, cycling lanes, on-street parking and wider verges to accommodate the additional trips generated by redevelopment.
- To establish a grid network of new roads and rights-of-way to facilitate the subdivision and development of larger lots and the development of a road network to accommodate the additional trips generated by redevelopment and adequately manage traffic flows and circulation.
- To establish a grid pattern of new roads and rights-of-way that provides sufficient capacity and access options for the increased trips that result from intensification of development.

5.2.1 New Roads and Rights-of-Way

Requirements

a) New roads and rights-of-way, **Figure 13**, shall be ceded in accordance with:

   i) Clause 6.4.4 a) and b) of Local Planning Scheme No.3; and

   ii) Figures 20B 20C, 20D, 20E, 22 and 23 of this Precinct Structure Plan.

   iii) New roads may be 20m wide (**Figure 20C**) where the whole road (20m wide) road can be delivered on one lot at one time.

b) New roads and rights-of-ways shall be designed and constructed at the applicants cost in accordance with:

   i) Clause 6.4.4 b) of Local Planning Scheme No. 3;

   ii) Figures 20B 20C, 20D, 20E, 22 and 23 of this Precinct Structure Plan;

   iii) Clause 6.1.1 of this Precinct Structure Plan;

   iv) The City's Local Planning Policies 6.5 and 6.11

   and shall require drainage, services, on-street parking, footpaths, lighting, landscaping and street trees to the satisfaction of the City.

c) All new roads shall be 22m wide, except for roads identified as 16m wide in **Figure 13**.

d) All new ROW's shall be 6m wide, except for those identified as 8m wide in **Figure 13**.

5.2.2 Widening of Existing Roads and Rights-of-Way

Requirements

a) Hutton Street and Scarborough Beach Road widening shall be ceded in accordance with:

   i) Clause 6.4.4 a) and c) of Local Planning Scheme No.3;

   ii) The Metropolitan Region Scheme;

   iii) Planning Control Areas; and

   iv) Figures 14, 15, 16 and 19 of this Precinct Structure Plan.

b) Main Street road widening shall be ceded in accordance with:

   i) Clause 6.4.4 a) and c) of Local Planning Scheme No.3; and

   ii) Figures 17 and 18 of this Precinct Structure Plan.

c) The City may require some infrastructure to be designed and constructed at the applicants cost for Scarborough Beach Road and Main Street in accordance with:

   i) Clause 6.4.4 c) of Local Planning Scheme No. 3; and

   ii) Clause 6.1.2 of this Precinct Structure Plan.

d) The City will require right-of-way widening in accordance with the City's Right of Way Policy.

5.2.3 Upgrade Existing Roads and Rights-of-Way

Requirements

a) Existing roads and rights-of-way shall be designed and constructed at the applicants cost in accordance with:

   i) Clause 6.4.4 d) of Local Planning Scheme No.3;

   ii) Figures 20A, 21, 22 and 23 of this Precinct Structure Plan; and

   iii) Clause 6.1.3 of this Precinct Structure Plan.

and may require drainage, on-street parking, footpaths, lighting, landscaping and/or street trees to the satisfaction of the City.

b) Rights-of-way widening shall be ceded as per the requirements of:

   i) Schedule 11A (Development Contributions Plan for Rights of Way Improvement Works) and Clause 6.4.4 d) of Local Planning Scheme No.3; and

   ii) Local Planning Policy 6.5 Developments & Subdivisions Abutting Rights Of Way.


Perth
457
Transperth

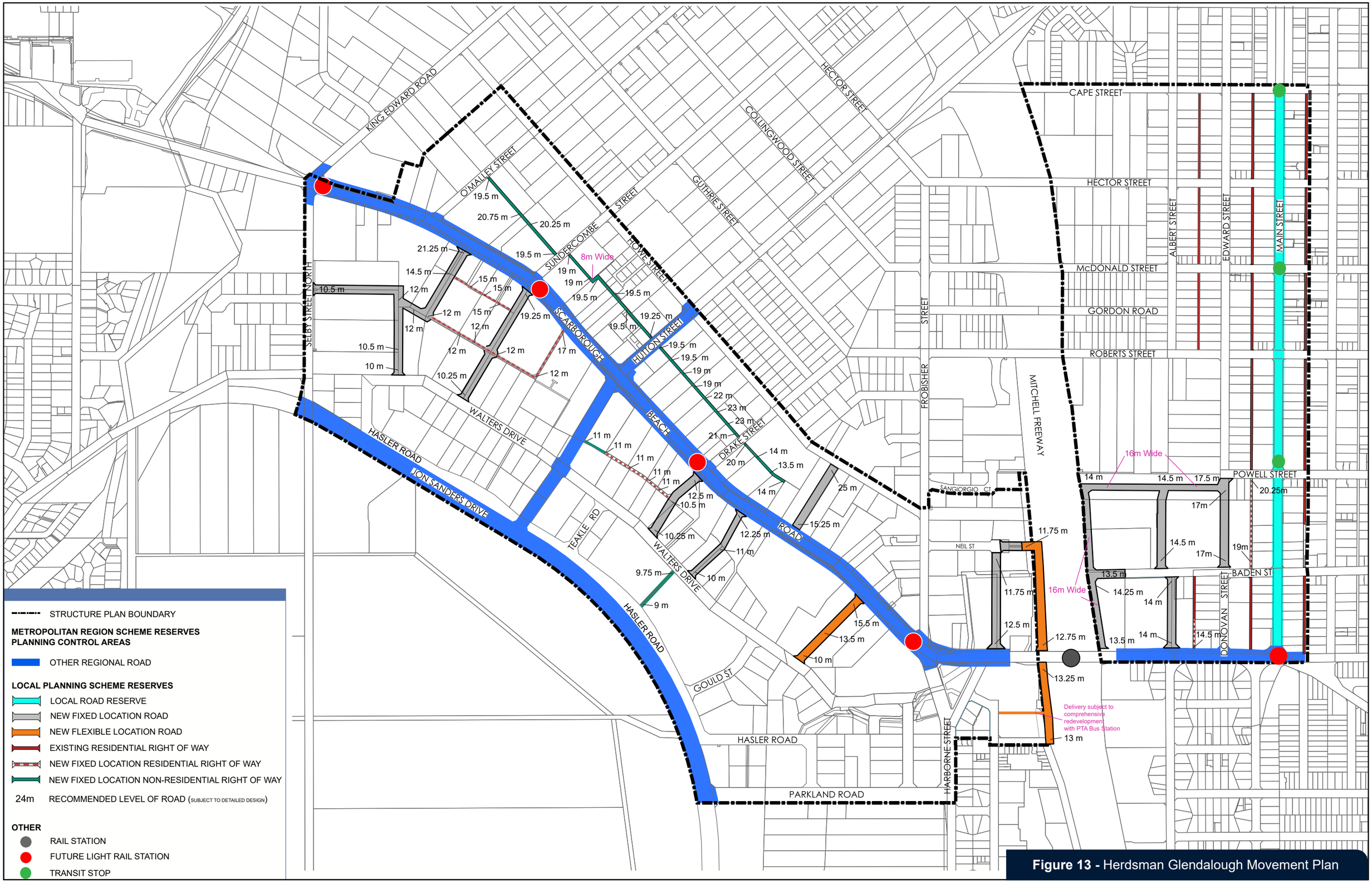


Figure 13 - Herdsman Glendalough Movement Plan

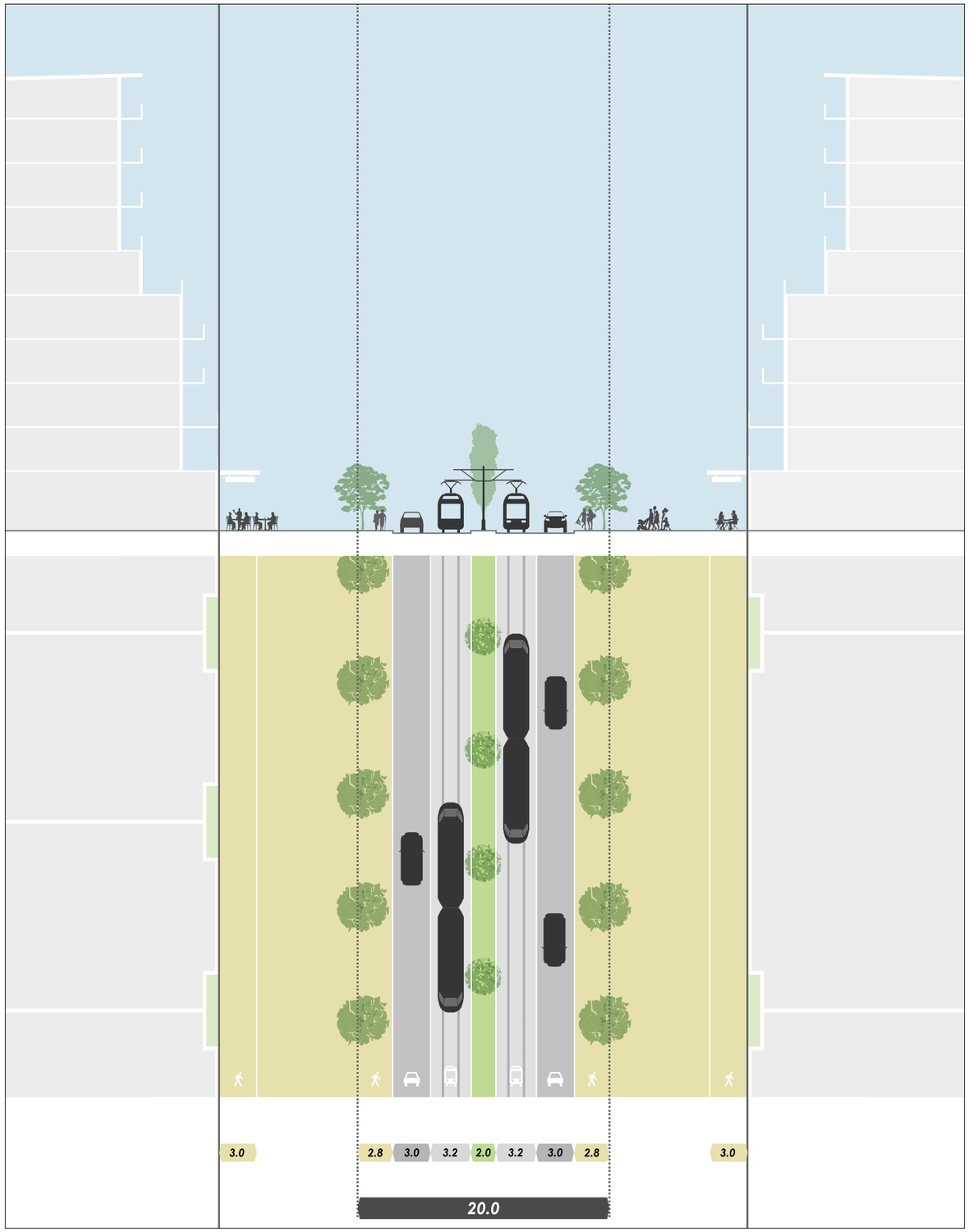


Figure 14 - Scarborough Beach Road - Short Term - Light Rail

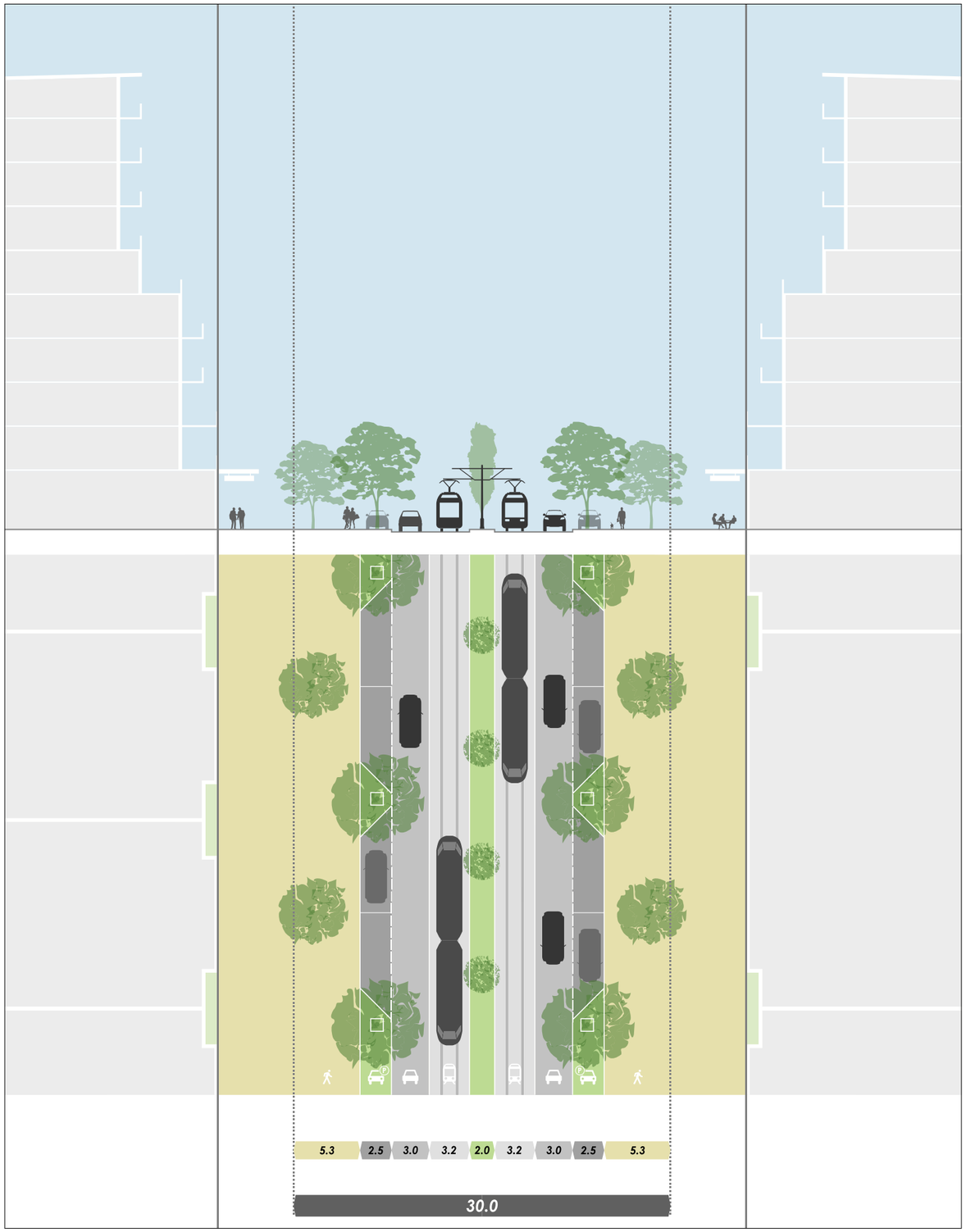


Figure 15 - Scarborough Beach Road - Medium Term - Light Rail

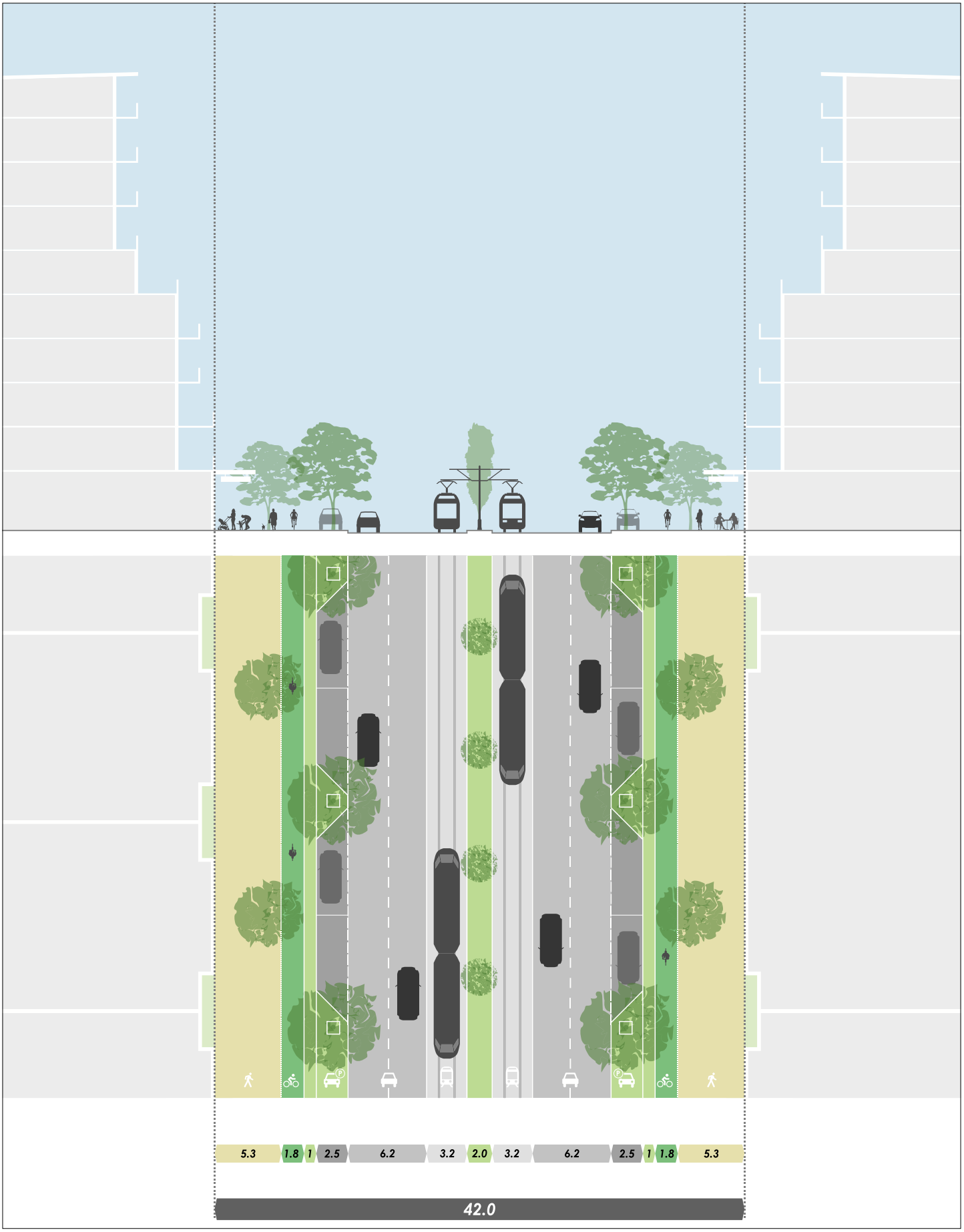


Figure 16 - Scarborough Beach Road - Long Term - Light Rail

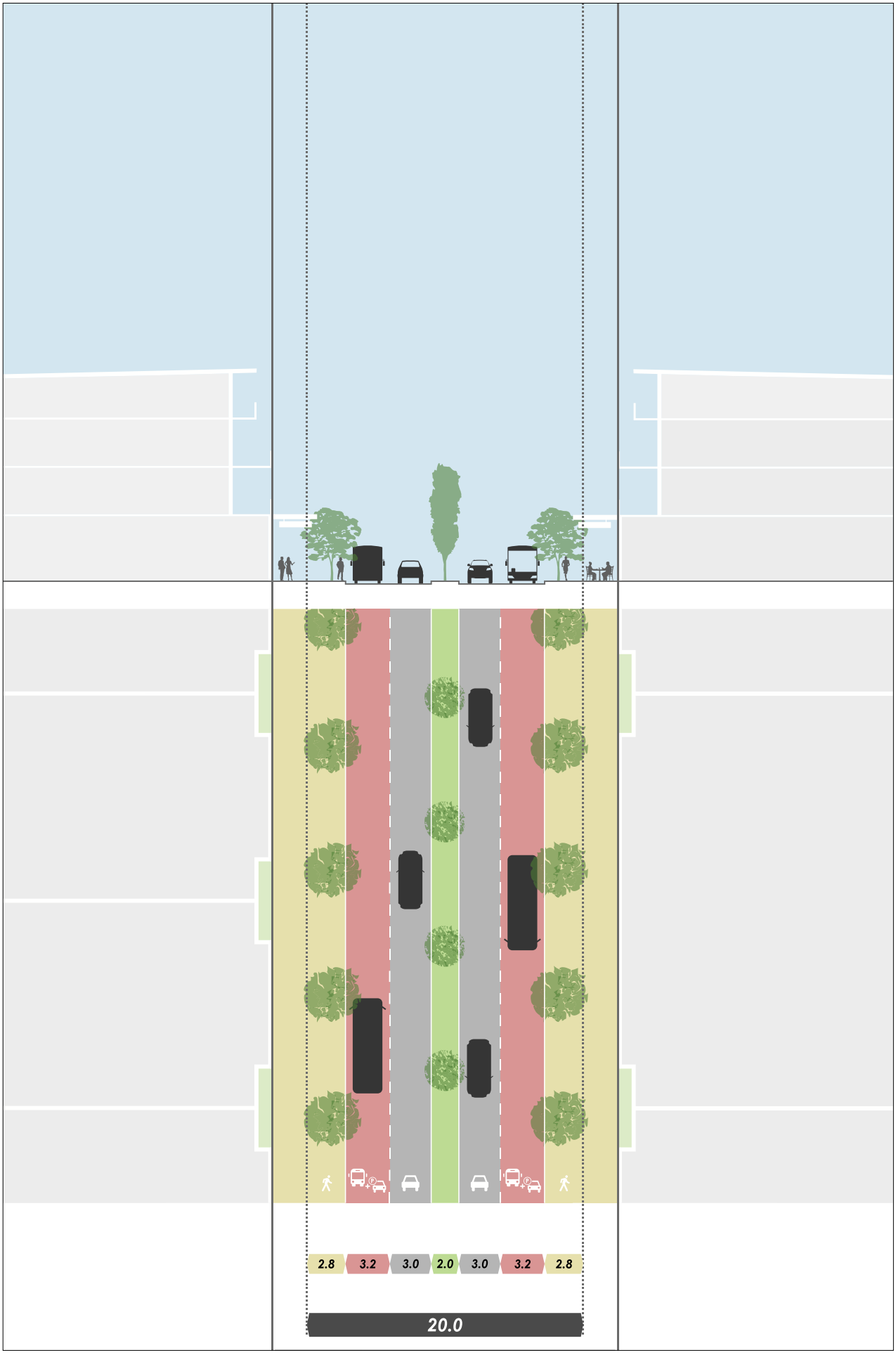


Figure 17 - Main Street Cross Section - Short Term

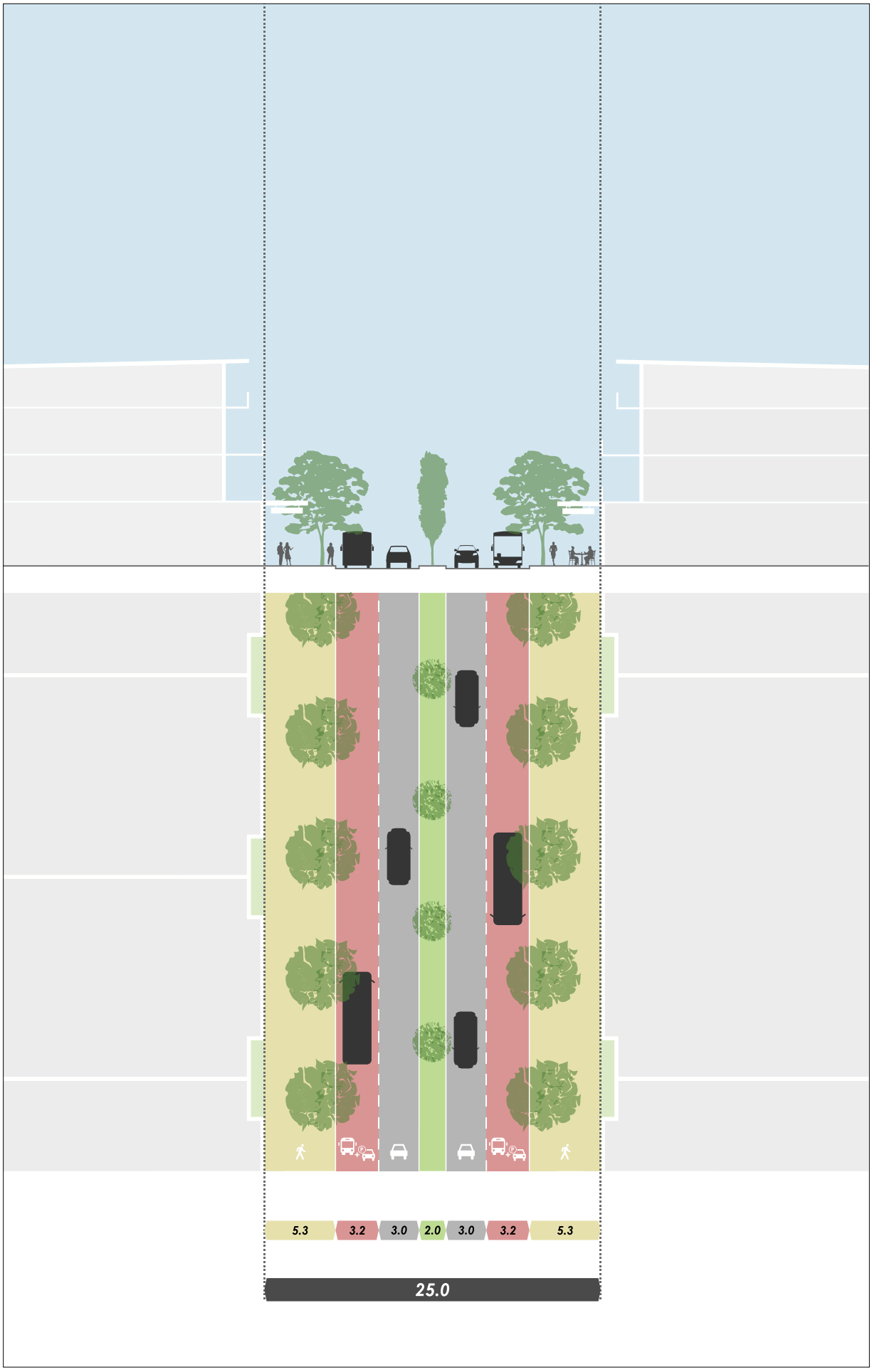


Figure 18 - Main Street Cross Section - Long Term

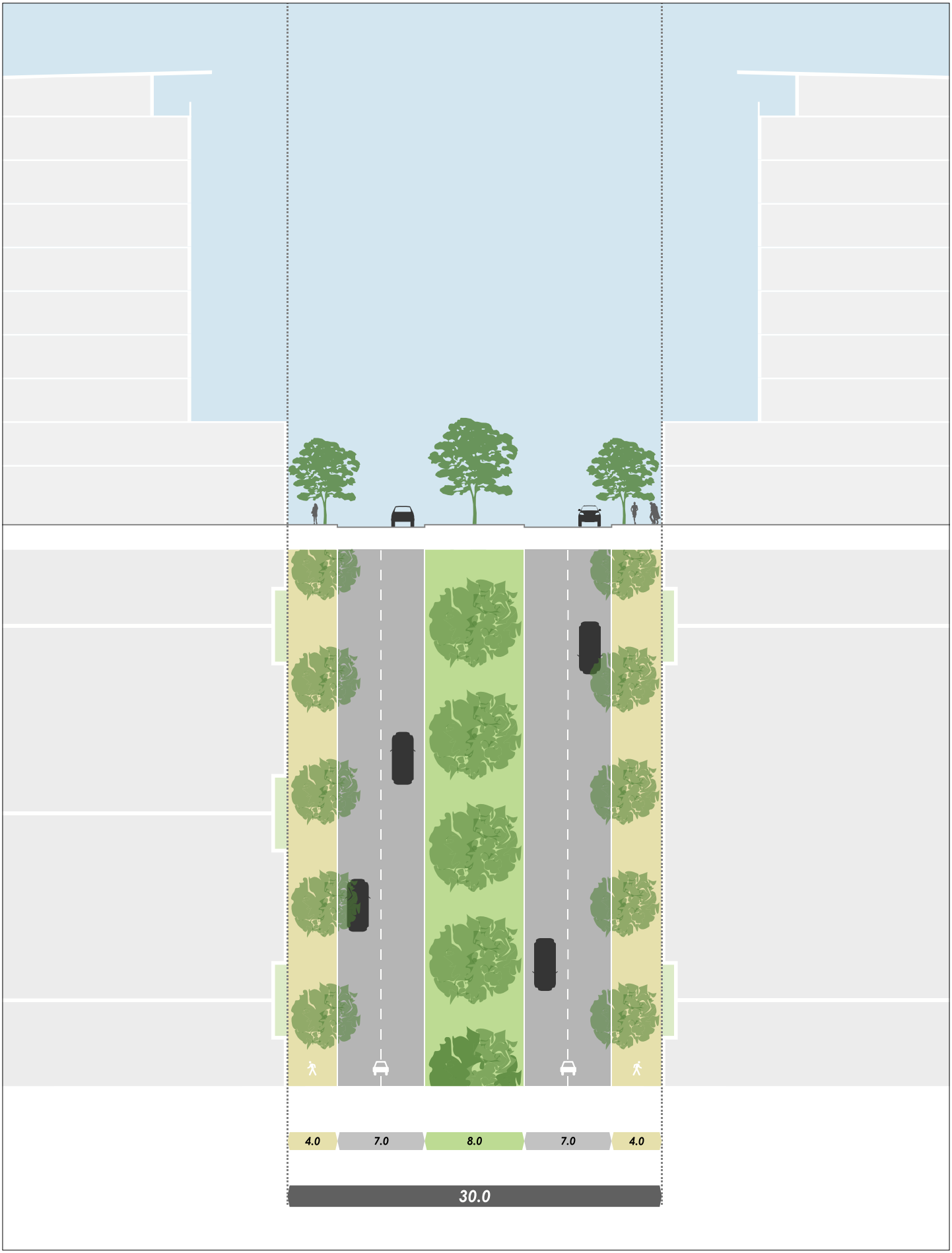


Figure 19 - Hutton Street Cross Section - Long Term

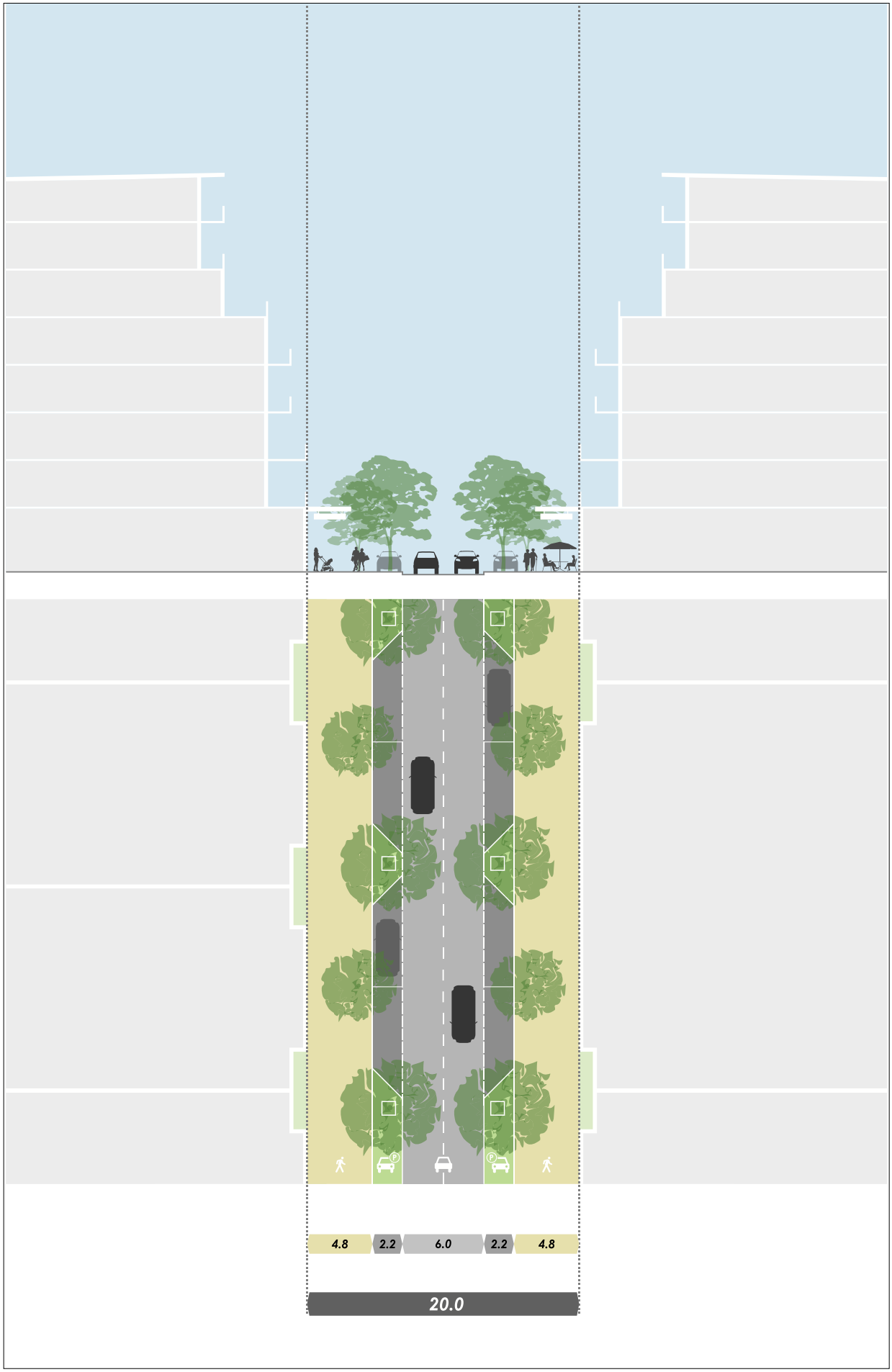


Figure 20A - Existing Roads Cross Section - 20m

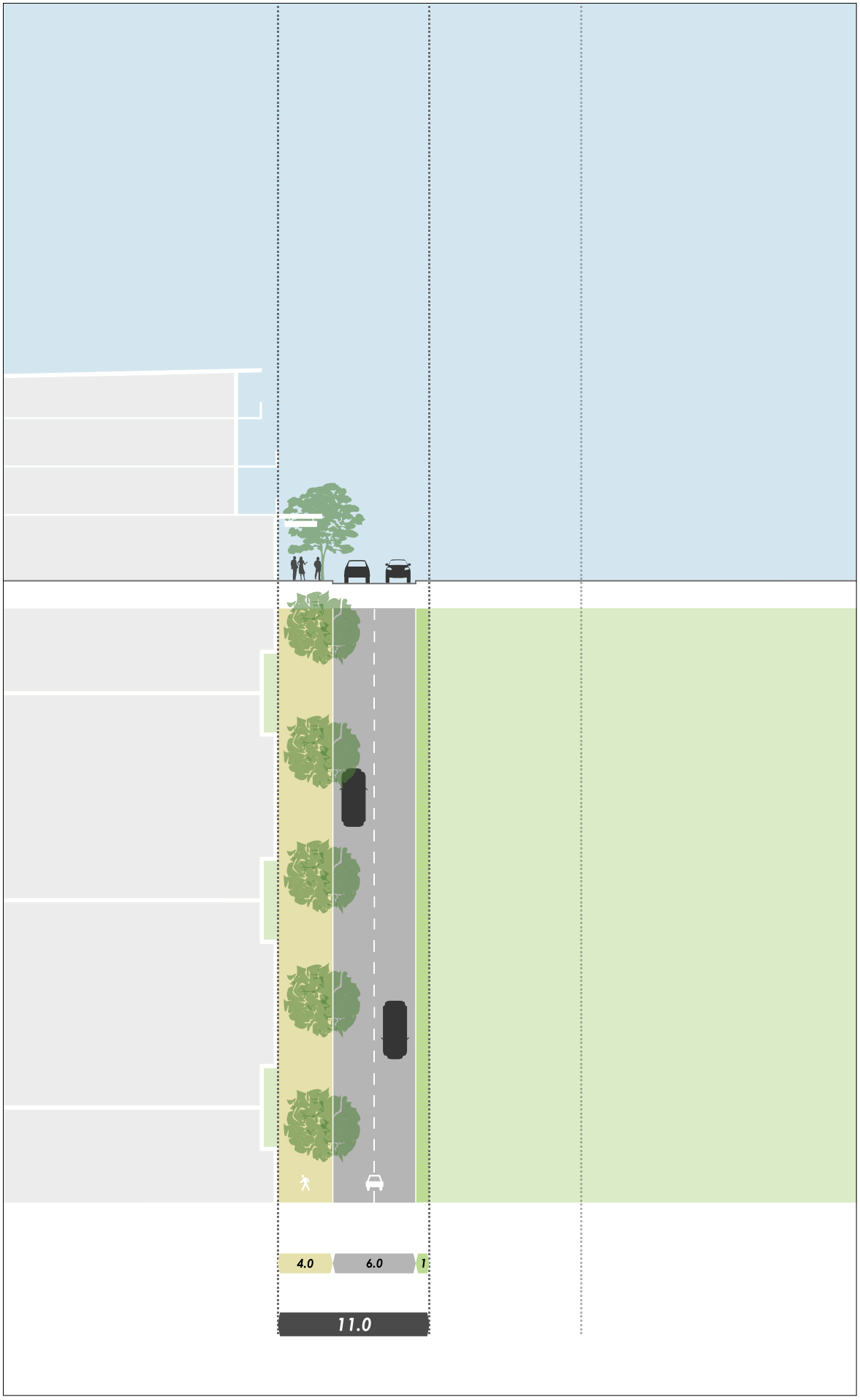


Figure 20B - New Roads Cross Section - 11m - Stage 1

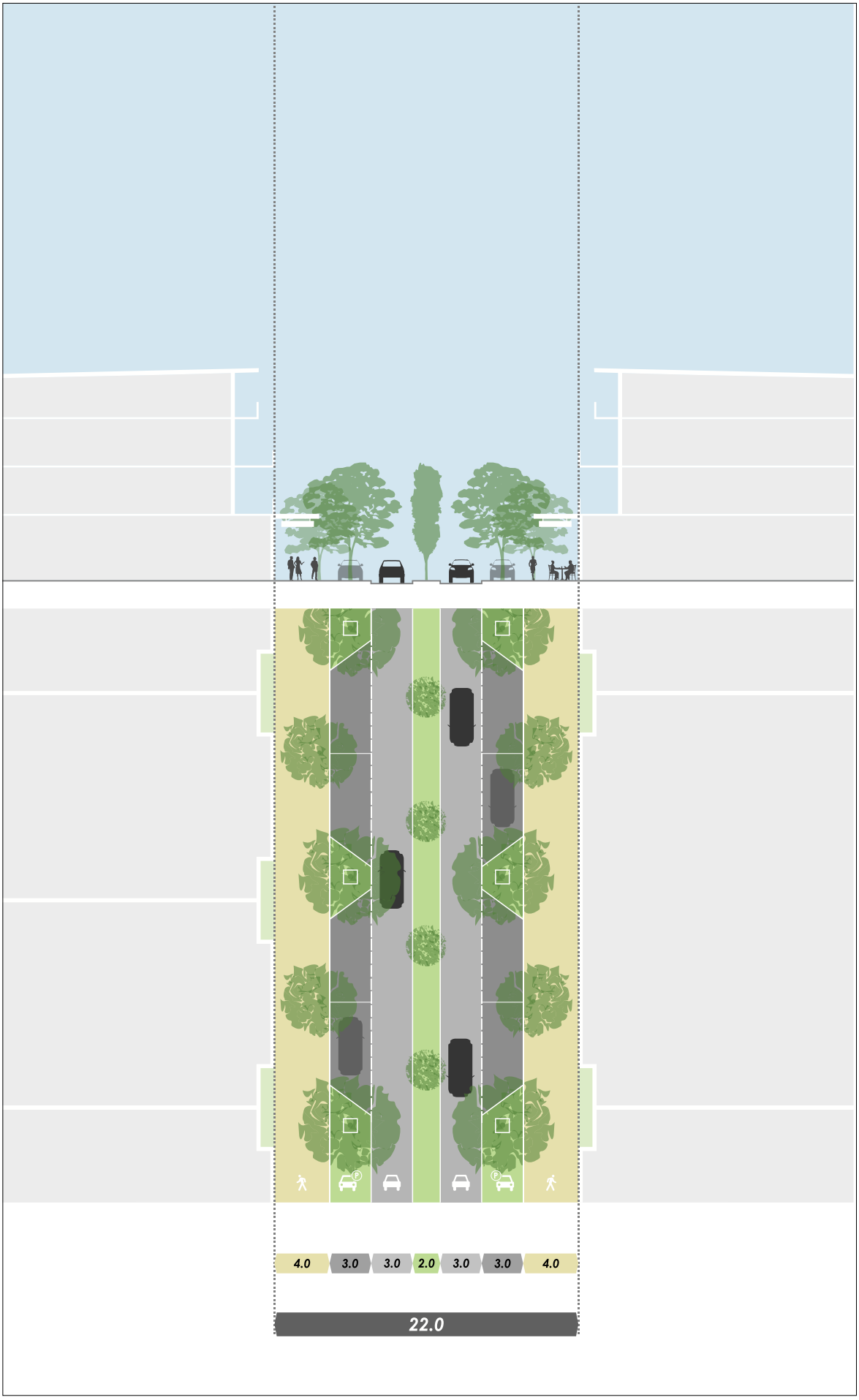


Figure 20C - New Roads Cross Section - 20m - 22m - Stage 2

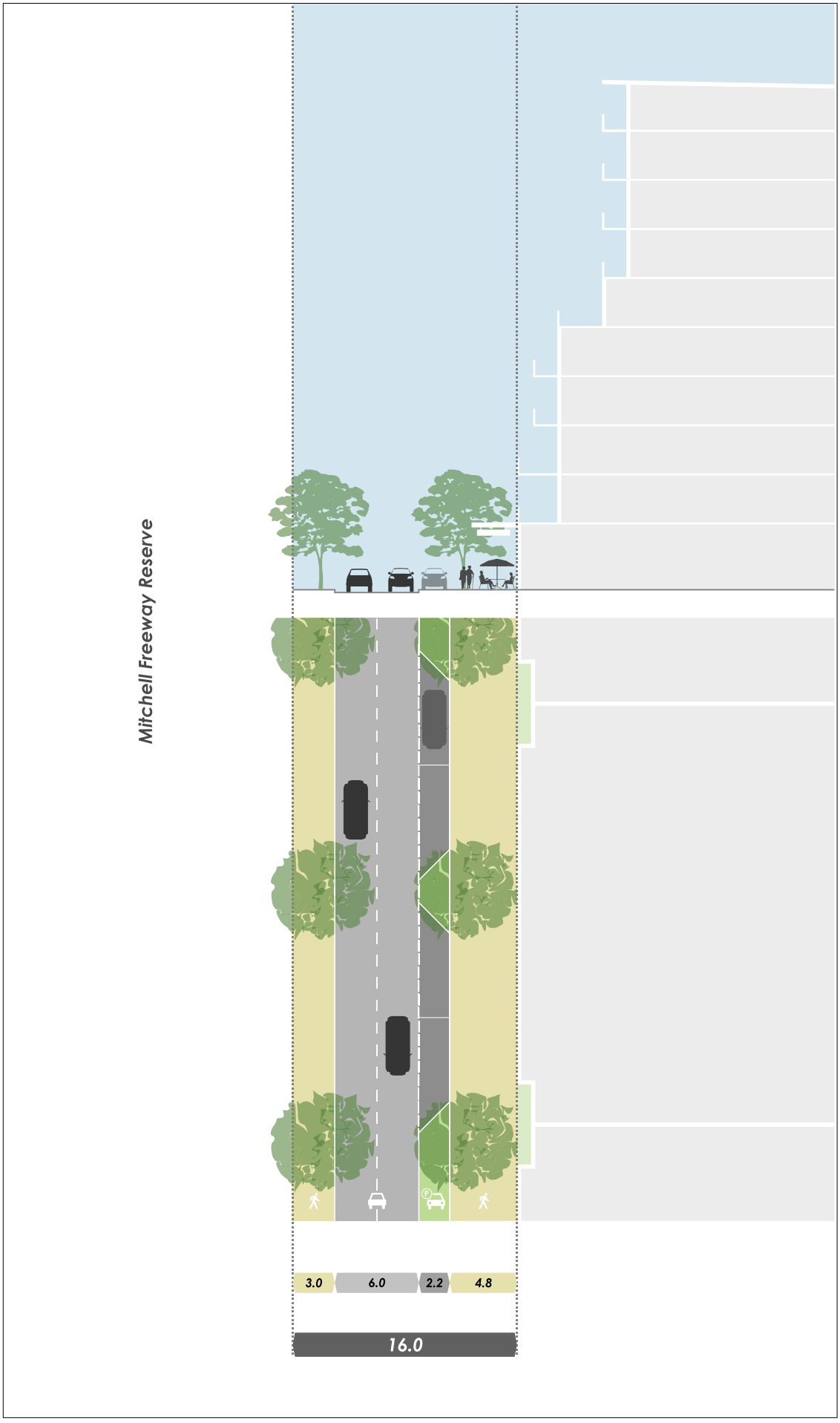


Figure 20D - New Roads Cross Section - Abutting Freeway - 16m

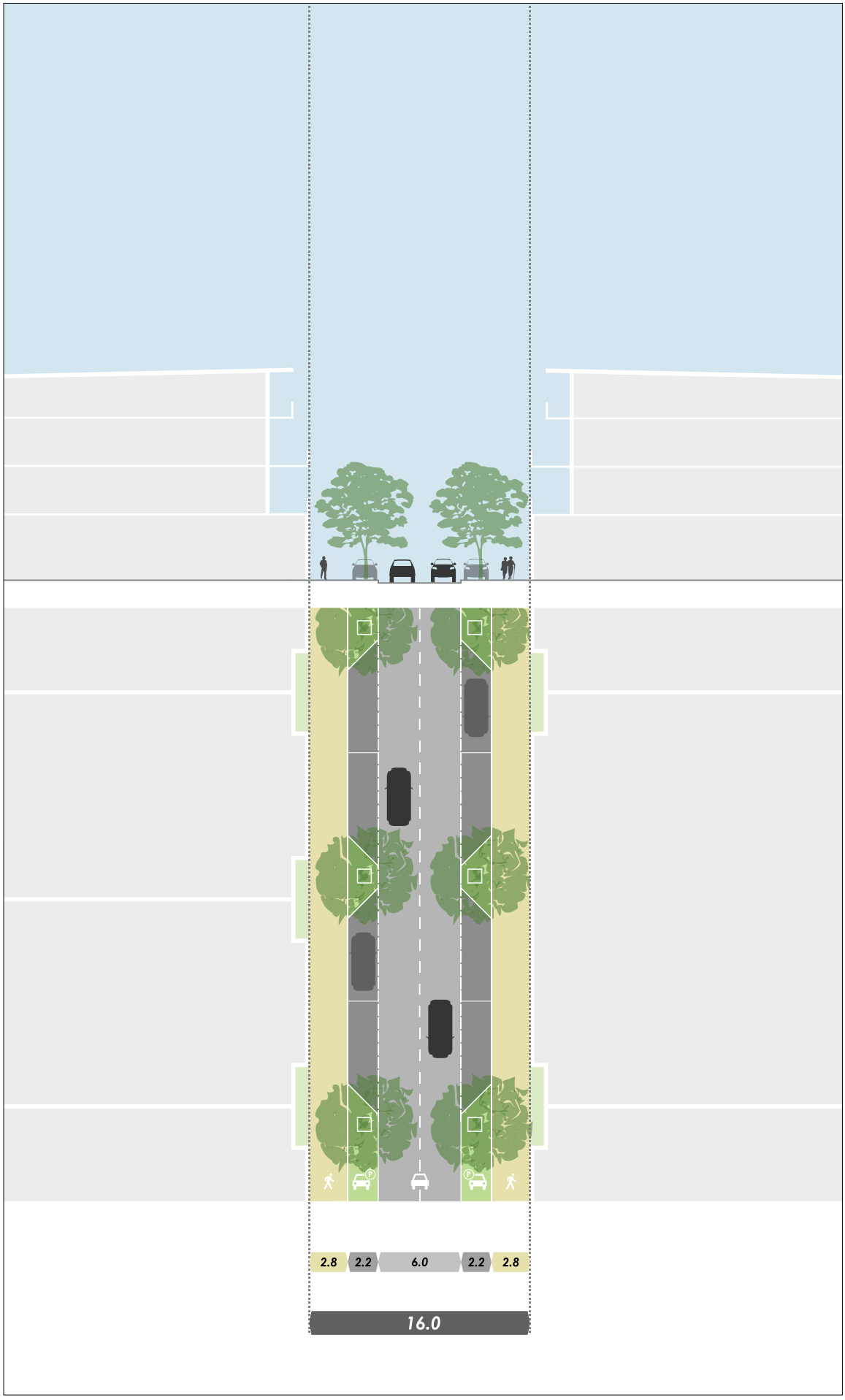


Figure 20E - New Roads Cross Section - Other - 16m

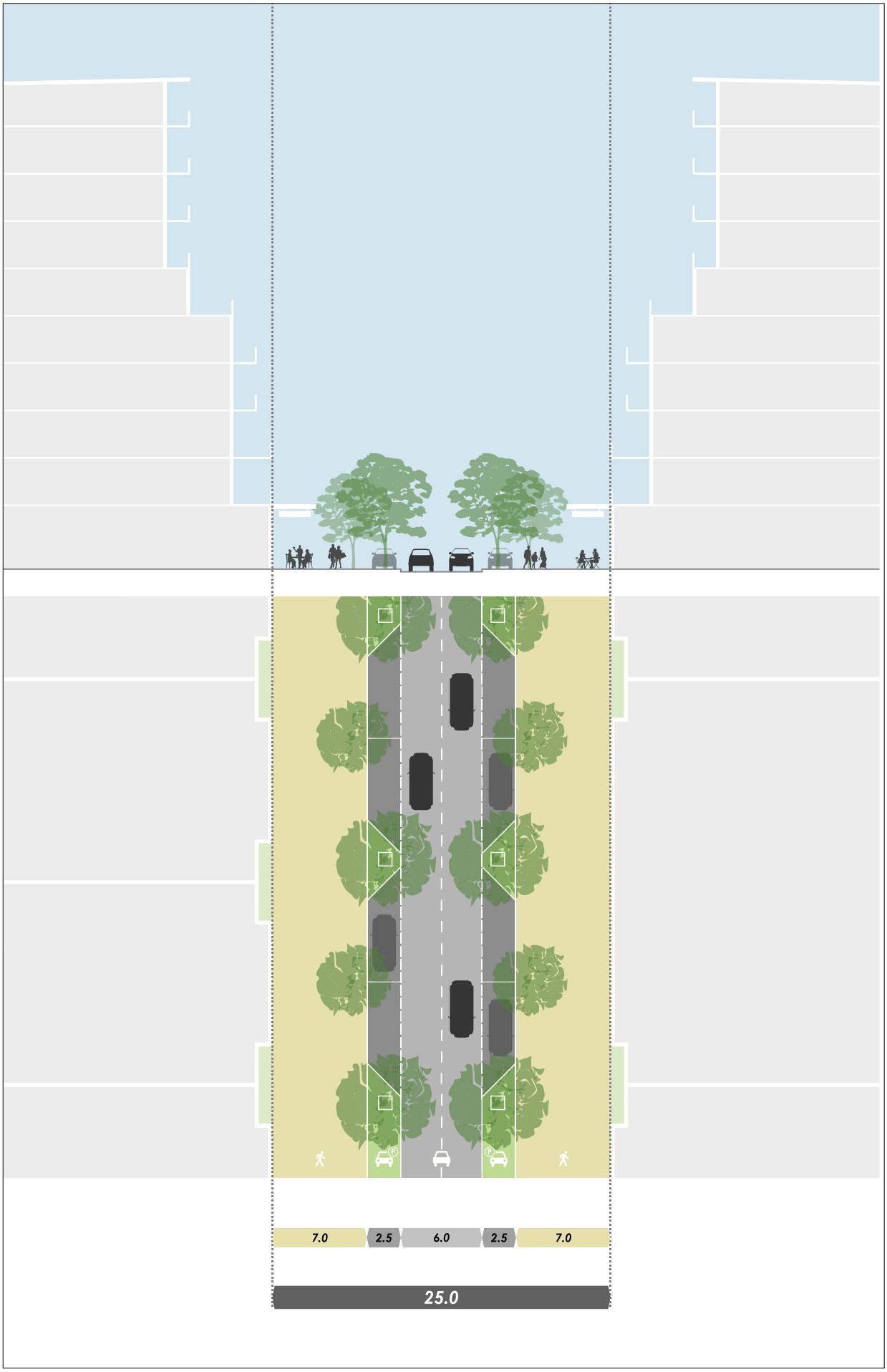


Figure 21 - Existing Roads Cross Section - 25m

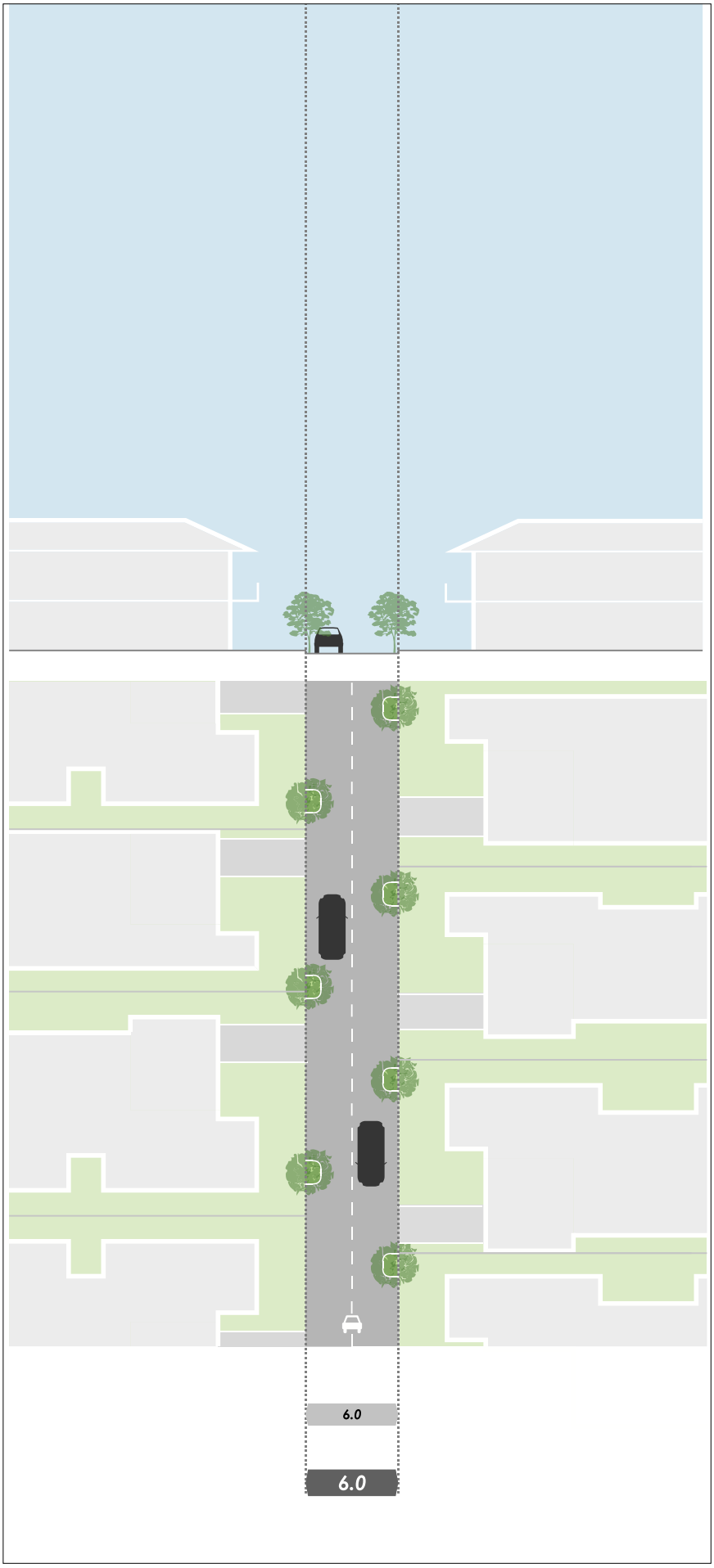


Figure 22 - Residential Right of Way

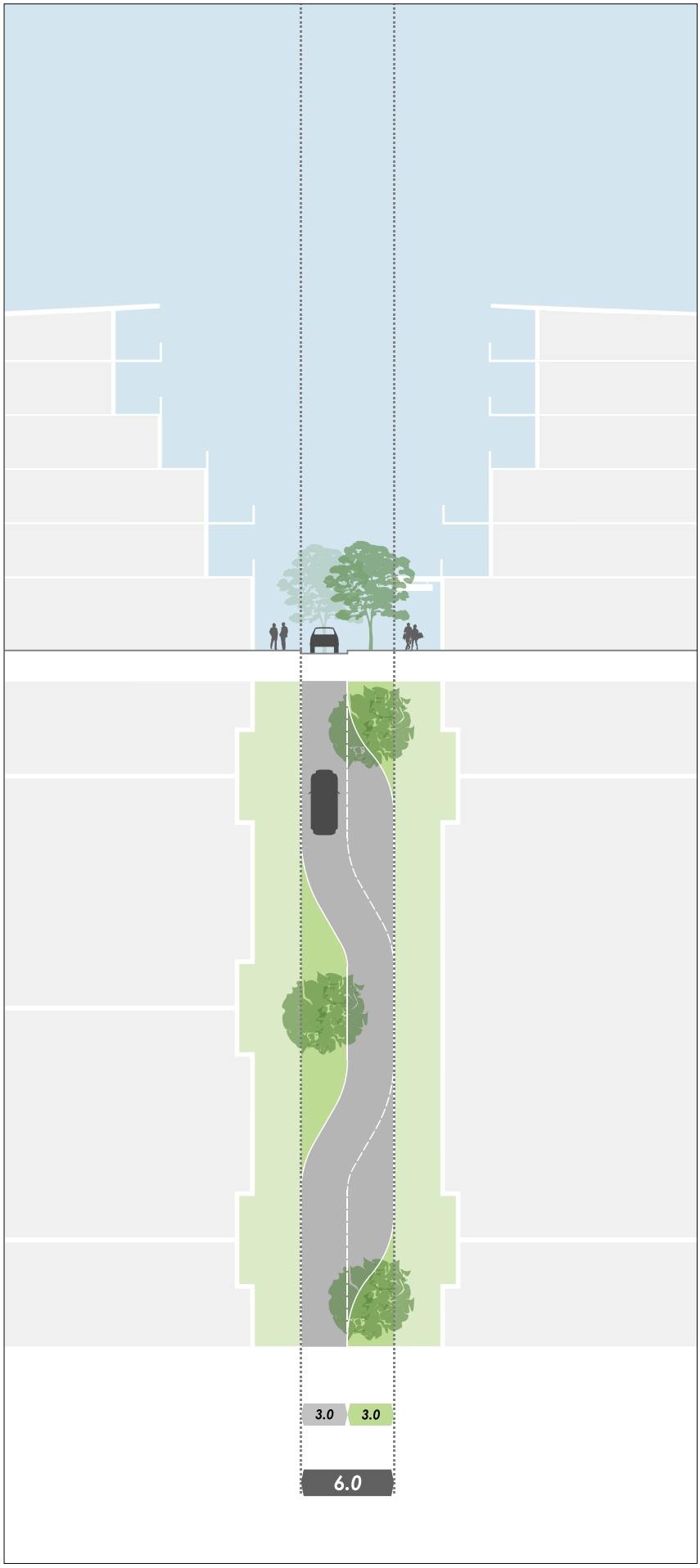


Figure 23 - Non Residential Right of Way

5.3 LAND USES

Intent

The Herdsman Glendalough Precinct Structure Plan will deliver high intensity mixed land uses to transform the Herdsman Glendalough area and the Stirling City Centre into Perth's second central business district.

The highest intensification and diversity of land uses is delivered around light rail (mass transit) stations on Scarborough Beach Road, the Glendalough Station and transit stops along Main Street. This will maximise patronage of the light rail (mass transit) network throughout the day and across the week by generating a two-way flow of workers, residents and visitors.

Land uses which generate the higher employment densities are located at or near light rail (mass transit) stations along Scarborough Beach Road, the Glendalough Station and transit stops along Main Street, to the exclusion of land uses which generate lower employment densities.

High density residential development is delivered alongside and integrated with employment generating land uses in mixed use areas. This will provide opportunities to live and work within the area and reduce the need for travel outside the area to increase the high levels of employment self-sufficiency which are critical for delivering a sustainable transport system for the Central Sub-Region.

A light industrial area is provided as a transition between the mixed use and business areas along Scarborough Beach Road and the Osborne Park Industrial area to the north. The light industrial area also provides opportunities for a diversity of businesses to meet local and regional needs and opportunities for a diversity of employment.

Objectives

- To ensure the development of a range of commercial land uses which contribute to economic development, local employment and the viability of the area.
- To allow Shops and active uses in precincts adjacent to and around light rail stations along Scarborough Beach Road, Glendalough Station and transit stops along Main Street.
- To allow Showrooms, Hardware Showrooms and Retail Establishments in precincts that are remote from light rail stations along Scarborough Beach Road, Glendalough Station.
- To ensure Residential uses in close proximity to odour producing uses are orientated to minimise the potential impact of odour.
- To ensure Residential development is delivered around light rail stations along Scarborough Beach Road, Glendalough Station and transit stops along Main Street.
- To create pedestrian-friendly and vibrant streetscapes along all streets and rights-of-way.
- To provide for a transition between the existing Industry Zone and the Mixed Use and Business Zones.

5.3.1 LAND USE PERMISSIBILITY

Requirements

a) Land uses shall be in accordance with Clause 6.4.5, Table 6.4.5 and Scheme maps of Local Planning Scheme No.3 and **Figure 24** Land Use Plan of this Precinct Structure Plan.

5.3.2 SHOP USE AREAS

Requirements

a) Shop uses shall be in accordance with Clause 6.4.5 c) i) ii) and iii) of Local Planning Scheme No.3 and **Figure 25** Use Areas Plan of this Precinct Structure Plan.

b) In accordance with clause 6.4.5 d) only active, non-residential uses shall be permitted on the ground floor in 'Shop Use Areas' and include:

- Amusement Parlour
- Betting Agency
- Cinema
- Civic Use
- Club Premises
- Convenience Store
- Fast Food Outlet
- Hotel
- Hostel
- Market
- Night Club
- Personal Care Services
- Personal Services
- Restaurant
- Restricted Premises
- Shop
- Small Bar
- Tavern

5.3.3 Showroom, Hardware Showroom, Garden Centre and Retail Establishment Use Areas

Requirements

a) Showroom, Hardware Showroom, Garden Centre and Retail Establishment uses shall be in accordance with Clause 6.4.5 e) i) and ii) of Local Planning Scheme No.3 and **Figure 25** Use Areas Plan of this Precinct Structure Plan.

5.3.4 SENSITIVE USE AREA

Requirements

a) Development shall be in accordance with Clause 6.4.5 f) i) and ii) of Local Planning Scheme No.3 and **Figure 25** Use Area Plan of this Precinct Structure Plan and Council may impose conditions, not limited to:

i) Odour attenuation measures incorporated into construction;

ii) Notifications placed on Certificates of Title to advise future landowners of potential odour.

5.3.5 MANDATORY RESIDENTIAL AREAS

Requirements

a) Mandatory Residential development shall be in accordance with Clause 6.4.7 of Local Planning Scheme No.3 and **Figure 26** Use Areas Plan of this Precinct Structure Plan.

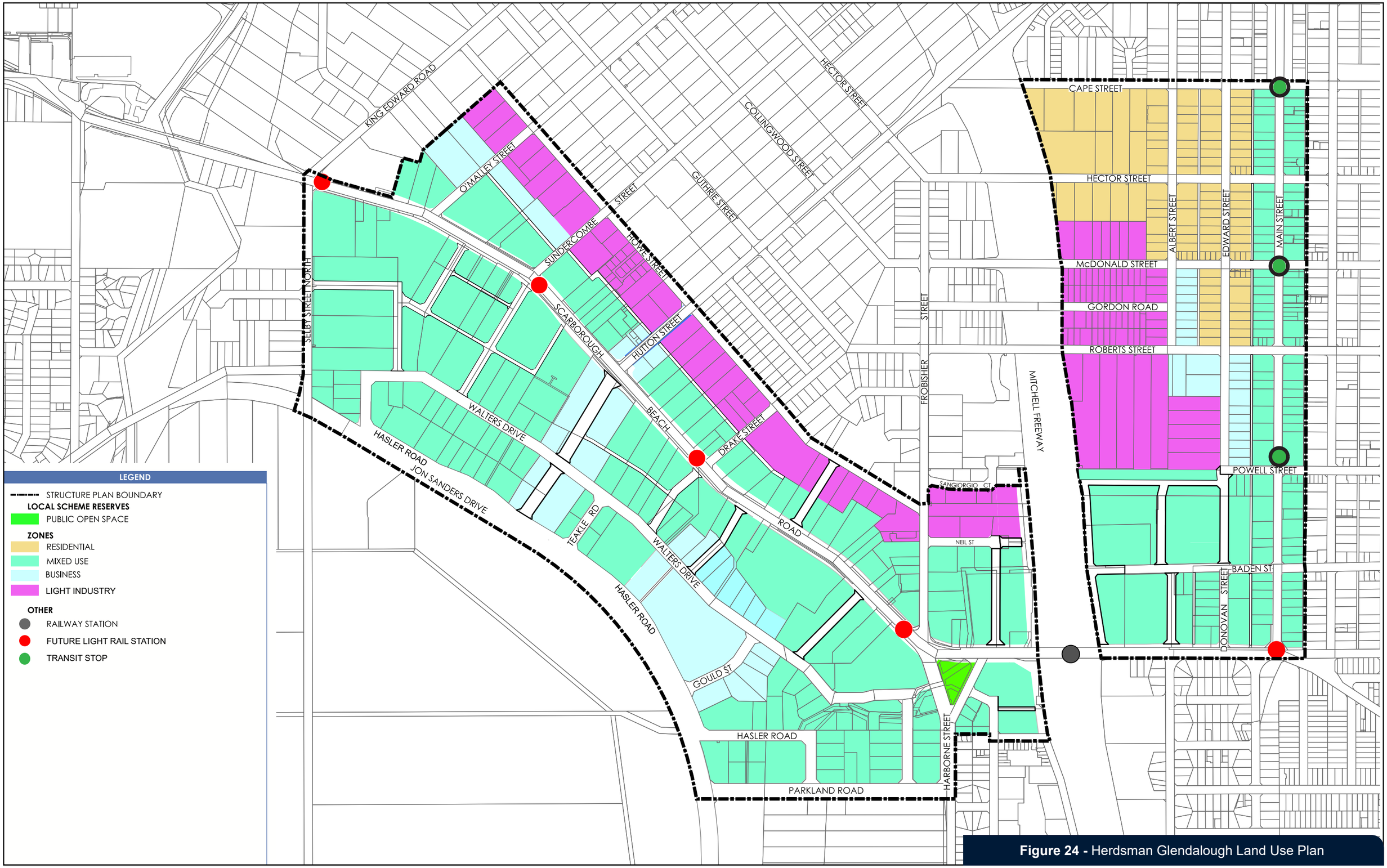


Figure 24 - Herdsman Glendalough Land Use Plan

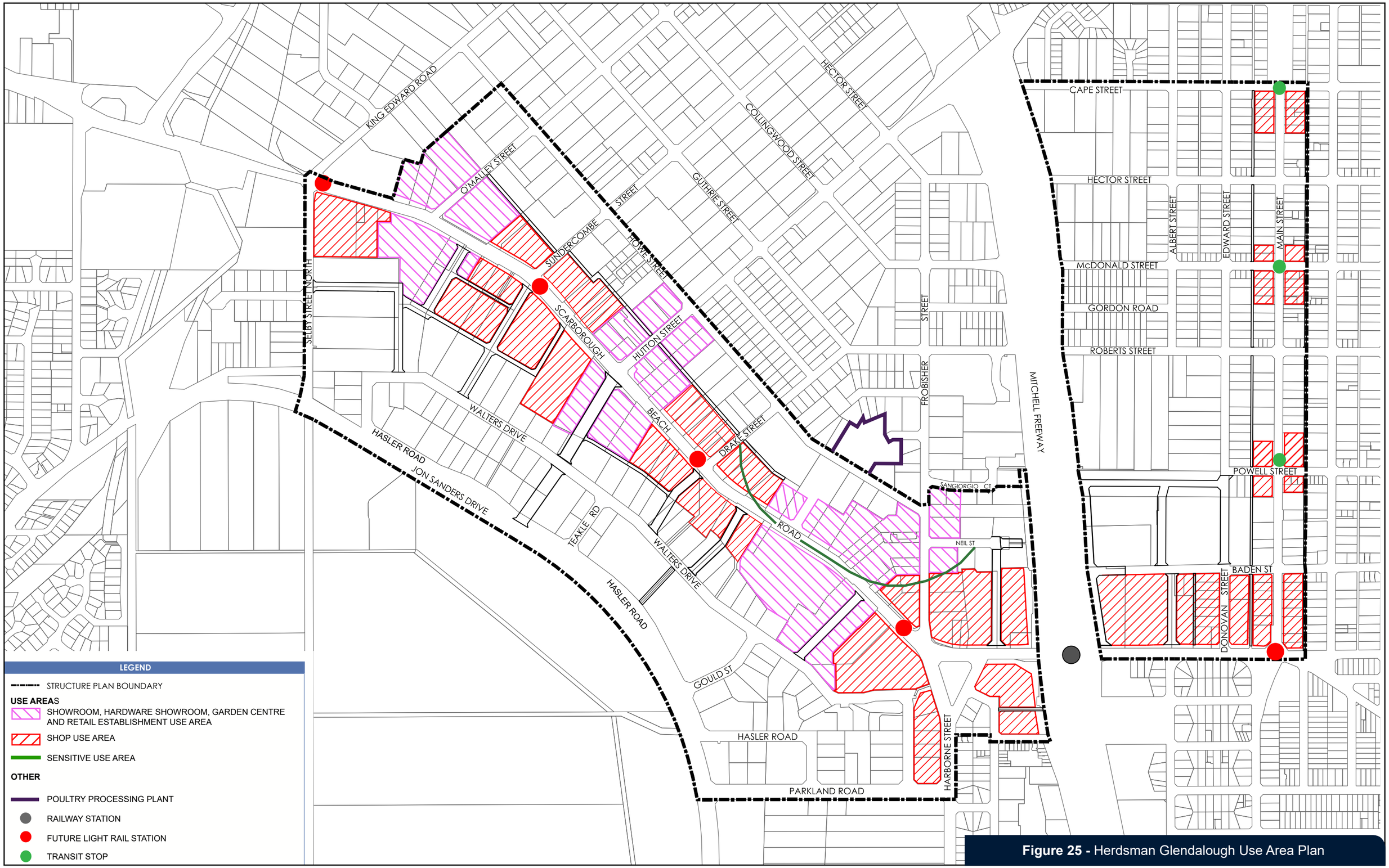


Figure 25 - Herdsman Glendalough Use Area Plan

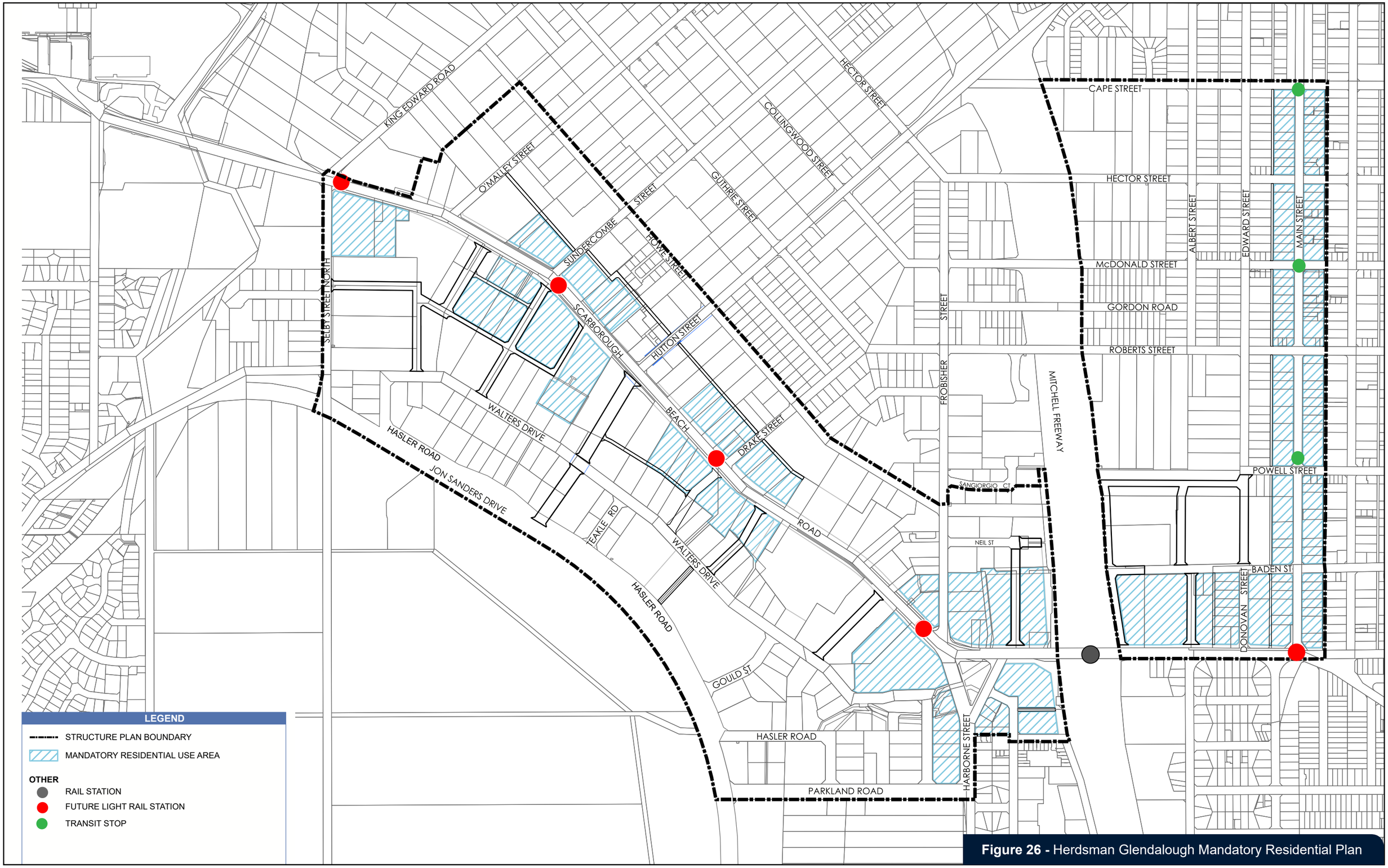


Figure 26 - Herdsman Glendalough Mandatory Residential Plan

5.4 PUBLIC OPEN SPACE

Intent

The Herdsman Glendalough Precinct Structure Plan will deliver areas of public open space and privately provided, publicly accessible areas of open space, to meet the recreation and leisure needs of new residents, workers and visitors.

The network of public open space will be delivered as redevelopment occurs through the provision of new areas of open space, and the upgrade of existing areas of open space.

Public open space and privately owned and publicly accessible open space is incentivised through the Local Development Plan.

The bonus criteria provide greater level of density in return for privately owned and publicly accessible open space.

Objectives

- To ensure that new areas of Public Open Space are provided to meet an existing shortfall in open space east of the Freeway.
- To utilise existing areas of regional public open space at Herdsman Lake for local purposes.

To fund the purchase of land for new open space and the upgrade of existing areas of open space.

Requirements

a) New areas of Public Open Space shall be provided in accordance with clause 6.4.10 of Local Planning Scheme No.3 and generally in accordance with **Figure 27** – Public Open Space of this Precinct Structure Plan.

b) Sites over 2ha in area have been identified as sites that the City would require 10% of the site to be ceded if the site redevelops with a residential component. Indicative locations of POS is identified. The following criteria should be used to determine the best location for POS:

   i) Not fronting Scarborough Beach Road;

   ii) Front other streets;

   iii) Provide amenity for residential dwellings; and

   iv) Level ground.

c) Areas of private publicly accessible open space will be provided with the bonus provisions in the Local Development Plan.

d) The City will recommend to the WAPC to impose conditions on approval of green title subdivisions, where possible, for a 10% contribution for Public Open Space and in most cases, for this contribution to be taken as cash-in-lieu.

e) The City will recommend to the WAPC to impose conditions on strata title subdivisions, including built strata applications, for a 10% contribution for Public Open Space, and in most cases, for this contribution to be taken as cash-in-lieu, where the sites are considered to small to be useful for public open space.

f) Where cash-in-lieu of public open space payments are taken they will be used to upgrade existing areas of local and regional open space as identified in **Figure 27**.

5.5 MANAGEMENT PLANS

Intent
The Herdsman Glendalough Precinct Structure Plan will deliver a safe and healthy place to live, work and do business. Potential risks to human health and environmental values resulting from historical industrial and commercial land uses, and any underlying environmental conditions are considered and managed through the planning process.

Objective
To ensure that environmental risks and impacts associated with subdivision and development of land from industrial uses to mixed use and residential uses are investigated, assessed and managed, as necessary.

Requirements
a) The preparation and approval of Management Plans may be required in support of subdivision and development applications, or as a condition of subdivision and development approval, as follows:

i) Urban Water Management Plan – for proposals incorporating a new road or right-of-way connection, and the Urban Water Management Plan shall be prepared in accordance with the requirements of the Herdsman Glendalough Combined District / Local Water Management Strategy and the Herdsman Glendalough Urban Design and landscape Strategy (Part 3 Appendixes).

ii) Environmental Management Plan - for proposals adjacent to Herdsman Lake and residential proposals within the Sensitive Use Area identified on **Figure 25** Use Areas Plan of this Precinct Structure Plan.

iii) Road and Rail Transport Noise Assessment and Management Plan – as per the requirements of State Planning Policy 5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning.

iv) Contaminated Sites Assessment and Remediation Plan – for proposals:

- On sites listed on the Department of Water and Environment Regulation's Contaminated Sites Database and any other DWER database.
- On sites that previously accommodated industrial, light industrial and/or commercial uses which may have contaminated the site, where a preliminary site investigation should be undertaken in accordance with the Department of Environment Regulation's Assessment and Management of Contaminated Sites Guidelines to determine any potential contamination and remediation requirements.

v) Acid Sulphate Soil Assessment and Management Plans – for proposals that meet the requirements outlined in the Acid Sulphate Soils Guidelines (WAPC, 2008).

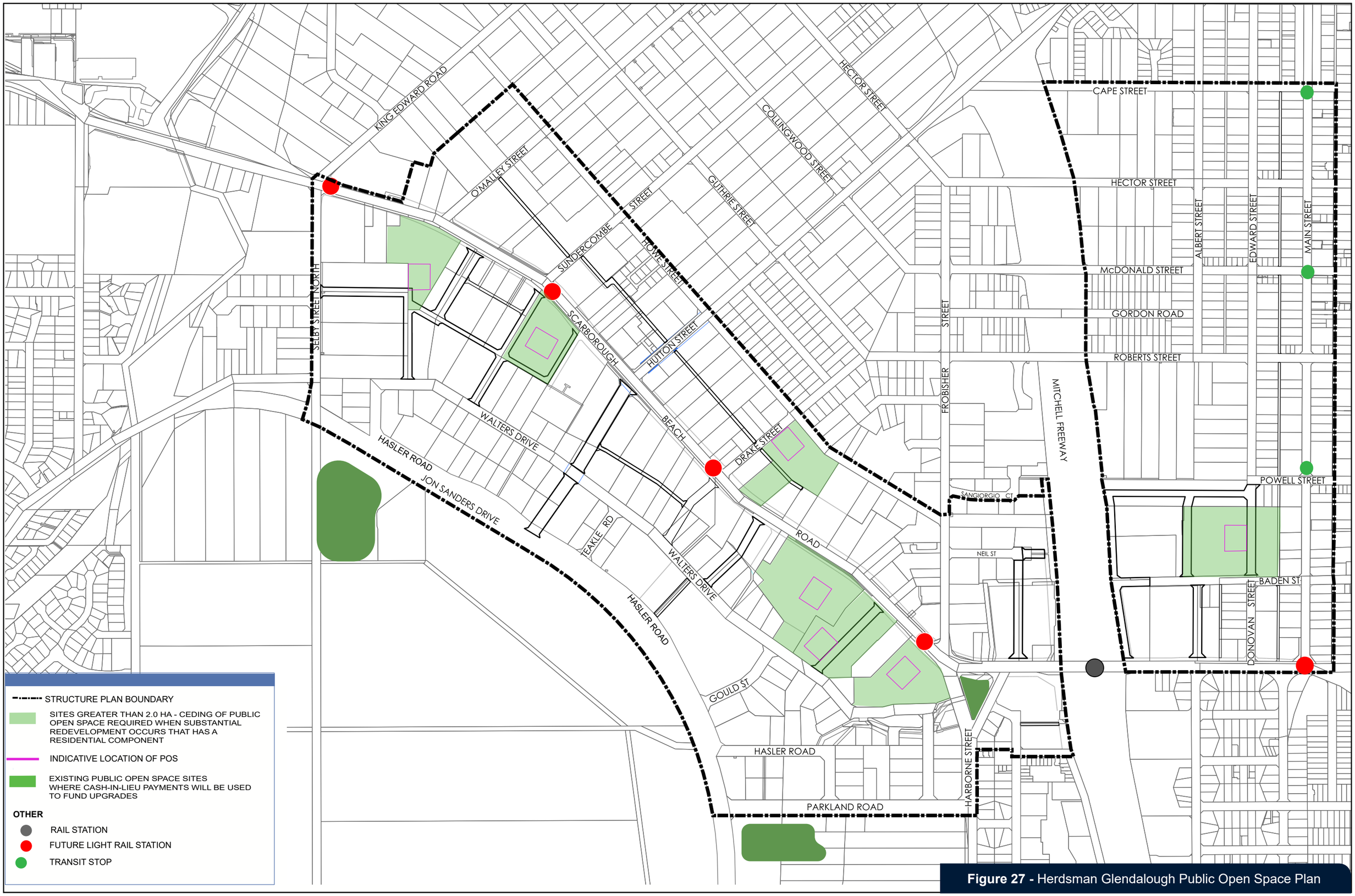


Figure 27 - Herdsman Glendalough Public Open Space Plan

6.0 STAGING

6.1 MOVEMENT NETWORK

6.1.1 New Roads and Rights of Way

a) At the stage of substantial redevelopment / subdivision of a site, the full construction and ceding of these new roads and rights of way will be required that affect the site as follows:

i) Where new roads and rights of way are split over two lots. The part of the road and rights of way on the affected site (normally 50%) needs to be constructed and ceded.

ii) In the case of new 22m wide roads, this will involve the construction and ceding of an 11m wide road in the interim and when the abutting site redevelops then the road will be built to it's ultimate width of 22m.

In the interim this will include footpaths, verge landscaping but will not include the construction of the embayed car parking bays with trees between.

Only half of the carriageway will be constructed and the pavement for the parking area will also be constructed. This will result in a 6.0m wide two way carriageway, **Figure 20B.**

When the abutting site is developed then the remaining half of the road will be completed in accordance with the required cross section, **Figure 20C**.

The embayed parking and trees between the bays on the first half of the road will have to be reconstructed at this time to ensure the complete cross section is in accordance with the required road design.

iii) For roads / right of ways built on one lot the entire road / right of way has to be constructed in accordance with **Figures 20C, 20D, 20E, 22 and 23.**

b) At the stage of non-substantial development new roads and right of ways may be required, **Figures 20C, 20D, 20E, 22 and 23** to be constructed as follows:

i) If changes to access are proposed then the proposed access changes should be in accordance with the required new road / right of way connections, where possible.

ii) No new buildings / structures / services or extensions to buildings shall be constructed in the location of new roads or right of ways.

c) Where development is adding additional floor space and requires additional car parking then the provision of on-street car parking in this instance will be required.

d) Where development involves additions to an existing building between the existing building and a street a footpath abutting the site will be required.

6.1.2 Widening of Existing Roads

a) At the stage of substantial redevelopment / subdivision of a site ceding of this road widening will be required. This land is required for the provision of transit lanes, cycling, wider footpaths, street trees, landscaping and on-street parking, **Figures 14, 15, 16, 17 and 18**.

b) At the stage of substantial redevelopment / subdivision the City may require some of the infrastructure in the road widening areas to be constructed at the applicants cost, **Figures 14, 15, 16, 17 and 18** as follows:

i) Footpaths that provide access to the new development and that align with the new property boundary. This is to ensure pedestrian access to the new building can be achieved.

ii) Landscaping areas, including street trees and reticulation to be provided in the verge area. This is to ensure the presentation of the development is of a high quality and that large areas of verge are not unkept.

iii) Embayed parking bays or kerbside bays may be provided if the frontage of the lot is sufficient to accommodate the embayed parking bays. If the frontage of the lot is insufficient then the City may ask for a cash-in-lieu of parking contribution.

c) At the stage of non-substantial redevelopment the City may require some of the infrastructure in the road widening area, **Figures 14, 15, 16, 17 and 18** to be constructed at the applicants cost depending upon the size, scale and type of redevelopment, as follows:

i) Footpaths that provide access to a partial redevelopment of a site where no footpaths exist or where the building has changed its frontage to the street;

ii) Landscaping areas, including street trees and reticulation to be provided in the verge area where there are changes to:

- The building fronting a street;
- Access arrangements;
- Car parking areas within the road widening area.

iii) Embayed parking bays may be provided if the frontage of the lot is sufficient to accommodate the embayed parking bays and there are proposed changes to the front of the building and / or car parking areas.

6.1.3 Upgrade of Existing Roads / ROW

a) At the stage of substantial redevelopment / subdivision of a site the full upgrade of the road and right of way will be required that abuts that site in accordance with all items identified in **Figures 20A, 21 and 22.**

b) At the stage of non-substantial development the upgrade of roads and ROW's, **Figures 20A, 21 and 22.** may be required to meet the needs of the development, as follows:

i) Footpaths that provide access to a partial redevelopment of a site where no footpaths exist or where the building has changed its frontage to the street;

ii) Landscaping areas, including street trees and reticulation to be provided in the verge area where there are changes to:

- The building fronting a street;
- Access arrangements; and
- Car parking areas fronting the street.

iii) Embayed parking bays may be provided if the frontage of the lot is sufficient to accommodate the embayed parking bays where there is a requirement for more parking.

6.1.4 Transit Lanes on Scarborough Bch Rd

The City is investigating funding options to deliver transit lanes on Scarborough Beach Road.

The transit lanes will be delivered within the historical 20m reservation. The road will be upgraded in accordance with **Figure 14**, except that buses will run in the short term.

The City's preference is to deliver the transit lanes in one stage from Main Street to King Edward Road.

However if sufficient funding is not found to deliver the transit lanes in one stage then the staging for the transit lanes would be as follows:

- Stage 1 - Main Street to Frobisher St;
- Stage 2 - Frobisher Street to Hutton Street; and
- Stage 3 - Hutton Street to King Edward Road.

These transit lanes for buses can be transformed into light rail tracks once funding is secured.

6.1.5 Light Rail on Scarborough Beach Road

The City has prepared business cases and studies for light rail along Scarborough Beach Road, refer **Appendix 9.** The City is working on securing funding for light rail from both the State and Federal Governments.

It is anticipated that light rail (mass transit) will be delivered before 2031 in accordance with Perth and Peel@3.5 million.

6.2 LAND USES

6.2.1 Existing Conforming Land Uses in Non-Residential Zone Land

Intent

There are many existing land uses in Herdsman Glendalough that are conforming with the long term vision for the area, such as Motor Vehicle Sales and Showrooms.

Substantial redevelopment of these sites may include these uses integrated into new mixed use development. Substantial development may be staged where existing uses remain on one part of the site and new mixed use buildings are built on under utilised parts of the site. Some new roads may need to be built in this stage approach to service the new mixed use buildings.

In the interim period there may also be non-substantial upgrades, additions and changes of use to existing buildings, or new buildings to ensure sites remain viable and competitive. Additions or new buildings will come to the street. Space for new roads and future mixed use buildings needs to be set aside.

Objectives

- To prioritise the substantial redevelopment of sites with new mixed use buildings;
- To allow the staged substantial redevelopment of sites.
- To allow for non-substantial redevelopment of sites whilst protecting land for new roads and future mixed use buildings.

Requirements

a) Substantial redevelopment of existing conforming uses shall meet all of the required provisions for the area;

b) Non-substantial redevelopment of existing conforming uses:

i) shall ensure that the long term vision is not impeded, by:

- Setting aside land for new roads / widening which can be used in the interim for uses such as open air car parking and display areas;
- Setting aside land on a street for future mixed use buildings, which can be used for interim uses such as open air car parking and display areas.

ii) will be exempted from the following provisions for the area (subject to the scale and intensity of the development):

- Mandatory residential;
- Mandatory mixture of uses;
- Ceding land for POS;
- Land ceded for road widening and new roads; and
- Construction of new roads.

6.2.2 Existing Non-Conforming Land Uses in Non- Residential Zone Land

Intent

There are some existing land uses in the Herdsman Glendalough area that are non-conforming with the long term vision for the area. Non-conforming uses such as Industry and Showrooms in shop uses areas can still remain as non-conforming uses.

It is encouraged to replace these existing non-conforming uses through the substantial redevelopment of these sites with new mixed new buildings. Substantial redevelopment may be staged where an existing non-conforming use will remain on one part of the site and a new mixed use building is built on another part of the site. It also may include the retention of the non-conforming use within a new mixed use building.

In the interim period there may be non-substantial upgrades, additions and changes of use to existing buildings, or new buildings to ensure sites remain occupied, viable and competitive. Additions or new buildings will come to the street. Space for new roads and future mixed use buildings on the primary street frontage needs to be set aside.

Objectives

- To prioritise existing non-conforming uses to be replaced when substantial redevelopment occurs.
- To allow the substantial redevelopment of sites in stages with non-conforming uses remaining in new or existing buildings.
- To allow for non-substantial redevelopment of existing non-conforming uses whilst protecting land for new roads and future mixed use buildings.

Requirements

a) Substantial redevelopment of sites with existing non-conforming uses shall meet all of the required provisions for the area;

b) Non-substantial redevelopment of existing non-conforming uses:

i) shall ensure that the long term vision is not impeded, by

- Setting aside land for new roads / widening which can be used in the interim for uses such as open air car parking and display areas;
- Setting aside land on a street frontage for future mixed use buildings to meet the long term vision, which can be used for interim uses such as open air car parking and display area.

ii) is exempted from the following provisions for the area, where the size of the floorspace (NLA) of a non-conforming use is not increased:

- Mandatory residential;
- Mandatory mixture of uses;
- Ceding land for POS;
- Land ceded for Road widening and new roads; and
- Construction of new roads and upgraded roads.

iii) will be exempted from the following provisions for the area (subject to the scale of the increase in the non-conforming use at the discretion of the City), where the size of the floorspace (NLA) of a non-conforming use is increased:

- Mandatory residential;
- Land ceded for Road widening and new roads; and
- Construction of new roads.

6.2.3 Residential Development in the Residential Zone

Intent

The existing residential areas were previously zoned R40. Many lots have redeveloped to this density or higher densities.

New residential buildings up to 4 storeys in height are permitted. This may include grouped and multiple dwellings. New development will have generous setbacks for landscaping and increased tree canopy coverage.

Some developments will involve substantial redevelopment where the existing buildings are demolished and replaced with new higher density buildings.

Non-Substantial development may include new buildings and existing buildings contained within one site. Or alternatively there may be additions to existing buildings.

Objectives

- To prioritise the substantial redevelopment of properties to achieve the vision for the area.
- To allow for non-substantial redevelopment of sites in stages with a combination of grouped dwellings and multiple dwellings.

Requirements

a) Substantial redevelopment of any site shall meet all of the required provisions for the area;

b) Non-substantial residential redevelopment of sites may vary some or all of the following provisions:

i) side setbacks;

ii) Setback to right of ways; and

iii) location of car parking when it relates to the right of way.

6.2.4 Development along Main Street in the Mixed Use Zone

Intent

Main Street currently has a variety of residential and non- residential uses along its length.

Substantial redevelopment of properties is where new buildings will be constructed up to 5 storeys in height. New residential buildings will have generous setbacks for landscaping increased tree canopy coverage. Non-residential buildings will have a more urban feel with buildings abutting each other to create a continuous built form.

Non-substantial redevelopment of sites is likely to be common in the early stages as the cost of completing a new 5 storey mixed use building or residential building is likely to be prohibitive.

This includes keeping the original single house and building grouped dwellings facing the ROW or secondary street as a first stage of development.

Further stages may include demolishing the single house and building a mixed use or residential multiple dwelling building facing Main Street. Flexibility in the design standards for the grouped dwellings will be needed in some cases to allow for a staged approach.

Objectives

- To prioritise the substantial redevelopment of sites on Main Street with multiple dwellings and non-residential development.
- To allow for non-substantial redevelopment of sites on Main Street in stages with a combination of grouped dwellings, multiple dwellings and non-residential development.

Requirements

a) Substantial redevelopment of any site shall meet all of the required provisions for the area;

b) Non-substantial redevelopment of sites may vary some or all of the following provisions for grouped dwellings only:

   i) side setbacks;

   ii) Setback to right of ways; and

   iii) location of car parking when it relates to the right of way.

6.3 UTILITY UPGRADES

All utility upgrades will be delivered either by:

a) The relevant service authorities when they deem that necessary upgrades are required.

b) The developer at the time of development / subdivision will contribute headwork charges or construct new / upgraded utilities to meet the demand of the new developments.

6.4 PUBLIC OPEN SPACE

6.4.1 New Public Open Space

a) New public open spaces will be provided as redevelopment of sites occur that have a residential component.

6.4.2 Upgraded Public Open Space

a) When the City accumulates sufficient funds from redevelopment of smaller sites that have paid a cash-in-lieu payment for These payments will be used to upgrade existing parks as identified in **Figure 27**. In these instances the staging of these upgrades will be dependent on the funding that has been collected and the cost of the upgrades proposed.

PART TWO - EXPLANATORY

1.0 INTRODUCTION

1.1 PURPOSE, OPERATION & IMPLEMENTATION

The Herdsman Glendalough Precinct Structure Plan (the 'Precinct Structure Plan') area is approximately 227 hectares and generally bound by Howe Street and Cape Street to the north, Garner Lane to the east, Jon Sanders Drive, Parkland Road and Scarborough Beach Road to the south, and King Edward Road and Selby Street to the west. The area is approximately 5.5 km north-west of the Perth Central Business District (CBD).

1.1.1 Purpose

The Precinct Structure Plan has been prepared in accordance with the requirements of:

a) The City of Stirling Local Planning Scheme No. 3 'Development' Zone, Schedule 10 Development (Precinct Structure Plan) Areas and Clause 6.4.3 (Precinct Structure Plan requirements under the Herdsman Glendalough Special Control Area), and

b) Part 4 (Precinct Structure Plans) of the Planning and Development (Local Planning Schemes) Regulations 2015.

The purpose of the Precinct Structure Plan to facilitate the redevelopment and growth of the Herdsman Glendalough Area as a premier, high-density, mixed use employment centre for the Perth metropolitan region.

The Precinct Structure Plan provides an integrated strategy for the coordination of land use, development and subdivision of public and private land in the Precinct Structure Plan area, to meet the Vision for the Herdsman Glendalough area:

"The Herdsman Glendalough Area, together with the Stirling City Centre, will form Perth's second central business district, with a vibrant urbanism that embraces mixed use development, dense built form, high frequency public transport and quality public spaces for the enjoyment of residents and employees."

The Precinct Structure Plan (and accompanying suite of planning instruments) will guide the assessment of development and subdivision applications for all private and public land in the Precinct Structure Plan area (**Figure 2** – Precinct Structure Plan Area).

1.1.2 Operation

The Precinct Structure Plan comes into effect following approval by the Western Australian Planning Commission (WAPC) under Clause 22 of Part 4 (Precinct Structure Plans) of the Planning and Development (Local Planning Schemes) Regulations 2015 and decision-makers must have due regard to the Precinct Structure Plan, in addition to the City's Local Planning Scheme No.3 and policies.

1.1.3 Implementation

The Precinct Structure Plan will be implemented through a number of planning instruments:

- An Amendment to Local Planning Scheme No.3 to transfer the statutory provisions in Part 1 of the Precinct Structure Plan into the Planning Scheme to provide 'statutory weight' to the Precinct Structure Plan;

- Preparation and adoption of a Local Development Plan (LDP) by the City of Stirling under Part 6 (Local Development Plans) of the Planning and Development (Local Planning Schemes) Regulations 2015 to provide detailed guidance on the scale and design of development, and incentives for innovative design and land use mix.

1.2 BACKGROUND

As a long established urban and industrial area, the Herdsman Glendalough area has supported showrooms, office buildings, low density residential and a mix of light industrial activities. While this mix of land uses has created the Herdsman Glendalough area as a key employment generator in Perth, it has resulted in a relatively low density, car based urban environment with poor pedestrian amenity.

The Herdsman Glendalough area does, however, offer one of the more premier urban redevelopment opportunities within the Perth metropolitan area, due largely to:

- Geographic proximity in relation to the Perth Central Business District, coastal areas and surrounding residential areas.
- Significant and diverse employment generation.
- Accessibility by road and rail.
- Presence of existing under utilised mass transit infrastructure.
- Amenity of Herdsman Lake

In recognition of the significant redevelopment opportunities available, a number of land use planning studies have been undertaken to facilitate co-ordinated redevelopment of the area. These studies have primarily been undertaken in collaboration with the Department of Planning, Lands and Heritage (DPLH), the City of Stirling and key landowners and are further outlined within Section 3 of Part 2.

Subsequently, the City began preparation of a Precinct Structure Plan (and Local Development Plan) to develop a comprehensive suite of zones and statutory provisions to guide future development and subdivision to achieve the vision and redevelopment aspirations for the Herdsman Glendalough area.

The City's planning program also included initiating changes to the Metropolitan Region Scheme (MRS) zoning and the City of Stirling Local Planning Scheme No.3 zoning to support adoption of the Precinct Structure Plan.

In December 2017, an amendment to the MRS (MRS Amendment 1291/41) came into effect that changed the MRS zoning from 'Industrial' to 'Urban' in August 2018.

An amendment to City of Stirling Local Planning Scheme No.3 (Amendment 39) came into effect to rezone the majority of the area to 'Development' zone and to apply a Special Control Area (Clause 6.4 of the Scheme). It provided objectives to guide future planning outcomes, provision to prepare a Precinct Structure Plan and provisions for ceding of land for new or widened roads.

1.3 COMMUNITY CONSULTATION

The preparation of the Precinct Structure Plan has been facilitated through a collaborative process involving relevant stakeholders at all stages of the process, as follows:

1.3.1 Visioning Workshop (May 2013)

The visioning workshop successfully integrated the comments and feedback of landowners, residents, business owners and key government authorities to establish an overall vision and objectives for the development of the Herdsman Glendalough area.

At the workshop, groups were asked to consider three key themes, outline their aspirations and the primary challenges in addressing each of these themes.

The key themes and general discussion are summarised as follows:

- Movement, traffic and parking throughout the locality: The discussion primarily focused on public transport availability, road connection requirements and the existing parking issues impacting the local area;
- Land use and built form opportunities and constraints: The discussion primarily focused on the need to increase development potential without unduly impacting upon existing business operations; and
- Landscaping and the public realm: The discussion primarily focused on the need for improvement of urban amenity for pedestrians and cyclists, and the lack of quality urban spaces for employees, residents and visitors.

The outcomes of the visioning workshop were considered by the project working group and assisted in framing the Precinct Workshops. The workshop outcomes are further outlined within **Appendix 1** - Visioning Workshop Outcomes Summary.

1.3.2 Precinct Workshops (June 2013)

In June 2013, the City of Stirling facilitated a series of public workshops aimed at generating feedback from landowners and interested stakeholders throughout the locality.

The Herdsman Glendalough area was divided into eastern, central and western precincts, and workshop attendees were encouraged to outline their aspirations and concerns with future development within their area.

The results of these workshops have been carefully considered and have assisted in the preparation of the Herdsman Glendalough Precinct Structure Plan. The key principles agreed by the stakeholders involved in the workshops are outlined as follows:

- Facilitate the growth of the area as one of Perth's key employment areas as a Second Central Business District.
- Provide an appropriate framework for future development that integrates land use, built form and the public domain while managing the interface between light industry/commercial and existing and proposed residential development.
- Ensure improved transport infrastructure is well-integrated with new built form and public domain development.
- Provide a more balanced transport system to improve overall accessibility by providing for a higher proportion of travel by public transport, cycling and walking, and a lower proportion of travel by car.
- Minimise impacts on businesses and residents by ensuring road and transit infrastructure development can be implemented and staged well.
- Optimise the relationship between the Herdsman Glendalough area and the Herdsman Lake environs.
- Enable the growth of the residential population to accord with key government policies.
- Private contributions for upgrades to infrastructure and public transport associated with intensification.
- Each of the workshop results are further outlined within **Appendix 2** - Precinct Workshop Outcomes Summary.

1.3.3 Community Open Day (November 2013)

A Community Open Day was held on 30 November 2013 at the Stirling Community Centre to present the visioning and concept planning work that had been undertaken to that point in time for the Herdsman Glendalough area.

The Open Day was well attended by local residents, business owners and other stakeholders and provided a forum for the presentation of the visioning and plan formulation work that had occurred following the previous workshops. Stakeholders who attended also had the opportunity to ask questions regarding the plans and speak with the City's officers and members of the project team to fully understand the implications of the various land use, built form and public realm proposals.

2.0 HERDSMAN GLENDALOUGH LOCATION

2.1 LOCATION

The Herdsman Glendalough area is located 5.5km north-west of the Perth Central Business District and approximately 6.0km east of the coast.

The Precinct Structure Plan covers an area of 227 hectares and is bound by Jon Sanders Drive, Parkland Road and Scarborough Beach Road to the south; Selby Street, King Edward Road to the west; and Garner and Bauxite Lanes to the east. The northern boundary of the Precinct Structure Plan area runs along Cape Street in the east and the northern boundary of Howe Street in the west.

2.2 LAND OWNERSHIP

The vast majority of the Herdsman Glendalough area is held in private ownership, as shown in **Figure 28**.

There are several lots throughout the Herdsman Glendalough area, however, which are owned or managed by government agencies, including the City of Stirling, Department of Housing and essential servicing authorities.

2.3 LOCAL CONTEXT

As a large and diverse urban area, the Herdsman Glendalough area is characterised by a wide spectrum of land uses and services, including but not limited to residential, commercial, retail, industrial, community facility and civic activities.

The Herdsman Glendalough area is highly accessible by both road and rail, with the Mitchell Freeway and northern passenger rail traversing the eastern section of the area, and Scarborough Beach Road forming the central east-west spine. Glendalough train station is located within the eastern part of the Precinct Structure Plan area, and the Stirling City Centre abuts the Precinct Structure Plan boundary to the north-west.

There are two poultry processing facilities within the Precinct Structure Plan area. It is understood that these plants will continue in operation for the foreseeable future, and as such any sensitive development within proximity to the plants will need to be carefully managed.

The Herdsman Lake area to the south provides a substantial cultural and natural resource for the Herdsman Glendalough area, with the lake home to a wide variety of fauna and flora species. The boardwalks and adjacent open space areas offer passive and active recreation opportunities to residents and visitors within the locality.

2.4 REGIONAL CONTEXT

The Herdsman Glendalough area is located approximately 5.5 km north-west of the Perth Central Business District and approximately 6 km east of the WA coastline (refer **Figure 29**).

The area is bisected by the northern suburbs railway line and the Mitchell/Kwinana Freeway providing. This transport infrastructure provides continuous access between Bunbury/Mandurah and the north-west metropolitan corridor.

The combination of Stirling City Centre and Herdsman Glendalough will make the location the second largest employment hub outside Perth Central Business District.

Scarborough Beach Road is one of Perth's designated Activity Corridors of some 2.5km between Glendalough and Stirling train stations.

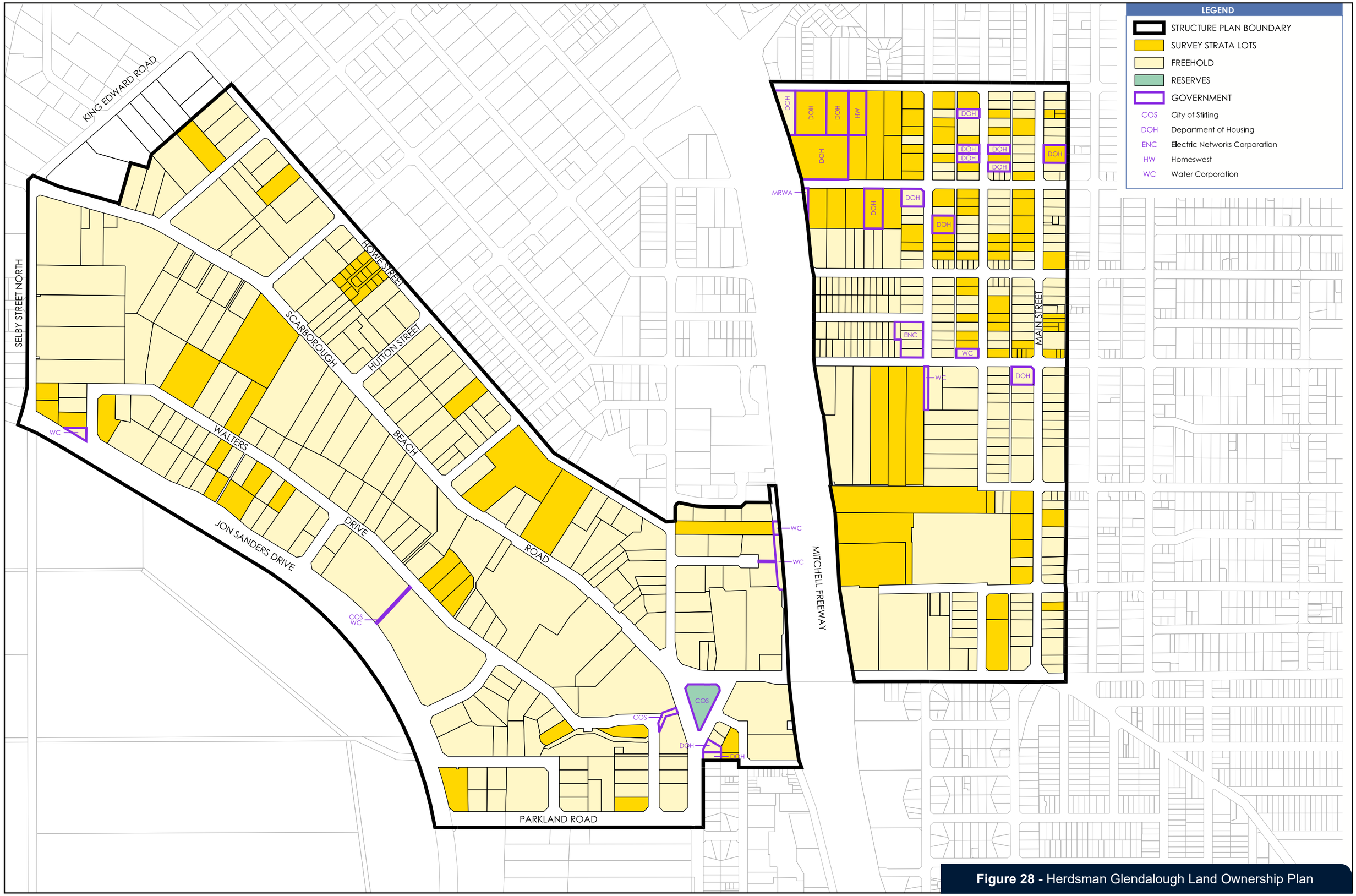


Figure 28 - Herdsman Glendalough Land Ownership Plan

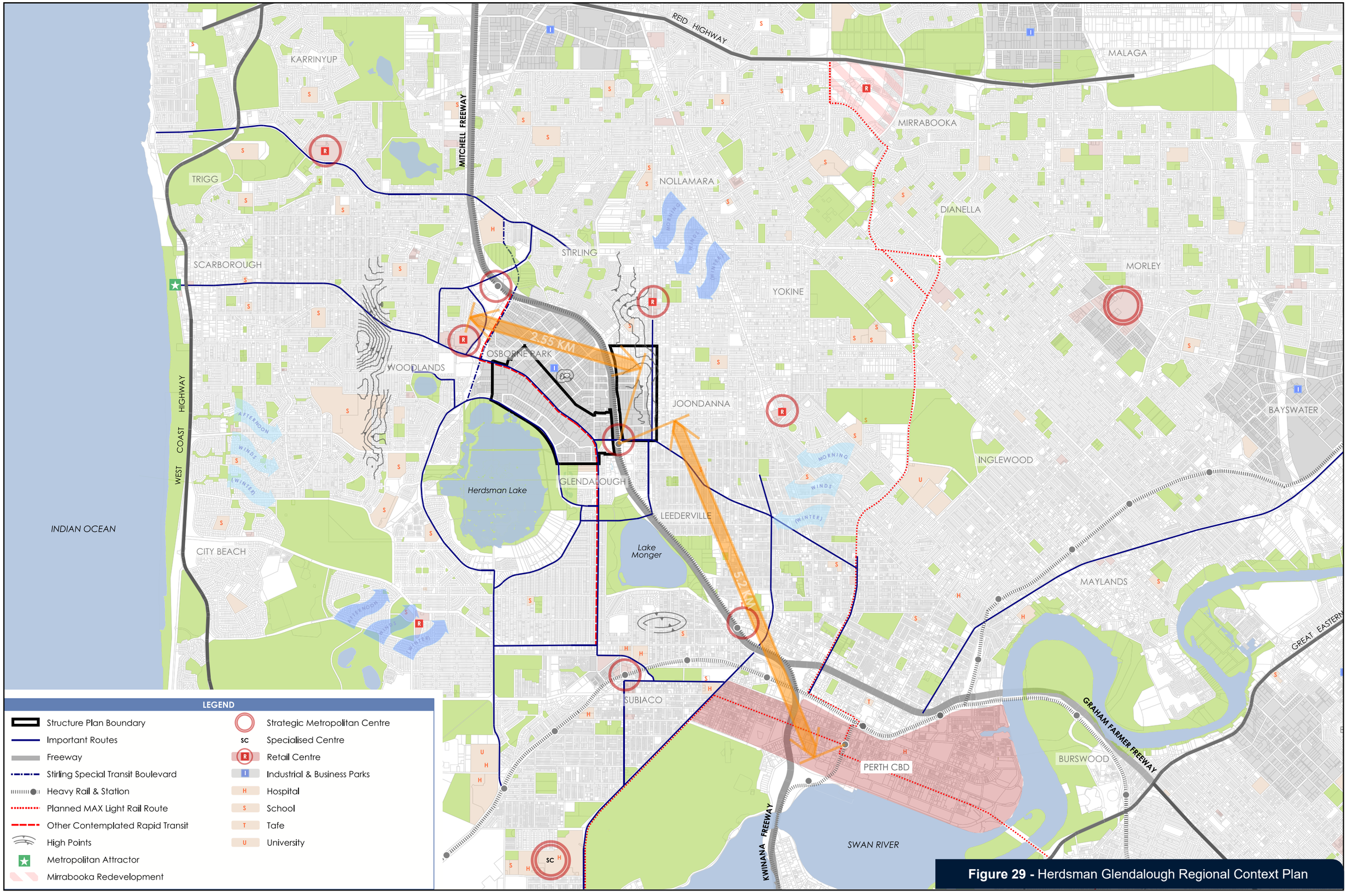


Figure 29 - Herdsman Glendalough Regional Context Plan

3.0 STATUTORY AND POLICY FRAMEWORK

3.1 STRATEGIC PLANNING CONTEXT

3.1.1 Perth and Peel @ 3.5 million (WAPC, 2018)

Perth and Peel @ 3.5 Million is a suite of documents forming the State Government's planning strategy for the Perth and Peel metropolitan regions to identify:

- Where future homes and jobs should be located;
- How to protect important environmental assets;
- How to best utilise existing and proposed infrastructure; and
- Appropriate areas for greater infill development and residential density.

The Herdsman Glendalough area is included within the Central Sub-Regional Planning Framework.

The minimum urban infill dwelling targets identified for the City of Stirling are an additional 60,330 dwellings, to accommodate an estimated population of 341,780 by 2050.

The Precinct Structure Plan will assist in achieving the infill dwelling targets for the City of Stirling by providing appropriate residential densities given the site's context.

3.1.2 Central Sub Regional Planning Framework (DPLH, 2018)

The Central Sub-Regional Planning Framework is a more detailed guide to the Perth and Peel@3.5 Million strategy.

Figure 30 illustrates the key Urban Corridors, Activity Centres and Station Precincts that are located within the City of Stirling.

With respect to the Herdsman Glendalough area, the Central Sub-Regional Planning Framework provides the following guidance:

- Scarborough Beach Road is identified as a Priority Public Transport Route and Urban Corridor;
- Glendalough is identified as a new District Centre;
- Main Street is identified as an Urban Corridor;
- Delivery of the priority public transport route is identified as 2022 - 2031; and
- The retention of the Osborne Park Industrial Area north of Howe Street to maintain a strategically located industrial area close to the CBD.

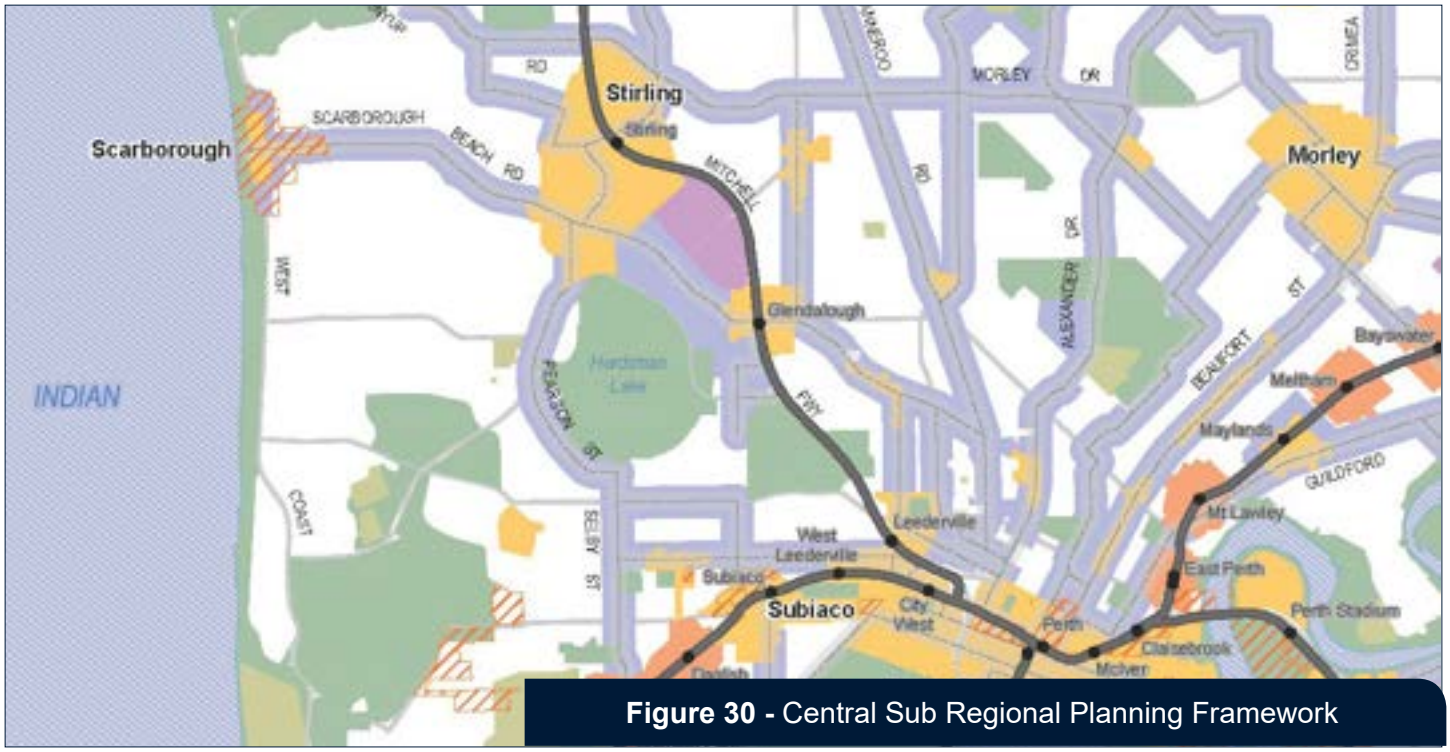


Figure 30 - Central Sub Regional Planning Framework

3.1.3 State Planning Policy 4.2 Activity Centres for Perth and Peel

State Planning Policy 4.2 Activity Centres for Perth and Peel ('SPP 4.2 Activity Centres') provides broad planning directions and requirements for the development and redevelopment of a network of activity centres according to a hierarchy of centres from Perth Capital City to Neighbourhood Centres. SPP 4.2 Activity Centres guides the distribution, function, land use mix, urban design for centres and coordination of land use planning with Precinct Structure Planning.

SPP 4.2 Activity Centres classifies Glendalough as a District Centre and the Stirling City Centre as a Strategic Metropolitan Centre, both being considered 'higher order centres' that should be developed as mixed use (vs predominately single use) centres.

SPP 4.2 Activity Centres states that District Centres should be:

- Focal points for the bus network;
- Characterised by a variety of retail types, including discount department stores, supermarkets, convenience goods, small-scale comparison shopping, personal services, some speciality stores, district-level office development and local professional services;
- Achieve a minimum residential density target of 20 dwellings per gross hectare, with a desirable target of 30 dwellings per gross hectare; and
- Provide a mix of land use floor space as a proportion of the Centre's total floor space.

District Centres with retail floor space exceeding 20,000m² require Activity Centre Precinct Structure Plans with approval required from the Western Australian Planning Commission.

A retail assessment is necessary to determine the impact of attracting district-level retail facilities into the Herdsman Glendalough area (in particular near the Glendalough Train Station) on other retail centres in the broader region, and the results of this are outlined in Section 4.4 Retail Needs Analysis.

3.1.4 Capital City Planning Framework (WAPC, 2013)

The Capital City Planning Framework has a set of vision statements and objectives that supplement and expand upon the vision of Directions 2031.

The Capital City Planning Framework generally identifies an employment density between 131-300 persons per hectare within the Osborne Park Industrial Area, the relative equivalent densities to West Perth, East Perth, Leederville, Beaufort Street (Mount Lawley), Subiaco and Scarborough Beach Road (Mount Hawthorn).

Herdsman Lake is identified as a major green space, to be supported through water sensitive 'grey' infrastructure (drains, roads) and landscaping.

The Precinct Structure Plan area will contribute to Central Perth, embracing intensified built form, improved accessibility, land uses integrated with transportation, diverse businesses and services and improved local amenity.

There is a desire to return to a resilient urban structure through adaptable street grids, main streets with people-focused edges and good access by walking and public transport to activity centres. This can be supported by other practices including green-building objectives, sustainable water management and adaptive re-use of building fabric. Scarborough Beach Road is recognised for high-frequency priority public transport, extending west from Main Street. Scarborough Beach Road, Harborne Street and Mitchell Freeway are also recognised for a proposed strategic bike route.

Overall, the Capital City Planning Framework recognises an urban transformation for the Herdsman Glendalough area.

The transformation has to occur with greater public transport infrastructure investment, growth of residential population and more intense dwelling yields surrounding Glendalough Train Station.

3.1.5 Economic and Employment Land Strategy(WAPC, 2012)

The Economic and Employment Land Strategy aims to protect and deliver industrial land. The industry zoned area of Osborne Park and Herdsman on the west side of Mitchell Freeway is identified as an existing Industrial Area; the land on the east side of Mitchell Freeway is not.

The Economic and Employment Land Strategy is concerned with the erosion of industrial land at the expense of higher order uses, without understanding the regional implications.

The Strategy identifies the need for

- Local governments to collaboratively develop an economic development and employment strategy;
- Main Roads Western Australia to reduce congestion on the Freeways; and
- Improve public transport connections between activity centres.

Between 1993 and 2001, the proportion of manufacturing/processing/ fabrication land use fell from 31.4% to 18.3% with a corresponding rise in retail, office and storage floor space.

The study notes that this is an established and continuing pattern of adaptation and change in industrial estates close to the Perth Central Business District and strategic regional centres, created by pressure on land supply and rising land values.

In 2001, the total employment in Osborne Park was approximately 15,500 and rose to over 18,000 by 2008. By 2021 employment has grown to 26,816 jobs (Remplan). The Economic and Employment Land Strategy recognises Osborne Park and particularly the Herdsman Business Park and Scarborough Beach Road corridor as a quasi-commercial centre.

The Economic and Employment Land Strategy places importance on the creation of employment and has identified the need to support transition in employment uses particularly in the Central Sub-Region where residential infill and population growth is occurring.

This will require the creation of an additional 147,000 jobs by 2031 in order to maintain the Employment Self Sufficiency percentage.

3.1.6 Stirling City Centre Precinct Structure Plan (2014)

The Stirling City Centre Precinct Structure Plan establishes a general intent and vision for the six precincts comprising the Stirling City Centre, with further detailed planning through the preparation of Local Development Plans (and adopted policy under City of Stirling Local Planning Scheme No.3). The Precinct Structure Plan boundary encroaches onto the eastern side of King Edward Road, taking up the first line of properties, contained within the 'Osborne Park Precincts'. The majority of the Precinct Structure Plan is within the identified Area of Influence of the Stirling City Centre.

Analysis indicates that the area in and around Stirling needs to contribute 4,124 'strategic' jobs by 2031, to meet the needs of forecasted population growth. An aspirational target of 30,000 jobs is set for the Stirling City Centre. Herdsman Business Park is recognised as developing a significant office function complementary to the Perth Central Business District, and by inference the Stirling City Centre, but is not recognised to contribute to this target.

The Osborne Park Precinct, encompassing the first line of properties on King Edward Road, is viewed as an area of transition between the Stirling City Centre, the existing industrial area, and the future revitalisation of the Herdsman Glendalough Precinct Structure Plan area towards primarily commercial development. It recognises a new fine grained road structure will be required to facilitate development, with the connection of existing streets across Stephenson Avenue to make these areas highly accessible to the amenity and services of the City Centre.

A minimum target of 1,619 dwelling units, and desired target of 2,500, is identified for the Osborne Park Precinct in Stirling City Centre. Key issues include the existing industrial land use; assembly of private land; and the placement of future public open space and a primary school site (as an urban campus model). Affordable housing is recognised as important for the City Centre.

The Precinct Structure Plan aspires for a modal shift of approximately 60% of trips in and around Stirling City Centre being taken by other means than private motor vehicles. Six staged strategies aim to achieve a dispersed transport network:

a) Light rail (mass transit) system from Stirling Station to Glendalough Station (and beyond);

b) Parking demand management;

c) High quality and safe walking and cycling infrastructure;

d) Mitchell Freeway access improvements;

e) New local roads; and

f) Freight Bypass Route between the Mitchell Freeway and Herdsman business area, via Hutton Street and via a bypass tunnel under the centre (if required, long term).

A maximum number of parking bays of 29,600 for the Stirling City Centre is proposed in order to ensure that the road capacity of the area is not exceeded.

A mode shift to alternatives from private vehicles is required to enable the development yields to be achieved.

The Precinct Structure Plan aims to allow a maximum 200 bays per hectare within the Centre and 250 bays per hectare for the remainder of the Precinct Structure Plan area.

3.1.7 Scarborough Beach Road Activity Corridor Framework (DOP & WAPC, 2013)

The Scarborough Beach Road Activity Corridor Framework has been adopted by the Western Australian Planning Commission to set out a vision for 50,000 residents, 40,000 jobs, priority public transport, pedestrian and cycling infrastructure, and renewed built form .

It identifies the Osborne Park industrial and 'business park' area as being a link between Stirling City Centre and Glendalough, with potential for two future local nodes (refer **Figure 31**).

The Herdsman Glendalough area is broadly identified to develop in the future for office, residential and local retail with some service, distribution and light industrial uses. The Osborne Park industrial area north of Scarborough Beach Road will remain.

The design for Scarborough Beach Road is resolved within the Scarborough Beach Road Activity Corridor Framework.

Glendalough is recognised to become transit oriented as a centre, and provide medium and higher density residential, office, food and beverage opportunities.

Scarborough Beach Road in this location is being designed for dedicated transit lanes, off-street cycle lanes, on-street parking (north side subject to further investigation) and pedestrian facilities. Access is proposed to be rationalised with new road connections on the northern side of Scarborough Beach Road.

The road reserve in the medium term needs to be 30m, with widening to 39.5m for cycling and pedestrian infrastructure to be delivered and 42m to include verge treatments.

Osborne Park is identified to continually evolve with enhanced public transport, cycling and walking options, a series of nodes coinciding with transit stops and increased densities and height in these nodes.

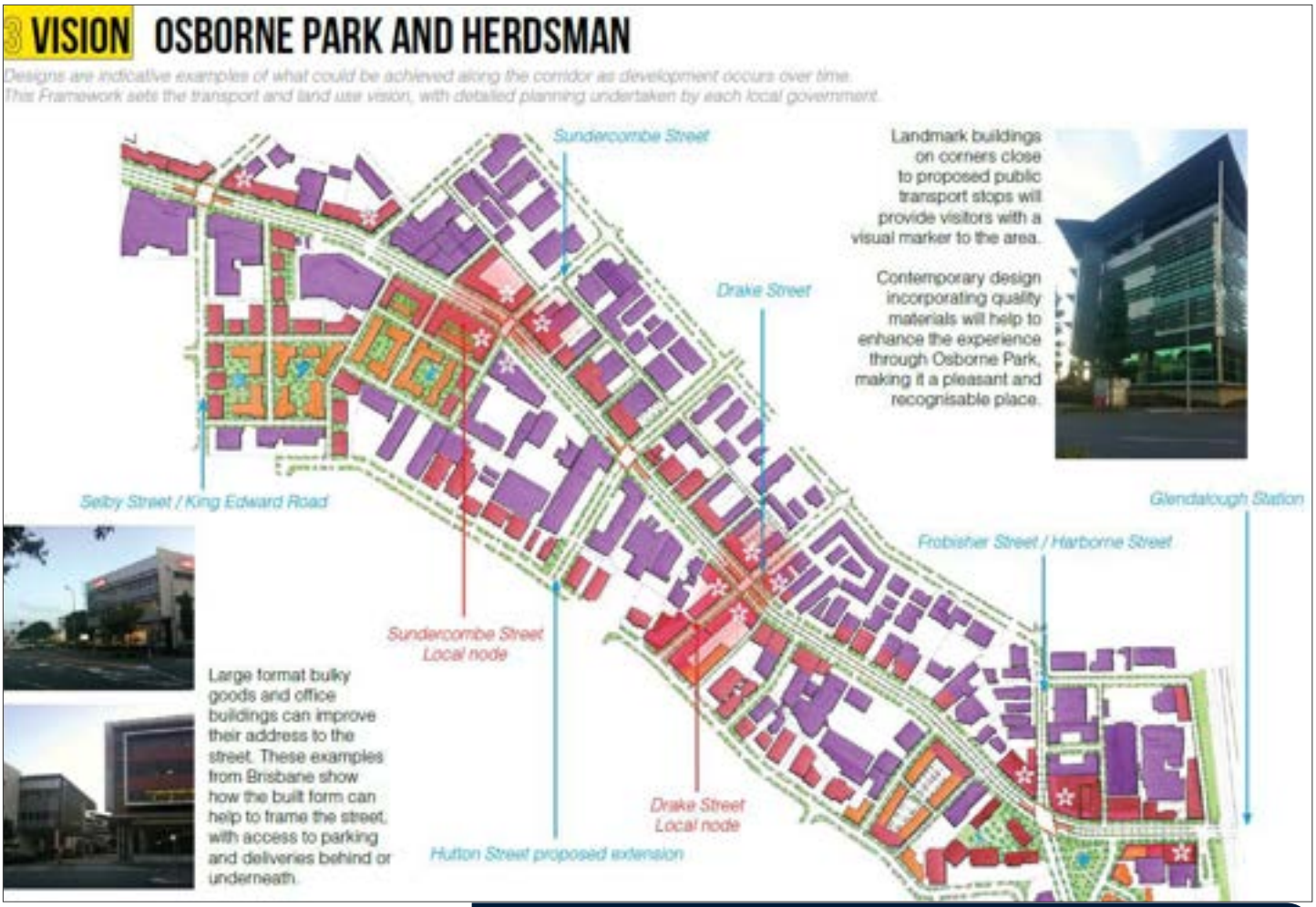


Figure 31 - Scarborough Beach Road Activity Corridor Study

3.1.8 Herdsman Glendalough Area Concept Precinct Structure Plan (City of Stirling, 2011)

The Herdsman Glendalough Area Concept Precinct Structure Plan (**Figure 32**) represented a process towards completing a full Precinct Structure Plan, and was approved for advertising by Council in March 2011 and modified by Council in December 2011.

The Concept Precinct Structure Plan report was prepared to direct growth of the land surrounding the Glendalough Train Station to facilitate the creation of an effective and intensive activity centre. The Concept Precinct Structure Plan generally covered the area as the Herdsman Glendalough Precinct Structure Plan area south of Scarborough Beach Road and between the Mitchell Freeway and Main Street.

The Concept Precinct Structure Plan recognises the importance of showrooms in the area, but envisages a transition towards a mix of uses, incorporating residential and office facilities.

The vision encompasses more intensive transit orientated development around Glendalough Station and additional jobs through intensive business uses supported by light rail along Scarborough Beach Road. New road connections are proposed to increase permeability of the Herdsman Glendalough area.

The Concept Precinct Structure Plan report implies that additional development density and intensity at Glendalough Train Station, along Scarborough Beach Road and more generally within the Herdsman Glendalough area will contribute to improved use of transport infrastructure. It does not, however, focus on the relationship between the delivery of improved transit and the ability to increase development densities and intensity.

The report considers the preparation of Local Development Plans for six sub-precincts as identified on the Concept Precinct Structure Plan report. It should be noted an Activity Centre Precinct Structure Plan is a requirement under State Planning Policy 4.2 for Glendalough District Centre.

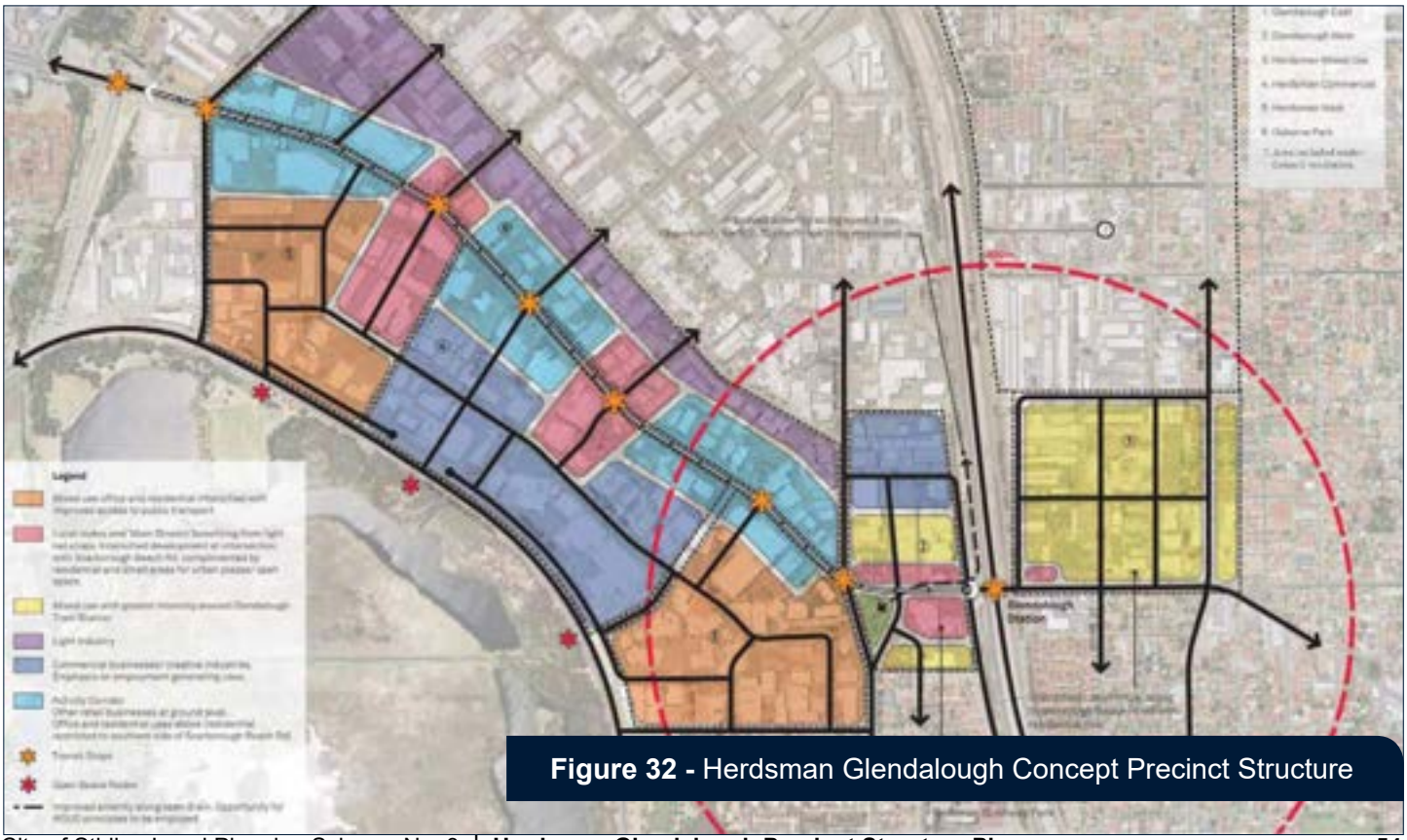


Figure 32 - Herdsman Glendalough Concept Precinct Structure

3.1.9 Relevant State Planning Policies

State Planning Policy 2.9 Water Resources
The implementation of sustainability initiatives is encouraged within the Herdsman Glendalough area.

These have been identified within workshops and issues and opportunities analyses. This includes water sensitive urban design and total water cycle management. Provisions have been included in the Local Development Plan to address these issues.

State Planning Policy 3.6 Development Contributions for Infrastructure
The principles inherent in development contributions are fundamental to ensure development contributions for infrastructure are valid within the Precinct Structure Plan area. Any planning process for introducing developer provisions would have regard to this Policy and contributions may include a combination of:

- Ceding of land for roads, public open space, drainage, and other reserves as required;
- Construction of infrastructure works, for example reticulated services, public transport, car parking; and
- Monetary contributions to acquire land or undertake works.

State Planning Policy 4.1 State Industrial Buffer
A draft update to State Planning Policy 4.1 State Industrial Buffer (July 2009) has not been finalised, with the current State Planning Policy 4.1 gazetted in May 1997. This Precinct Structure Plan refers to the gazetted version of State Planning Policy 4.1.

As part of stakeholder engagement during preparation of the Precinct Structure Plan, the City's planning consultants liaised with the Environmental Protection Authority regarding environmental standards for buffers within Osborne Park Industrial Area to clarify whether any buffers are in effect/ accepted for the poultry processing facility (Steggles). The Environmental Protection Authority has confirmed that there are no exclusionary buffers around this development, rather any Residential uses within 220 metres must orientate living and outdoor areas aware from the facilities to minimise potential impacts of odour.

State Planning Policy - 5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning
State Planning Policy 5.4 identifies the balance for protecting people from unreasonable levels of transport noise whilst protecting major transport corridors and freight operations. The freight requirements of the Precinct Structure Plan area together with the development of Scarborough Beach Road as a rapid transit corridor will have implications to manage transport-related noise for businesses and residents.

Design and placement of built form can protect other sensitive land uses from noise. The application of various techniques (i.e. construction materials, technique, design) can also assist in reducing noise impacts in order to comply with relevant noise criteria. Design solutions would be integrated into development of noise sensitive uses in proximity to Mitchell Freeway (and Railway), Scarborough Beach Road, freight routes, and major roads as defined by State Planning Policy 5.4.

3.2 STATUTORY PLANNING CONTEXT

3.2.1 Metropolitan Region Scheme (MRS)

The Metropolitan Region Scheme provides the statutory framework for land use in the Perth Metropolitan Region (refer **Figure 33**). The Herdsman Glendalough area is primarily zoned 'Urban' under the MRS which is land 'in which a range of activities are undertaken, including residential, commercial, recreational and light industry'.

The site was rezoned from 'Industrial' to 'Urban' (Metropolitan Region Scheme Amendment 1291/41, effective December 2017) to facilitate growth as a mixed use employment hub accommodating commercial, light industrial, retail and residential uses that take full advantage of the high quality public transport infrastructure investments along Scarborough Beach Road.

A portion of the Herdsman Glendalough Area is subject to Clause 32 Resolution 2015/01 No. 5 – Stirling and Glendalough Station Precincts under the Metropolitan Region Scheme.

The Mitchell Freeway is reserved as a 'Primary Regional Road' and Scarborough Beach Road is subject to a Planning Control Area #127 for widening which requires referral of applications to the WAPC.

3.2.2 City of Stirling Local Planning Scheme No.3

An aim of City of Stirling Local Planning Scheme No.3 is to assist employment and economic growth through the timely provision of suitable land for development.

This is supported by the aim of effective implementation of regional plans and policies. The Herdsman Glendalough Precinct Structure Plan area is currently zoned 'Development' and included in the Herdsman Glendalough Special Control Area.

The Precinct Structure Plan is being supported by a proposed Amendment No.114 to Local Planning Scheme No.3 to move development controls from the Precinct Structure Plan to the Scheme.

The City of Stirling will also implement the Precinct Structure Plan vision through adoption of a Local Development Plan (LDP) which provides more detailed planning provisions relating to density, built form and streetscape design. In addition, there are a number of Local Planning Scheme No.3 Local Planning Policies which also apply to the Precinct Structure Plan area.

4.0 THE HERDSMAN GLENDALOUGH AREA

A comparison of the suburb statistical areas surrounding the Herdsman Glendalough area was undertaken based on the 2011 Australian Bureau of Statistics census data.

The Statistical Areas selected were:

Innaloo-Doubleview;
Wembley-West Leederville-Glendalough, Tuart Hill-Joondanna, Stirling-Osborne Park, Wembley Downs-Churchlands-Woodlands, Nollamara-Westminster, and Floreat.

Further, an overall comparison of the combined Statistical Areas has also been undertaken to facilitate a comparative analysis against the Greater Perth statistical area.

The areas of demographics, education, employment, travel to work patterns, and housing stock, tenure and affordability are all characteristics for drawing information for the future influence of the Herdsman Glendalough area.

4.1 DEMOGRAPHIC AND HOUSEHOLD ANALYSIS

All statistical areas surrounding the Osborne Park Industrial Area have experienced positive population growth between the 2001 and 2011 censuses (refer **Table 1)**.

For Greater Perth the change in population has ranged between 8 and 14% per census period, and 23.6% over 10 years. For the combined statistical areas, population growth has ranged between 6 and 14% per census period, and 21.5% over 10 years.

The development of infill housing, whether at a micro-scale (i.e. single lots subdivided into 3-4 lots on McDonald Street) or larger-scale developments (i.e. Stirling's Princeton development area), would be contributing to this population growth.

There has also been a reduction in single person households and growth in family households, a contributor to the population increase.

Statistical Area	2001 Persons	2006 Persons	2011 Persons	2016 Persons
Innaloo – Doubleview	12,004	13,302	14,904	16,656
Nollamara – Westminster	10,966	11,491	14,886	17,771
Stirling – Osborne Park	8,954	10,099	13,135	13,799
Tuart Hill – Joondanna	9,865	10,033	11,090	11,851
City of Stirling	167,578	176,872	195,699	210,173

TABLE 1: Population Statistics (Australian Bureau Of Statistics, 2001 - 2016 Censuses)

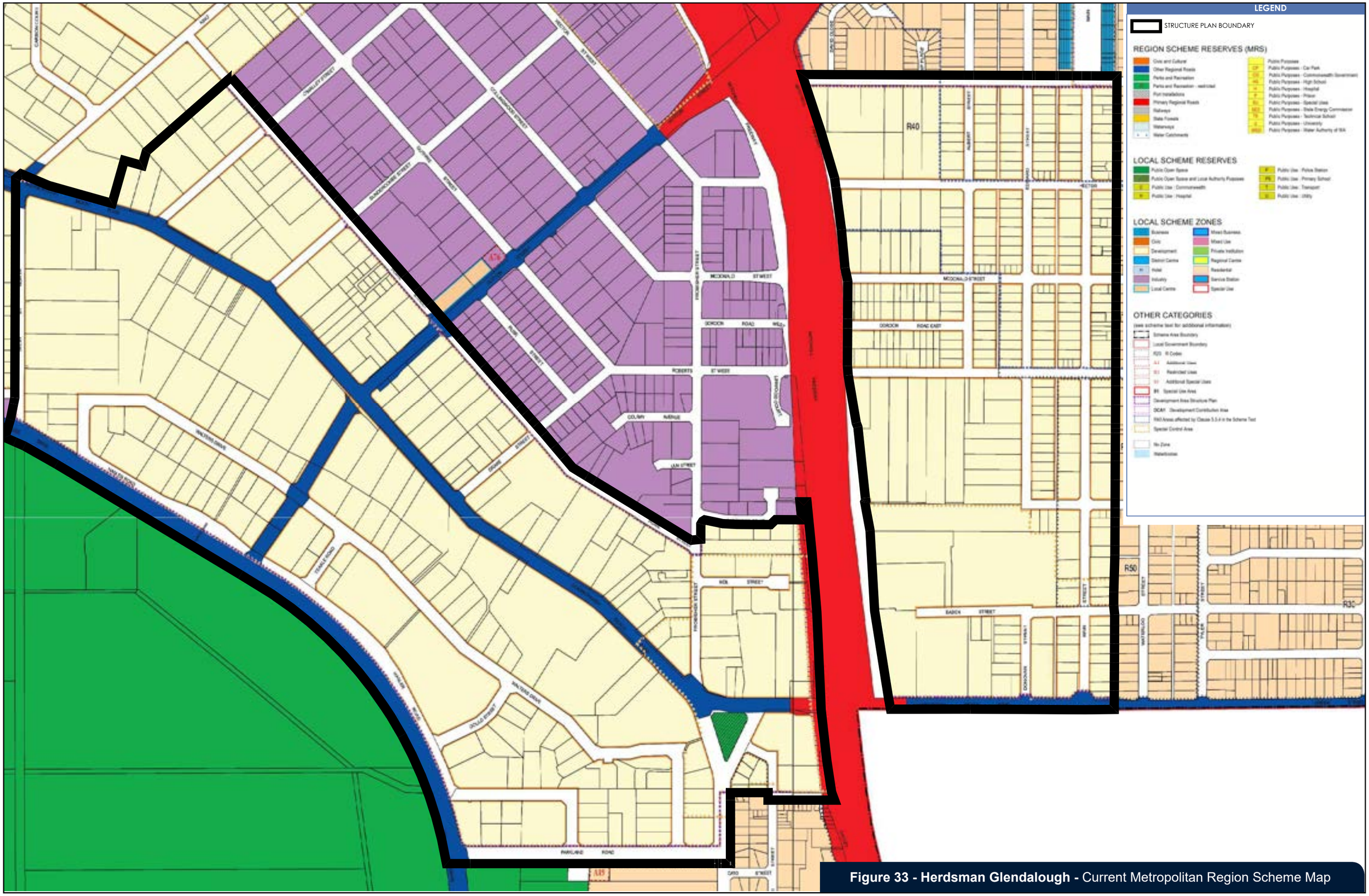


Figure 33 - Herdsman Glendalough - Current Metropolitan Region Scheme Map

4.2 SOCIO-ECONOMIC ANALYSIS

The statistical areas with higher percentages of Professionals and Management appear to also have higher than average personal, family and household median incomes (refer **Chart 1**).

Floreat, Wembley Downs-Churchlands-Woodlands and Wembley-West Leederville-Glendalough have the highest family median income levels, which has a bearing on their ability to more comfortably afford rental and mortgage payments. In contrast, Tuart Hill-Joondanna and Nollamara-Westminster have below-average Personal, Family and Household incomes.

Whilst there is definite fluctuation in Median Household Incomes, Median Rents are largely similar (Floreat being the highest) whilst Median Mortgages expose a more substantial trend. On average, Median Mortgages outstrip Median Household Incomes across Greater Perth.

Whilst Floreat has the highest Median Mortgages, their Median Household Incomes are almost at parity. The divergence is also less pronounced for Stirling-Osborne Park, Wembley-West Leederville-Glendalough, Innaloo-Doubleview and Wembley Downs-Churchlands-Woodlands.

The separation between Median Household Incomes and Median Mortgages in Tuart Hill-Joondanna and Nollamara-Westminster, appear to be contributing to poor rates of home ownership.

As a result of the median incomes, median rentals and median mortgages, overall home ownership is lower within Nollamara-Westminster, Stirling-Osborne Park, Tuart Hill-Joondanna, Wembley-West Leederville-Glendalough and Innaloo-Doubleview in comparison to Greater Perth (refer **Chart 2**).

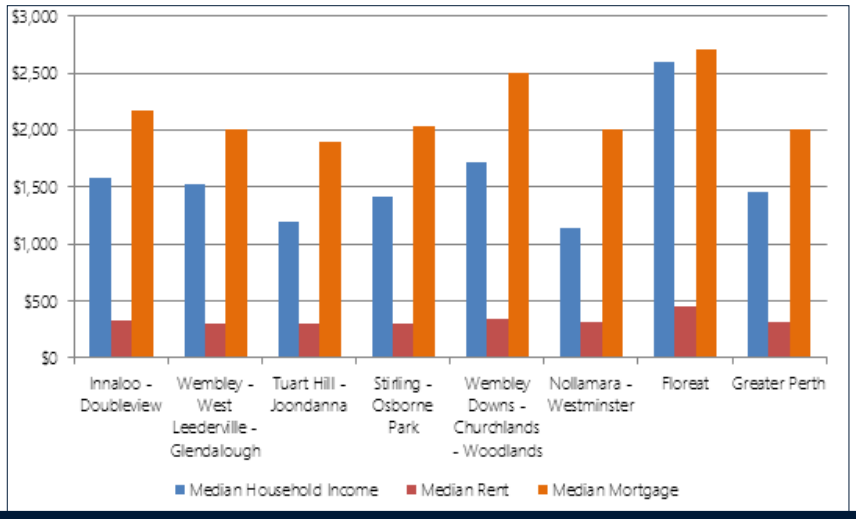


CHART 1: Median Income, Rent & Mortgage By Suburb (Australian Bureau Of Statistics, 2011 Census)

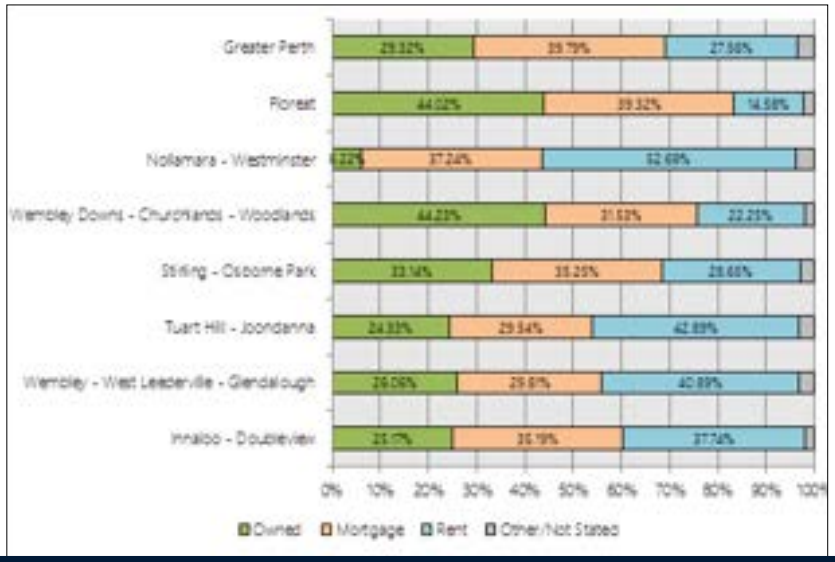


CHART 2: Housing Tenure (Australian Bureau Of Statistics, 2011 Census)

Only Floreat and Wembley Downs-Churchlands-Woodlands have higher than average home ownership, whether fully owned or with mortgages.

Renting is most pronounced within Nollamara-Westminster, Tuart Hill-Joondanna, and Wembley-West Leederville-Glendalough. In direct connection, rental stress is also most pronounced within these same suburbs – potentially an indicator that pressure on the rental market in these statistical areas is directly contributing to higher rentals that people are now paying to live there.

Floreat has the highest rates of home ownership. Wembley Downs-Churchlands-Woodlands and Innaloo-Doubleview have the highest rates of homes with mortgages. Stirling-Osborne Park, Nollamara-Westminster and Floreat also have 10.5-11.9% of households spending more than 30% on mortgages, whereas Innaloo-Doubleview enjoys a lower rate of 8.3% (refer **Chart 3**).

Additional housing in the Herdsman Glendalough area may provide an opportunity for a more affordable lifestyle for those engaged in local employment with access to public transport.

The potential also exists to consider provision of affordable and adaptable housing product meeting the needs of lower income working households and households on retirement incomes seeking independent living.

4.3 EMPLOYMENT GENERATION

The Herdsman Glendalough area is currently the second largest employment area in Perth. Overall, the statistics show employment changes between 2001 and 2011 are similar to those experienced across Greater Perth (refer **Table 2**).

Whilst the mining and construction industries would not necessarily create localised employment within the Herdsman Glendalough area (except for office headquarters), other opportunities exist to capitalise on the metropolitan growth in health, education, professional and technical service industries.

As at the 2011 census, the most common professions of residents within the locality surrounding the Herdsman Glendalough area are shown below in **Table 3**.

There is potential therefore in the Herdsman Glendalough area to allow for mixed business uses in appropriate, serviced locations which may have the advantage of servicing a local employment catchment.

Osborne Park competes with other nearby employment attractors such as Balcatta, the closest other industrial area; the remainder of attractors are district or specialised centres, and there is the significant attraction of employment within the Perth Central Business District.

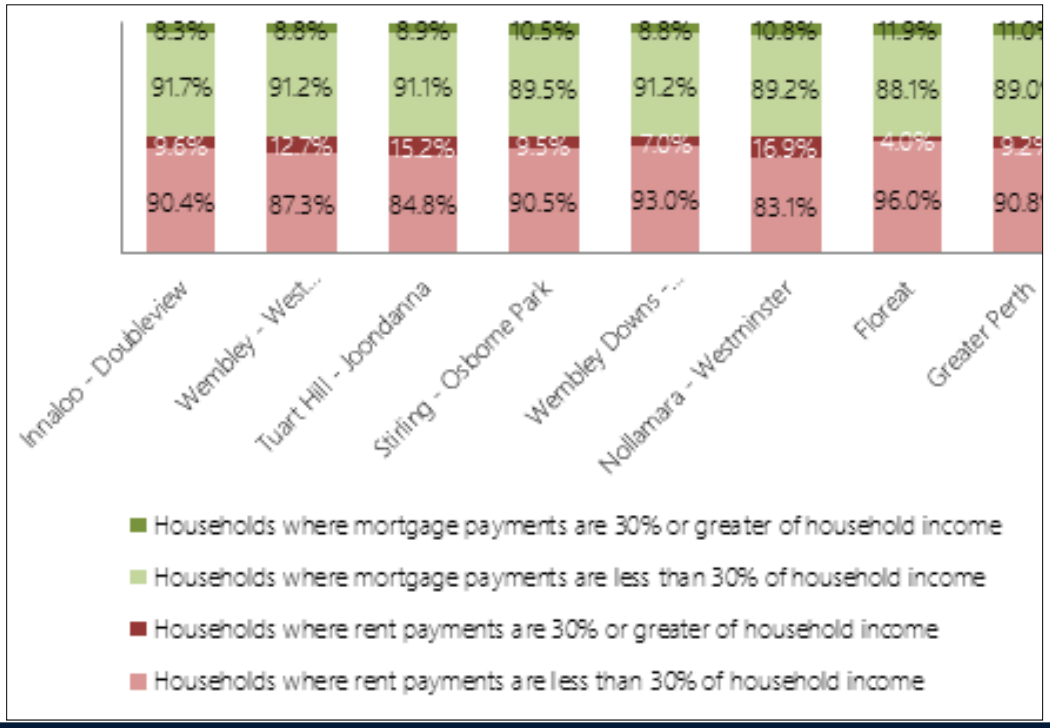


CHART 3: Housing Rent & Mortgage Affordability (Australian Bureau Of Statistics, 2011 Census)

High-growth Industries Statistical Area 2001-2011 movement %		Slow-growth Industries Statistical Area 2001-2011 movement	
Mining	337.6	Accommodation and food services	117.7
Construction	178.1	Other services	115.5
Professional, scientific and technical services	157.4	Administrative and support services	111.2
Arts and recreation services	149.8	Wholesale trade	110.2
Public administration and safety	149.1	Manufacturing	103.9
Electricity, gas, water and waste services	144.8	Rental, hiring and real estate services	101.5
Health care and social assistance	143.1	Information media and telecommunications	89.7
Education and training	131.7	Agriculture, forestry and fishing	85.3
Transport, postal and warehousing	130.9		
Financial and insurance services	128.4		
Retail trade	120.7		

TABLE 2: Employment Change (Australian Bureau Of Statistics, 2001 & 2011 Censuses)

Doubleview Innaloo	Wembley West Leederville Glendalough	Tuart Hill Joondanna	Stirling Osborne Park
• School Education • Hospitals • Architectural, Engineering and Technical Services • Cafés, Restaurants and Takeaway Food Services • Metal Ore Mining	• Hospitals • Architectural, Engineering and Technical Services • Cafés, Restaurants and Takeaway Food Services • School Education • Legal and Accounting Services	• Cafés, Restaurants and Takeaway Food Services • Hospitals • School Education • Architectural, Engineering and Technical Services • Legal and Accounting Services	• Cafés, Restaurants and Takeaway Food Services • School Education • Architectural, Engineering and Technical Services • Hospitals • Legal and Accounting Services

TABLE 3: Most Common Professions (Australian Bureau Of Statistics, 2011 Census)

4.4 TRAVEL TO WORK

The 2011 census data gathered by the Australian Bureau of Statistics shows the place of work for those in the workforce in their usual place of residence.

6% of local residents travel to Osborne Park to work employment from the surrounding statistical areas.

More local residents are attracted to Perth Central Business District, Nedlands, Dalkeith and Subiaco.

The journey to work data shows some impact upon public transport, but significant car dominance (refer **Charts 4 and 5**).

Those accessing work from home with direct access to train stations at each end demonstrated the lowest dependence, including those living north or south of the Osborne Park/Glendalough area. Those living east or west of the Precinct Structure Plan area relied heavily on their cars.

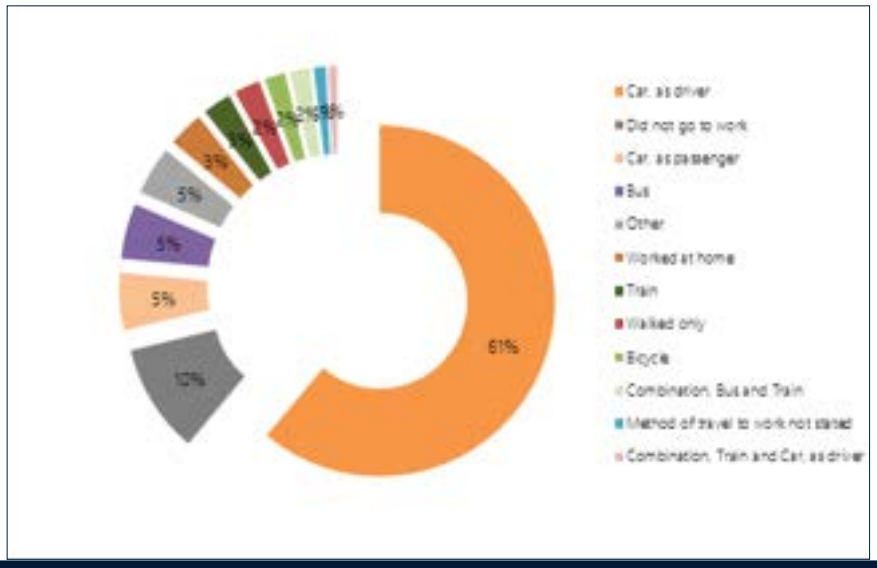


CHART 4: Method Of Travel To Work (Australian Bureau Of Statistics, 2011 Census)

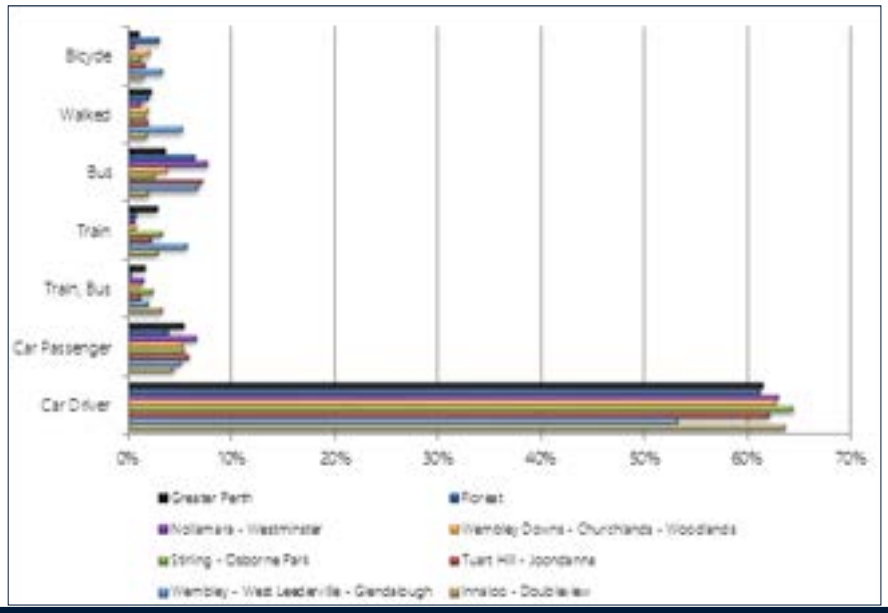


CHART 5: Suburb Comparison Of Travel To Work Patterns (Australian Bureau Of Statistics, 2011 Census)

Whilst the Osborne Park Industrial Area is in proximity to many surrounding suburbs, the numbers of people travelling from further afield still demonstrates that the location has the potential to attract people for employment from outer metropolitan areas. As previously shown, approximately 6% of the surrounding population goes there for employment.

Osborne Park Industrial Area provides for significant employment for people north of the river, with a large number of people within the north-west corridor travelling to the area. **Chart 6** illustrates the top locations for 200 or more persons working in Osborne Park, spatially distributed based upon their usual place of residence.

The Place of Usual Residence for Business Owners of the Osborne Park Industrial Area is outlined in **Table 4** below. For simplicity, only Places of Usual Residence for more than 30 Business Owners per Area have been identified.

It is evident from the table that the majority of owners of Osborne Park businesses reside within the nearby suburbs positioned in proximity to or situated along the coastline, having taken advantage of proximity to their businesses as well as the amenity of these suburban areas.

Suburb	No of Owners
Karrinyup – Gwelup – Carine	72
Wembley Downs – Churchlands – Woodlands	63
Scarborough	61
City Beach	43
Duncraig	39
Sorrento – Marmion	38
Stirling – Osborne Park	35
Trigg – North Beach – Watermans Bay	33
Innaloo – Doubleview	33
Floreat	32
Wembley – West Leederville – Glendalough	23
Nedlands – Dalkeith	31
Yokine – Coolbinia – Menora	30

TABLE 4: Usual Place of Residence – Owners Of Businesses (ABS, 2011 Census)

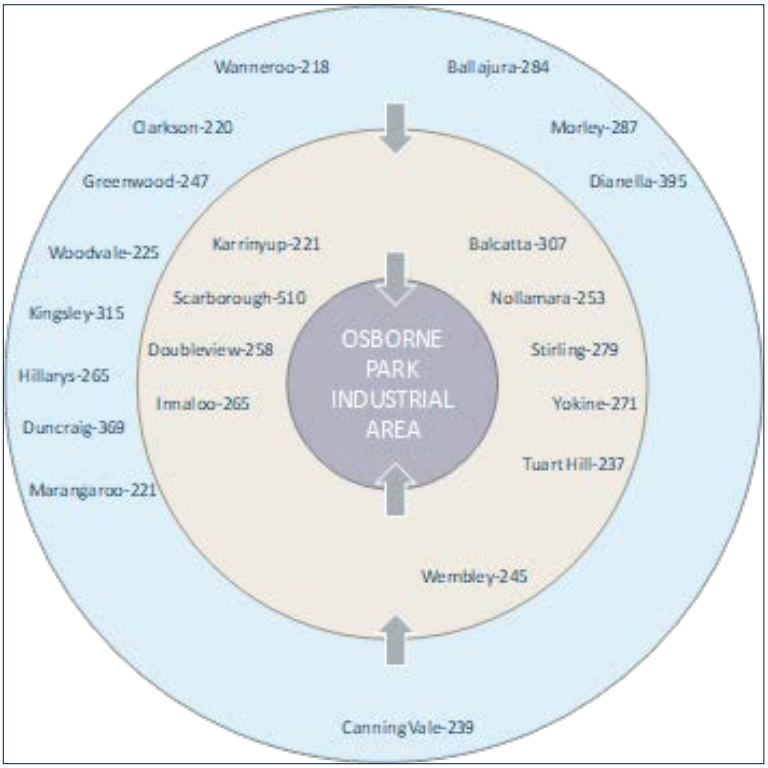


CHART 6: Employees Place Of Usual Residence (Australian Bureau Of Statistics, 2011 Census)

4.5 RETAIL NEEDS ASSESSMENT

A Retail Needs Assessment has been prepared (refer **Appendix 3** - Retail Needs Assessment) to accompany the Herdsman Glendalough Precinct Structure Plan, providing guidance regarding the extent of Planning Land Use Category 5 - retail floor space that may be accommodated within Precinct Structure Plan area as redevelopment occurs.

This demand has been determined with due regard to the potential and long term viability of competing activity centres both within the City of Stirling and surrounding Local Government Areas. The Retail Needs Assessment provides indicative maximum levels of Planning Land Use Category 5 shop/ retail floor space for each separate activity centre identified in the Herdsman Glendalough Precinct Structure Plan.

4.5.1 State Planning Policy 4.2 - Activity Centres for Perth and Peel

Section 3 of State Planning Policy 4.2 indicates that the Policy applies throughout the Perth and Peel regions guiding the preparation and review of local planning strategies, schemes and Precinct Structure Plans; and development control. This is also reflected in Figure 2 of State Planning Policy 4.2.

Retail Needs Assessment Policy Requirements
Clause 6.2.2 (3) of State Planning Policy 4.2 indicates that retail needs assessments are also intended to guide Precinct Structure Planning, and generally include:

- The projected population and its socio-economic characteristics;
- Household expenditure and required retail floor space;
- Changing shopping patterns and trends; and
- The needs of different retail sectors.

The retail modelling informing the Retail Needs Assessment has involved the assessment of the potential economic effects of future retail expansions in the Precinct Structure Plan area and among the network of activity centres throughout the City of Stirling. To this extent, the Retail Needs Assessment addresses the requirements associated with a Retail Sustainability Assessment identified in Clause 6.5.1 of State Planning Policy 4.2.

Large Format/Bulky Goods Retailing
Clause 5.6.1 (5) of State Planning Policy 4.2 indicates that 'local governments should review the land use permissibility of bulky goods retail to reduce its potential dispersal throughout industrial zones'… 'Local planning schemes and planning decision-making for bulky goods retail should include consideration of land requirements based on demonstrated future floor space needs and the need to retain affordable industrial land'. Consistent with the above mentioned requirements of the Policy, the Precinct Structure Plan facilitates the protection and retention of industrial lands by identifying the extent of land which may accommodate this type of retailing and limit its further proliferation in undesirable locations.

4.5.2 Retail Needs Assessment Preparation

Figure 34 identifies existing activity centres within the City of Stirling, including the Glendalough District Activity Centre identified in State Planning Policy 4.2. The figure excludes those future activity centres shown indicatively on the Herdsman Glendalough Precinct Structure Plan.

The retail modelling exercises extends well beyond the Stirling Local Government area boundary. Retail potential associated with Planning Land Use Category 5 floor space has been modelled over the majority of the metropolitan urban area north of the Swan River, and with modelling associated with bulky goods retailing extending south of the Swan River. The Retail Needs Assessment therefore involves a regional assessment, commensurate with the role and function of the Stirling Strategic Metropolitan Centre and the propensity for consumers to visit activity centres within the City of Stirling from surrounding Local Government Areas.

Activity Centre Growth in Surrounding Local Government Areas

The retail modelling undertaken takes account of the retail potential of centres identified in the activity centres strategies, Precinct Structure Plans and activity centre plans of surrounding local authorities. This includes the Cities of Joondalup, Vincent, Bayswater, Cambridge, Subiaco, Nedlands, Swan, and the Town of Claremont. Approved Precinct Structure Plans within the upper north-west corridor in the City of Wanneroo provide guidance as to retail potential in future planned centres, in conjunction with retail studies being undertaken for the City of Wanneroo at this time, which has informed the Retail Needs Assessment for the Precinct Structure Plan area.

Stakeholder Consultation

Consultation with the following stakeholders has occurred in the preparation of the Retail Needs Assessment:

- Department of Planning regarding population and employment forecasts to 2026 and 2031.
- Department of Planning regarding the interpretation of State Planning Policy 4.2 and requirements for the Stirling/Herdsman Glendalough Activity Centre, surrounding industrial and mixed business land use.
- Stirling Alliance regarding the implications for retail and bulky goods along the Scarborough Beach Road Activity Corridor.
- City of Stirling regarding the development of the City of Stirling Local Planning Scheme No.3, implications of Western Australian Planning Commission multi-unit housing code and the scope of the required Retail Needs Assessment.
- Cities of Vincent, Wanneroo and Joondalup regarding planning for retail development and Activity Centres in adjacent areas where catchments may overlap for the Precinct Structure Plan.
- The employed resident community within the Precinct Structure Plan area regarding aspirations for retail provision.

Retail Needs Assessment Outcomes

The key outcomes of the Retail Needs Assessment for the Precinct Structure Plan area are as follows:

- An additional 16,815m² of Planning Land Use Category 5 shop floor space can be established within the Precinct Structure Plan area with no significant adverse economic impact in the short or medium term. This additional floor space consists of the following:
  - Glendalough District Activity Centre – 10,000m² net lettable area;
  - Main Street – 3,815m² net lettable area; and
  - Scarborough Beach Road – 3,000m² net lettable are.
- Potential adverse trade impacts in the order of 10% are limited and result from the extent of planned growth under the Joondalup Activity Centres Strategy and various higher order centres in the Stirling Local Government Area. The model assumes that all potential planned retail growth will be implemented, which may not be the case.
- The proposed additional shop/retail floor space within the Precinct Structure Plan area will not result in any significant economic impact; where assuming planned growth for competing centres in the Stirling Local Government Area as at 2026.
- No loss of community benefit or reduced access to goods and services at the neighbourhood and district level will affect members of the community in proximity to the Precinct Structure Plan area. The proposed retail expansions will improve the local competitive environment; and access to daily/weekly goods and services for future residents.

On the basis that there is adequate demand and no potential for significant adverse impacts from a community access and benefit perspective, it is considered to be in the interest of the community to enable the proposed extent of new shop/retail floor space to be provided for in the Precinct Structure

Plan.

4.6 HOUSING

The adopted City of Stirling Local Housing Strategy notes that opportunities for infill housing and affordable housing in the Glendalough Station Precinct should be explored. The area provides a significant opportunity to provide affordable housing in an area where significant development incentives can be provided to justify minimum amounts of residential development as well as affordable housing.

No affordable housing will be provided as mandatory through this Precinct Structure Plan.

PHOTO 1: Affordable Housing Newcastle Street, Northbridge

PHOTO 2: Affordable Housing Goderich Street, East Perth

LEGEND

STRUCTURE PLAN BOUNDARY

- Strategic Metropolitan Centre
- Secondary Centre
- District Centre
- Neighbourhood Centre
- Local Centre

CENTRE	NAME
SMC1	Stirling
S1	Karrinyup
S2	Mirrabooka
D1	Dianella
D2	Dog Swamp
D3	Scarborough
D4	Stirling Central
D5	Northlands
D6	Mount Lawley
D7	Inglewood
D8	Main Street
D9	Glendalough
NC1	Flora Terrace
NC2	North Beach Plaza
NC3	Lynn Street
NC4	Carine
NC5	Gwelup Plaza
NC6	Sackville Terrace
NC7	Scarborough Beach Rd, Doubleview
NC8	Calais Rd
NC9	Doric Street
NC10	The Downs
NC11	Woodland Village
NC12	Morris Place
NC13	Flynn Street
NC14	Stirling Village
NC15	Jones Street
NC16	Hamilton Street / Karrinyup Road
NC17	Glendalough
NC18	Fieldgate Square
NC19	Westminster Plaza
NC20	Westminster Centre
NC21	Nollamara
NC22	Flinders Street
NC23	Tuart Hill
NC24	Blyth Avenue
NC25	Mirrabooka Village
NC26	Pimlott Street
NC27	Adair Parade
NC28	Waller Road
NC29	Coode Street / Walter Rd
NC30	North Beach Road
NC31	Lord Street
NC32	Bayley Street
L1	Elsie Street
L2	Sholl Avenue
L3	Bennion Street
L4	Contacio
L5	Joyce Street
L6	Scarborough North
L7	Brighton Road
L8	Muriel Avenue
L9	Herdsman Hotel
L10	Big Rock
L11	Shakespeare Avenue
L12	Green Avenue
L13	Yokine
L14	McDonald / Main Streets
L15	Powell Street
L16	Scarborough Beach Road / Main Street
L17	French Street
L18	Bradford Street
L19	St. Peters Place
L20	Blake Street

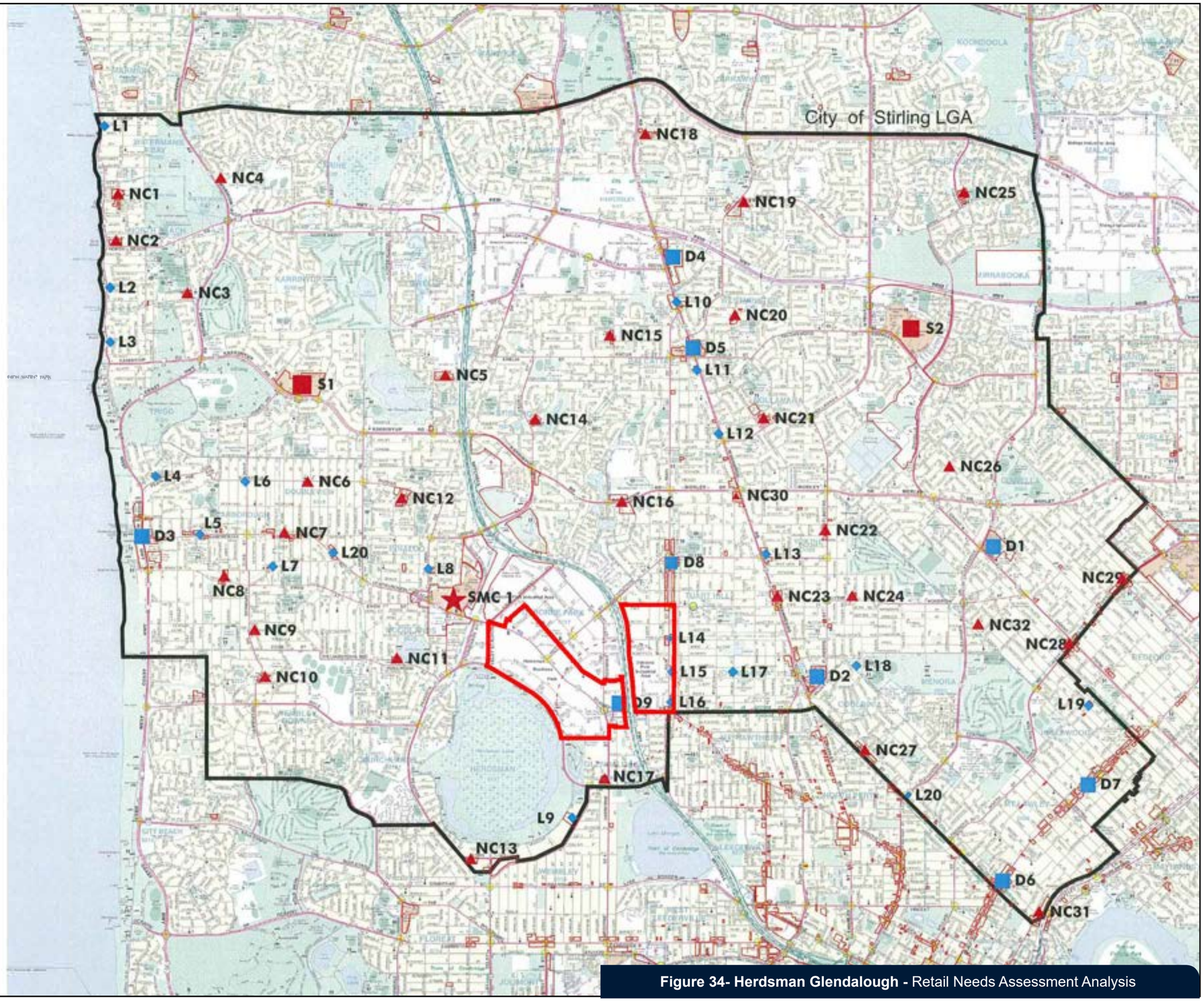


Figure 34- Herdsman Glendalough - Retail Needs Assessment Analysis

5.0 EXISTING SITE DESCRIPTION

5.1 ABORIGINAL HERITAGE

The online Aboriginal Heritage Inquiry System indicates Herdsman Lake is a registered Aboriginal site and there are several other heritage places adjacent to the Precinct Structure Plan area, and one registered site within the Precinct Structure Plan area (artefacts/scatter) between Hasler Road and Walters Drive.

5.2 NATURAL ENVIRONMENT

5.2.1 Topography and Landform

The subject land has a gently undulating topography, with the highest point in north east corner at 35m AHD falling to 15m AHD at the eastern side of the Mitchell Freeway (refer **Figure 35**). The topography on the western side of the Mitchell Freeway gradually falls in a south-westerly direction from approximately 20m AHD around Howe Street and falling to approximately 10m AHD south of Jon Sanders Drive. The most significant natural feature within the Precinct Structure Plan area is Herdsman Lake, which is further described in Section 5.2.3.

5.2.2 Soils and Geomorphology

The Department of Agriculture and Food (DAFWA 2007) Soil Subsystems dataset Soil Units was assessed to determine the soil landscapes of the Herdsman Glendalough area. Herdsman Lake can be categorised as Peaty Clay with the remainder of the area comprising of sand with areas of peat near the Mitchell Freeway. The Department of Environment and Conservation Acid Sulfate Soil risk mapping identifies the area near Herdsman Lake (corresponding to the peaty clay area) as high to moderate Acid Sulfate Soil risk (refer **Figure 36**). Additionally the area of peat near the Mitchell Freeway has also been mapped as a high to moderate Acid Sulfate Soil risk.

5.2.3 Natural Environment

Herdsman Lake is the dominant environmental and hydrological feature directly adjacent to the Precinct Structure Plan area (refer **Figure 37**). The Geomorphic Wetlands of the Swan Coastal Plain categorises Herdsman Lake as a Conservation Category Wetland, which is the highest priority wetland type. Additionally, there is a small Resource Enhancement Wetland towards the south east corner of the Precinct Structure Plan area.

The maximum groundwater contours in the Precinct Structure Plan area ranges from 15m AHD to 8m AHD near Herdsman Lake. Based on the topography described above, the depth to the maximum groundwater ranges from approximately 5m to 2m near Herdsman Lake.

5.2.4 Flora and Fauna

The Precinct Structure Plan area is highly modified with no known areas of existing native flora within the boundary. Herdsman Lake, located immediately adjacent to the Precinct Structure Plan area, is identified as Bush Forever site 281. No fauna surveys have been completed as there are no areas of vegetation. Given the highly modified nature of the Precinct Structure Plan area no significant habitat for fauna is likely to occur. Outside of the Precinct Structure Plan area, Herdsman Lake contains intact habitat and is known to support a diversity of wildlife species.

Herdsman Lake is an important bird breeding ground and is a summer refuge for migratory birds (Conservation Commission of WA 2004) including listed under the Japan-Australia Migratory Birds Agreement (JAMBA) and the China-Australia Migratory Birds Agreement (CAMBA). Other significant fauna listed under Commonwealth and State legislation that have the potential to occur within the Precinct Structure Plan area include:

- Baudin's Black Cockatoo;
- Carnaby's Black Cockatoo;
- Peregrine falcon (Falco peregrinus);
- Australian painted snipe;
- Australasian bittern; and
- Black striped snake.

5.3 BUILT FORM AND LOT SIZE

The general built form typology within the Herdsman Glendalough area comprises of predominantly one to two storey office and commercial buildings (refer **Photo 3**).

More recently, however, Herdsman Business Park (south of Scarborough Beach Road) has seen up to 11 storey development (refer **Photo 4**), highlighting the opportunity the site has to offer.

Due to large lot sizes and street blocks, significant quantities of surface parking and generous setbacks, the proportion of building footprint to developable area is extremely low. The Figure Ground Analysis (refer **Figure 38**) illustrates the inefficiency of development within the Herdsman Glendalough area, particularly considering the status of Stirling as a Strategic Metropolitan Centre.

Originally planned as a light industrial precinct, the site has been subdivided into large lot sizes to accommodate this land use. A Lot Size Analysis has been undertaken (refer **Figure 39**) which illustrates an existing diversity of lot sizes within the Precinct Structure Plan area from 600m² lots through to 3.5ha lots.

Smaller lots, between 600-2000m², are predominantly located in the north-eastern quadrant of the subject land and adjacent to Main Street where smaller residential lots exist; together with smaller 'light industrial' lots north of Howe Street.

Larger lots, albeit common, are randomly located within the Herdsman Glendalough area. These larger sites generally accommodate low density, single storey built form, providing an opportunity for subdivision and/or redevelopment to make more efficient use of land.

PHOTO 3: Existing Built Form - Howe Street

PHOTO 4: Existing Built Form - Parkland Road

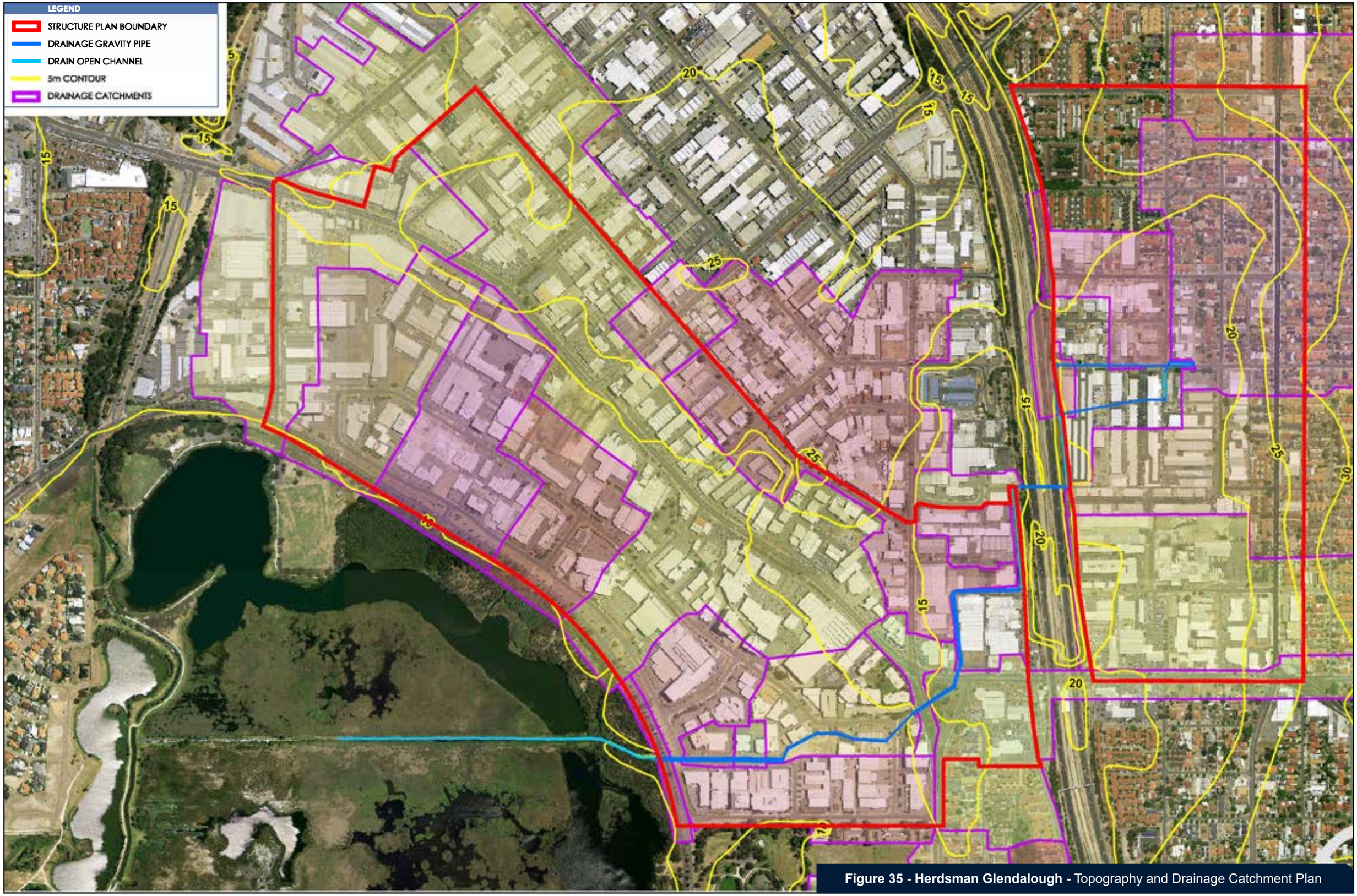


Figure 35 - Herdsman Glendalough - Topography and Drainage Catchment Plan

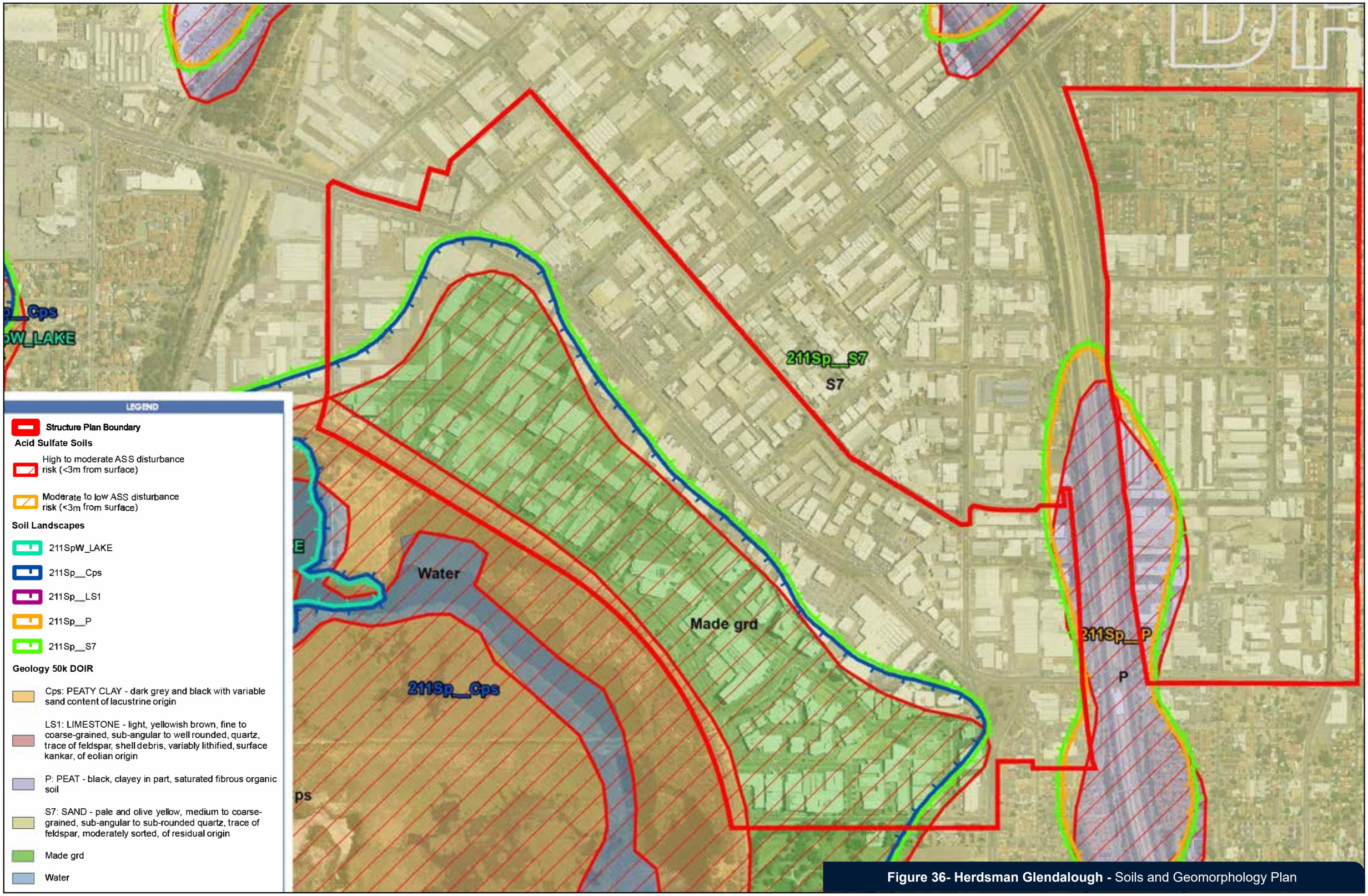


Figure 36- Herdsman Glendalough - Soils and Geomorphology Plan

LEGEND

- Groundwater Bores
- Groundwater Contours (Maximum)
- Groundwater Contours (Minimum)
- Aboriginal Heritage Site
- **Structure** Plan **Boundary**

Geomorphic Wetlands

- Conservation
- Resource Enhancement
- Multiple Use

Figure 37 - Herdsman Glendalough - Natural Environment Plan

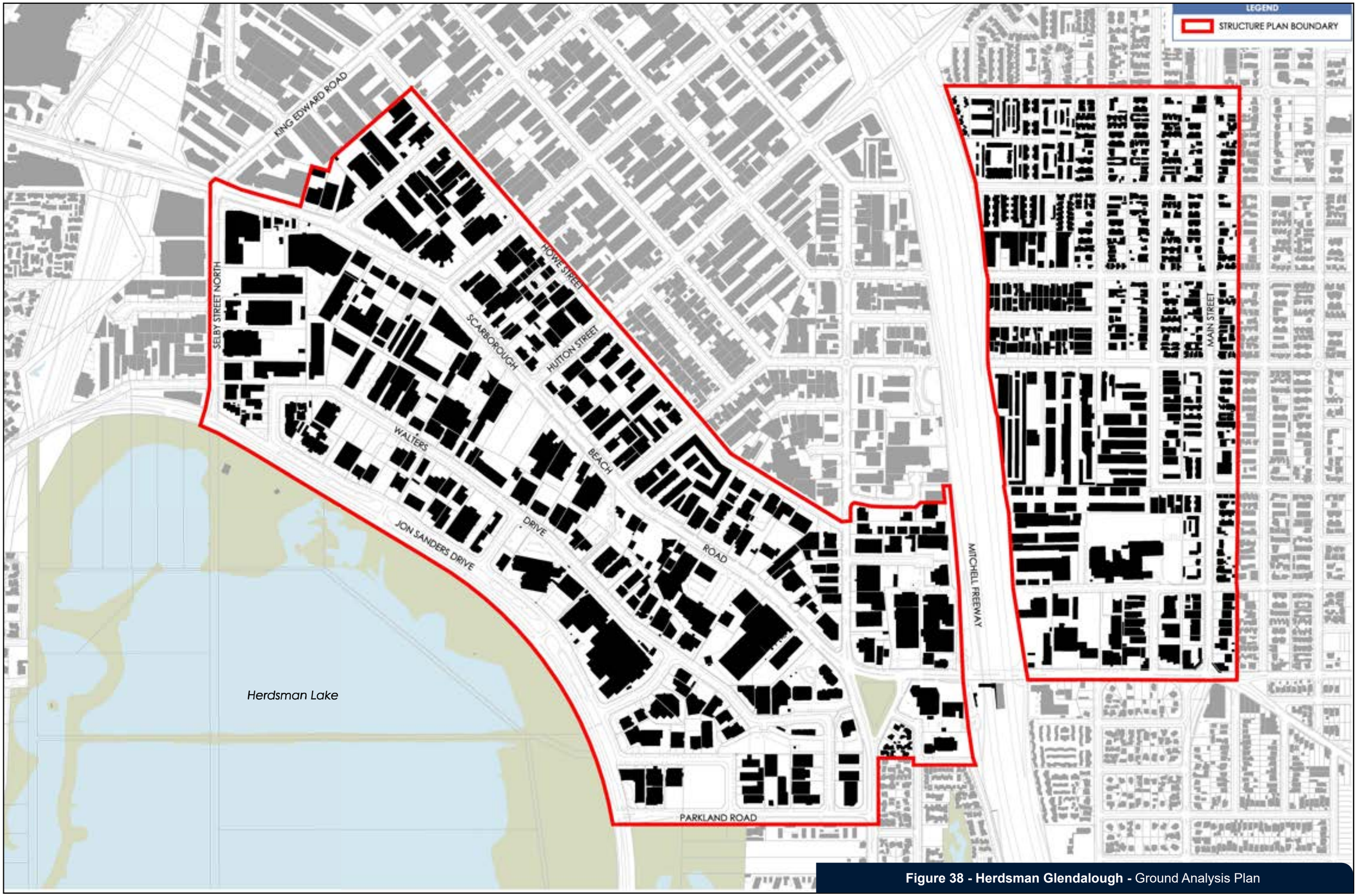


Figure 38 - Herdsman Glendalough - Ground Analysis Plan

5.4 COMMUNITY FACILITIES AND PUBLIC REALM

5.4.1 Existing Facilities

The public realm throughout the area is very poor from a pedestrian perspective, with limited public infrastructure offering any amenity for walking, cycling or recreation activities. The area is largely dominated by vehicular traffic, with very little pedestrian infrastructure such as footpaths or shade trees available.

Dedicated public open space is also limited within the Herdsman Glendalough area, with existing passive and active recreation opportunities available to the south at Herdsman Lake and Glendalough Open Space and to the east at Enterprise Park.

With respect to community facilities, the provision of child care services, education, health care, community centres and emergency services are largely sourced from the surrounding communities, being Mount Hawthorn, Glendalough, Stirling and Woodlands.

5.4.2 Community Infrastructure

The Western Australian Planning Commission's State Planning Policy 3.6 Development Contributions for Infrastructure (State Planning Policy 3.6) defines community infrastructure as "the structure and facilities which help communities and neighbourhoods to function effectively, including – sporting and recreation facilities, community centres, child care and after school centres, libraries and cultural facilities."

It is recognised by the City and the Western Australian Planning Commission that the introduction of co-ordinated mixed use development to the precinct, particularly focusing on high density residential development, will require a co-ordinated strategy for the improvement of local community facilities and public open space.

To be effective, community infrastructure must meet the changing needs of the community. If this does not occur, the residents and workers in an area may find it hard to function as a true community and this will ultimately impact on the social sustainability of the area.

A Community Structure Plan was prepared, included as **Appendix 4**, to assess existing and determine future community infrastructure demands within the locality as redevelopment of the Precinct Structure Plan area proceeds. The Community Structure Plan incorporates an assessment of the future needs of the anticipated resident and worker population, based on the following:

- Normative need – assessment of statistical and demographic data on the existing and future community profile;
- Comparative need – assessment of the existing community facilities with this taking into consideration the future needs of the community and ensuring service equity across the Local Government Area;
- Identified need – consultation with Council officers, key stakeholders and information from members from the community with their anticipated requirements for the future; and
- Evidence based practice requirements – identifying benchmark need using evidence-based practice principles.

This information benefits from the experience and knowledge of others and applying proven principles to better address needs.

The recommendations of the Community Structure Plan are presented later in this document.

5.5 MOVEMENT NETWORK

Originally planned as a light industrial precinct, the Herdsman Glendalough area is now a well-established Business Park, a key transport route between northern inner city suburbs and the beach and recently identified as a Strategic Metropolitan Centre. With the areas substantial increase in significance, the existing transport network is highly inefficient and inadequate to cater for the increasing demand. Attributing to this inefficiency is the existing large street blocks and lack of road connections resulting in a dysfunctional road network. Of particular note, no existing roads connect Scarborough Beach Road and Walters Drive between Selby Street and Parkland Road.

The key issues are summarised as follows:

- There is currently limited spare capacity on the road network within and adjacent to the Herdsman Glendalough area and in the sub-region generally, including on the Mitchell Freeway.
- High levels of car parking, limited public transport services and a lack of active transport infrastructure through the area have contributed to too high a proportion of travel to/from the Herdsman Glendalough area being made by car.
- The existing street network in the area is not well connected resulting in bottlenecks and congestion. There is a need to develop a more connected street network to improve accessibility and provide a greater choice of travel routes.
- The potential increase in development of the Herdsman Glendalough area to two to three times its current intensity will result in significant increased travel on the networks – car, public transport, cycling and walking.

5.5.1 Existing Movement Network

Roads

The existing movement network within the Herdsman Glendalough Precinct Structure Plan area is illustrated in **Figure 40**. Mitchell Freeway, an 8 lane north-south Primary Distributor, dissects the Precinct Structure Plan into two halves, however it is Scarborough Beach Road, a four lane east-west Primary Distributor, that is the precincts most important transport route.

Four lane Integrator A roads include Hutton Street, Jon Sanders Drive, Harborne, and Main Street.

Whilst two lane Integrator B roads include Selby Street, King Edward Road Frobisher Street and Parkland Road. The remaining roads are wide two lane local access streets.

The Scarborough Beach Road reserve varies in width from between 25 to 30m whilst all other roads, except for the freeway, are generally 20m wide road reserves.

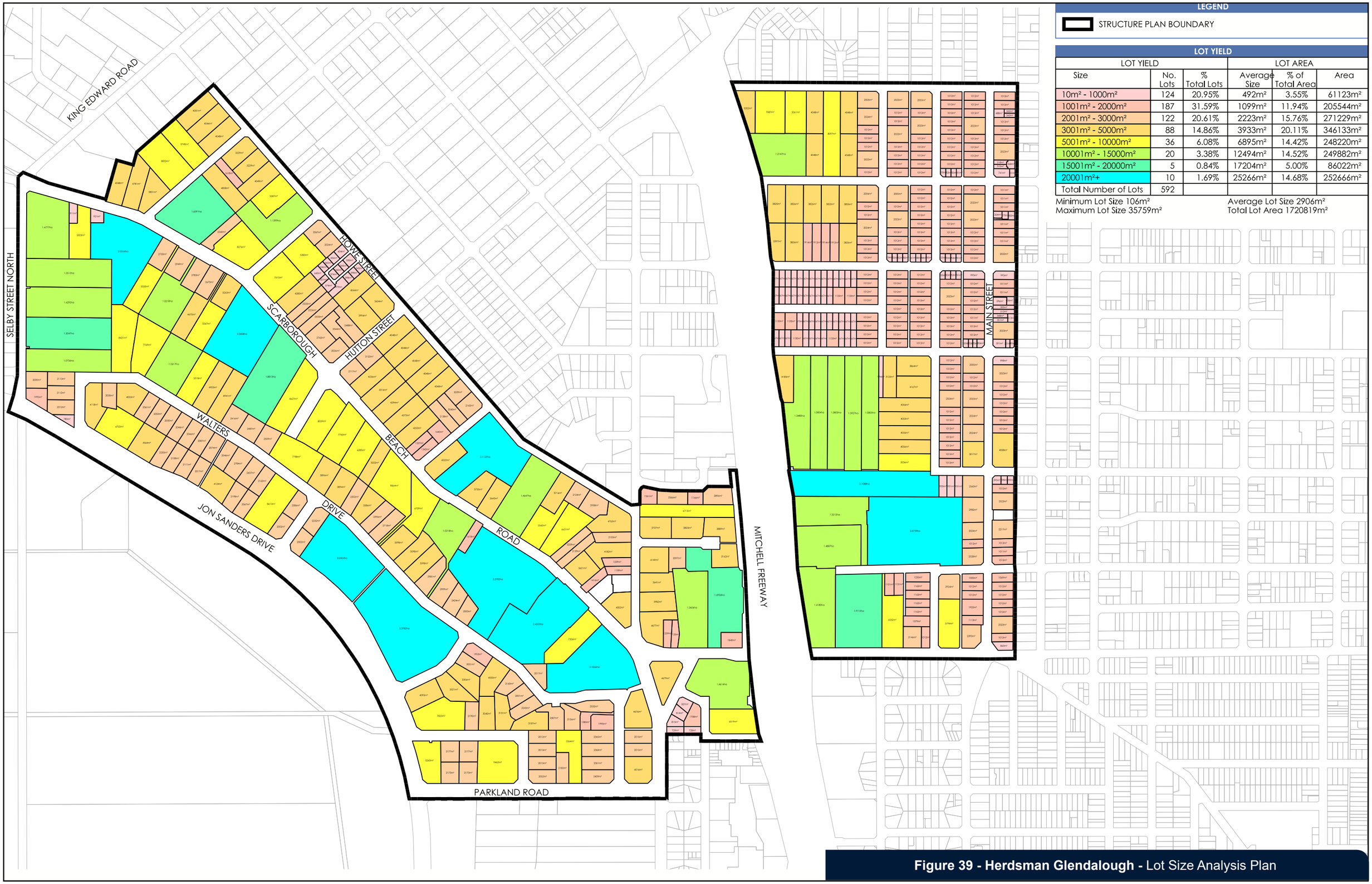
Signalled intersections within the Precinct Structure Plan area exist at the intersections of:

- Selby Street and Scarborough Beach Road;
- Hutton Street and Scarborough Beach Road;
- Harborne Street and Scarborough Beach Road;
- Main Street and Cape Street;
- Main Street and Scarborough Beach Road; and
- Scarborough Beach Road (west of Glendalough train station).

Public Transport

Multiple Bus Routes run along Scarborough Beach Road and Main Street with the 990 connecting the Central Business District with the beach being the most popular.

The 413 services north of Scarborough Beach Road, running along King Edward Road, Guthrie and Frobisher Streets and the 407 services the area south of Scarborough Beach Road, running a loop of Walters Drive to/from Glendalough train station.



LEGEND

STRUCTURE PLAN BOUNDARY

LOT YIELD

LOT YIELD			LOT AREA		
Size	No. Lots	% Total Lots	Average Size	% of Total Area	Area
10m² - 1000m²	124	20.95%	492m²	3.55%	61123m²
1001m² - 2000m²	187	31.59%	1099m²	11.94%	205544m²
2001m² - 3000m²	122	20.61%	2223m²	15.76%	271229m²
3001m² - 5000m²	88	14.86%	3933m²	20.11%	346133m²
5001m² - 10000m²	36	6.08%	6895m²	14.42%	248220m²
10001m² - 15000m²	20	3.38%	12494m²	14.52%	249882m²
15001m² - 20000m²	5	0.84%	17204m²	5.00%	86022m²
20001m²+	10	1.69%	25266m²	14.68%	252666m²
Total Number of Lots	592				

Minimum Lot Size 106m²
Maximum Lot Size 35759m²

Average Lot Size 2906m²
Total Lot Area 1720819m²

Figure 39 - Herdsman Glendalough - Lot Size Analysis Plan

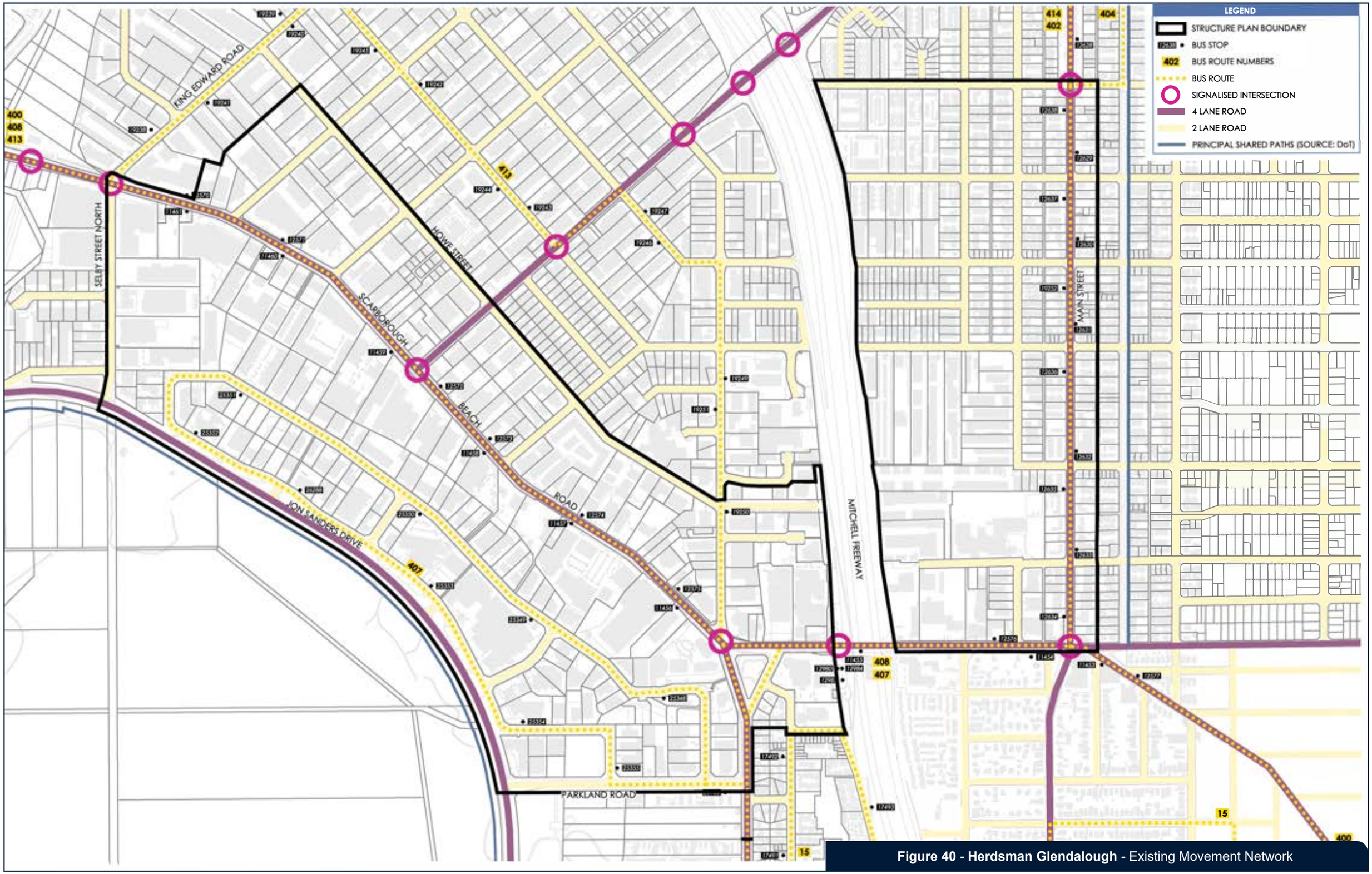


Figure 40 - Herdsman Glendalough - Existing Movement Network

Pedestrians and Cyclists

The provision of shared paths and cycling infrastructure within the Precinct Structure Plan area is minimal. Albeit good quality, the only shared path exists along Jon Sanders Drive adjacent to Herdsman Lake. A second shared path exists along Waterloo Street albeit outside of the Precinct Structure Plan area.

The provision of pedestrian paths within the Precinct Structure Plan area is reasonable however the amenity along these footpaths and connectivity, particularly between Scarborough Beach Road and Herdsman Lake, is very poor.

Scarborough Beach Road, Harborne, Frobisher, Hutton and Main Streets have footpaths both sides. The majority of the remaining roads within the Herdsman Glendalough area have a footpath on at least one side, however Burgay Court, O'Malley, Donovan, Gould and Howe Streets were notable exceptions.

A Ped Shed Analysis has been prepared illustrating a 400/800m radius around Glendalough train station depicting 5/10 minute walk respectively.

Figure 41 demonstrates that 34% of the lots within 400m of the station are within a 5 minute walk. 68% of the lots within an 800m radius of the station are within a ten minute.

In addition, **Figure 41** illustrates the large extent of lots within a 10 minute walk to Glendalough train station, revealing the Transit Orientated Development opportunities.

The key issues are:

- The bicycle network in the sub-region is very much under-developed and does not provide realistic options to maximise bicycle travel;
- An activity centre such as the Herdsman Glendalough area requires a high quality of pedestrian amenity and safety, including legible walking routes, and safe road crossings, particularly along Scarborough Beach Road and to Glendalough rail station; and
- A S.A.F.E. (Safe, Attractive, Friendly, Efficient) assessment has been undertaken (refer **Figure 42**) which documents the current status of streets within the Precinct Structure Plan area.

5.6 EXISTING TRANSPORT STUDIES

Extensive transport studies, modelling and reporting have been completed for the Stirling City Centre and Herdsman Glendalough area. The studies that relate to the Precinct Structure Plan area, are summarised below.

5.6.1 Transport Network – Perth and Peel @ 3.5 Million

The Transport Network was prepared to support the Perth and Peel @ 3.5 million strategic suite of documents which present a long-term growth strategy for land use and infrastructure provision of the Perth and Peel regions.

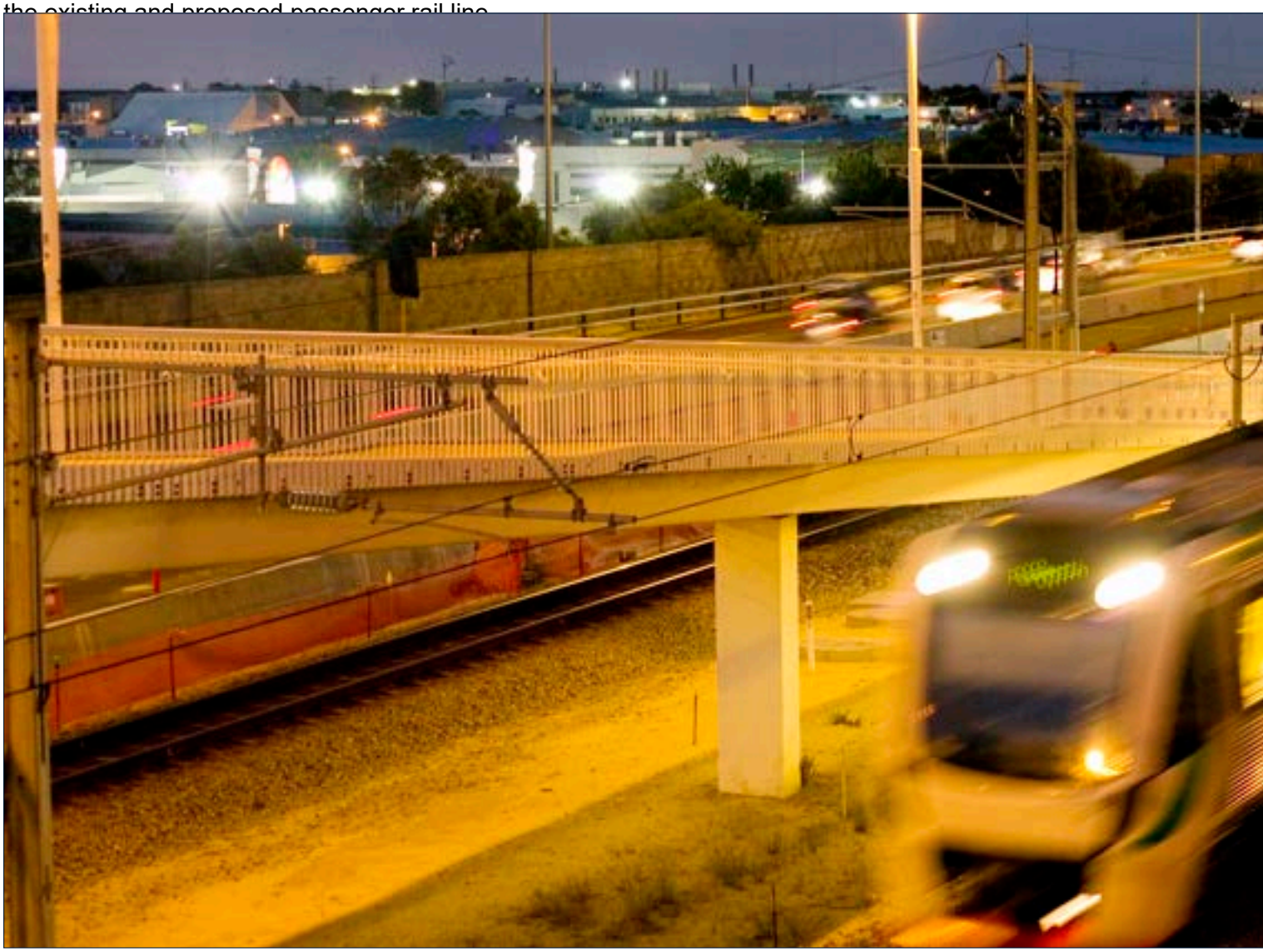
The Precinct Structure Plan area is included in the Central sub-region. Growth of the public transport network within the Central sub-region will be defined by METRONET, though will require a supporting road network to accommodate bus, vehicular and freight traffic.

Scarborough Beach Road is identified as a proposed high-priority public transport transit route to support the existing and proposed passenger rail line.

5.6.2 Scarborough Beach Road Activity Corridor Transport Report (WAPC, 2010)

This report, which has been endorsed by the City of Stirling and the Western Australian Planning Commission, identified the following:

- New local road connections between Scarborough Beach Road and Walters Drive, providing a significant increase in the permeability in the Precinct Structure Plan area.
- Additional new local road connections elsewhere within the Precinct Structure Plan area.
- Widening of Scarborough Beach Road to 42m and inclusion of rear lanes to assist with provision of rear vehicle access to sites fronting Scarborough Beach Road.
- Cycling Plan for the Herdsman Glendalough area, with a fine-grain network of Copenhagen-style lanes, recreational cycle ways and dual use paths.



5.6.3 Herdsman Business Park & Glendalough Station Transport Strategy 2010

This report confirmed all of the recommendations of the previous studies and proposed new parking-related provisions that sought to:

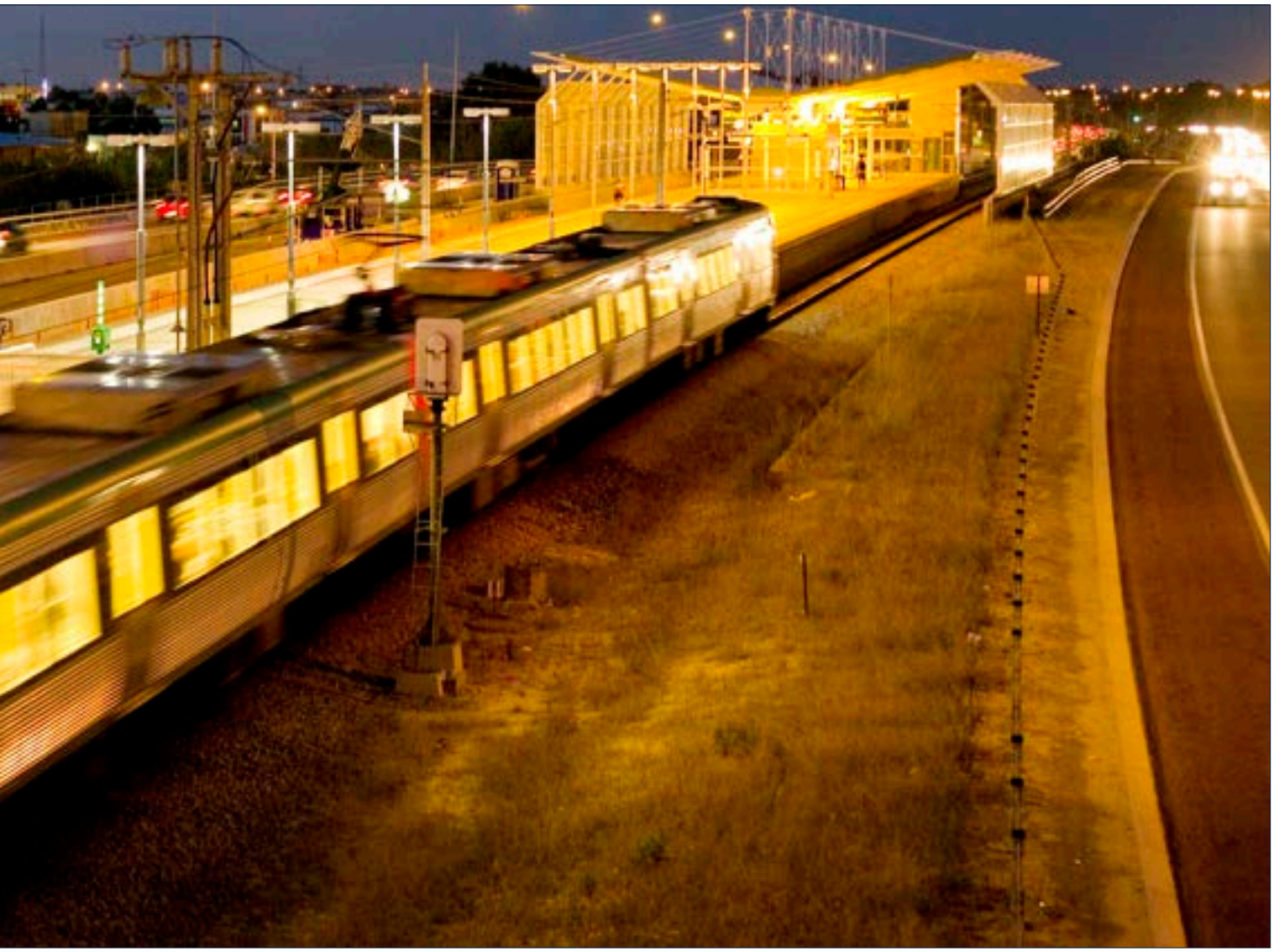
- Limit parking within the Precinct Structure Plan area in accordance with State Planning Policy 4.2.
- Identify funding contributions for public parking and public transport.

The parking provisions were consistent with those for the Stirling City Centre. This document has been endorsed by the City of Stirling, with extensive consultation with the Department of Planning Lands and Heritage, Department of Transport and Main Roads WA also occurring.

5.6.4 Stirling City Centre Transport Strategies - 2013

A suite of transport studies were completed, which recommended the following:

- Public transport lanes from Glendalough to Stirling Stations.
- A width of 42m for Scarborough Beach Road.
- Widening of Hutton Street to 30m and extension to Jon Sanders Drive.
- Bridge at McDonald Street.



5.6.5 Herdsman Glendalough Integrated Transport Strategy - 2014

An Integrated Transport Strategy has been prepared (refer **Appendix 5**), with the principles contained guiding further more detailed planning for the area.

The use of public transport, walking and cycling will constitute a larger proportion of the total mode of travel, with private car use declining.

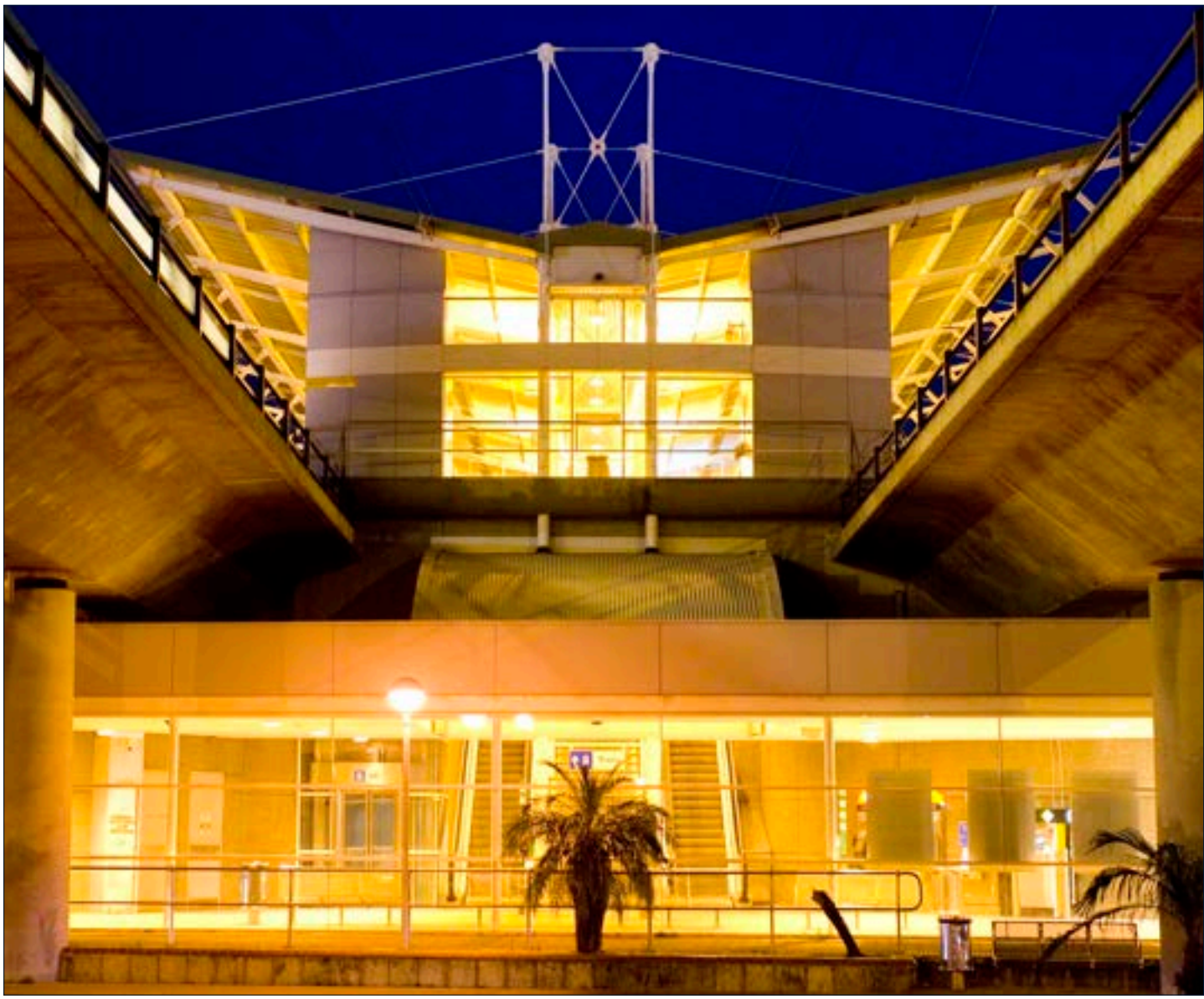
This will occur in part due to the change in land use (i.e. from manufacturing employment to residential) and will be facilitated with investment in public transport, cycling and pedestrian infrastructure.

The management and restriction of car parking availability will ensure the capacity of the road network is not exceeded.

5.6.6 Scarborough Beach Road Activity Corridor Project – Transport Modelling 2011

This report modelled the Scarborough Beach Road Activity Corridor Transport Plans under three scenarios for 2031 and found the following:

- Scarborough Beach Road will need to be maintained as a main arterial road as identified;
- Public transport to and from Stirling will increase; and
- Jon Sanders Drive will carry between 21,000 and 26,000 vehicles per day and these volumes can be accommodated on a four lane divided road.



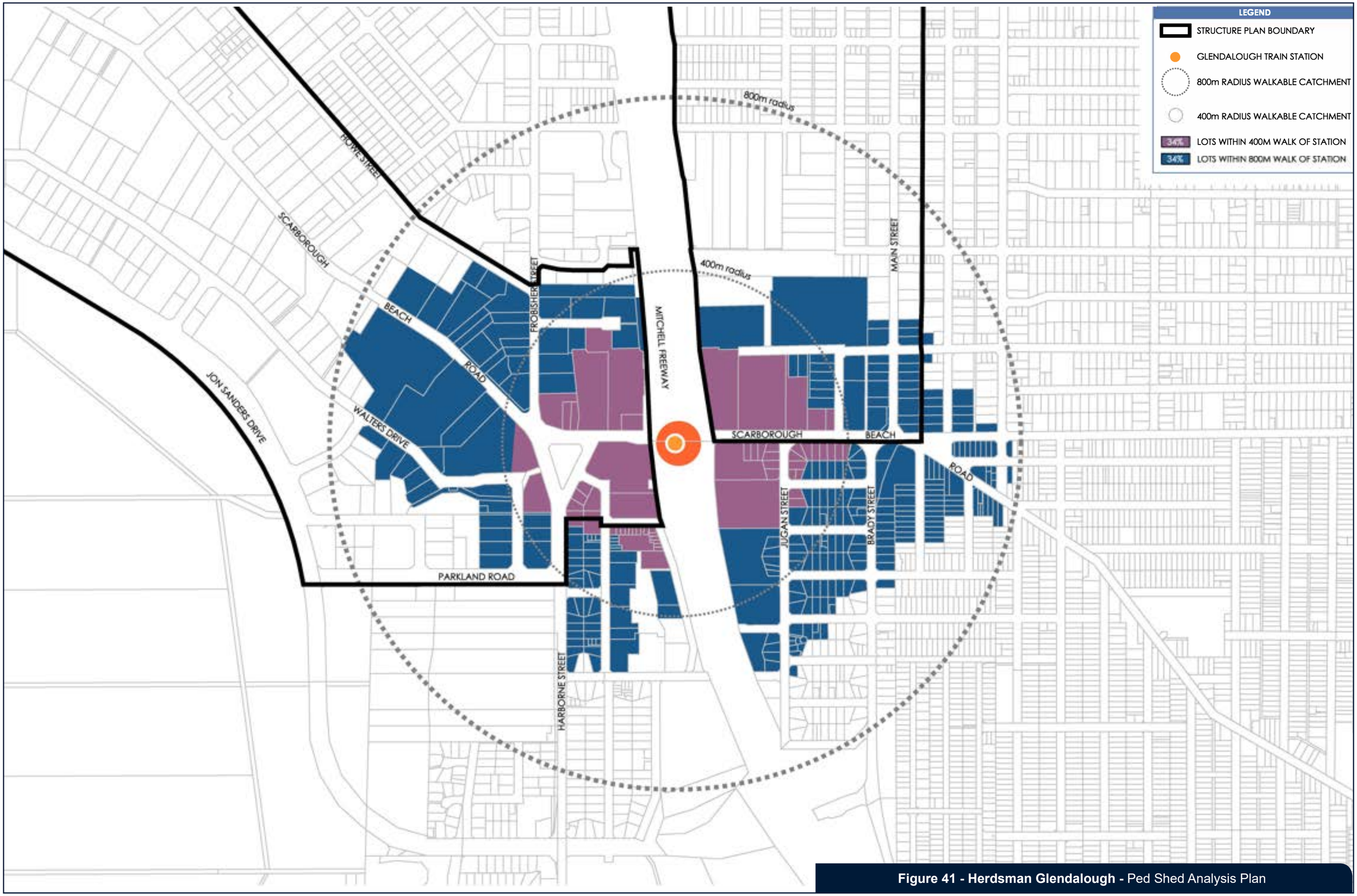


Figure 41 - Herdsman Glendalough - Ped Shed Analysis Plan

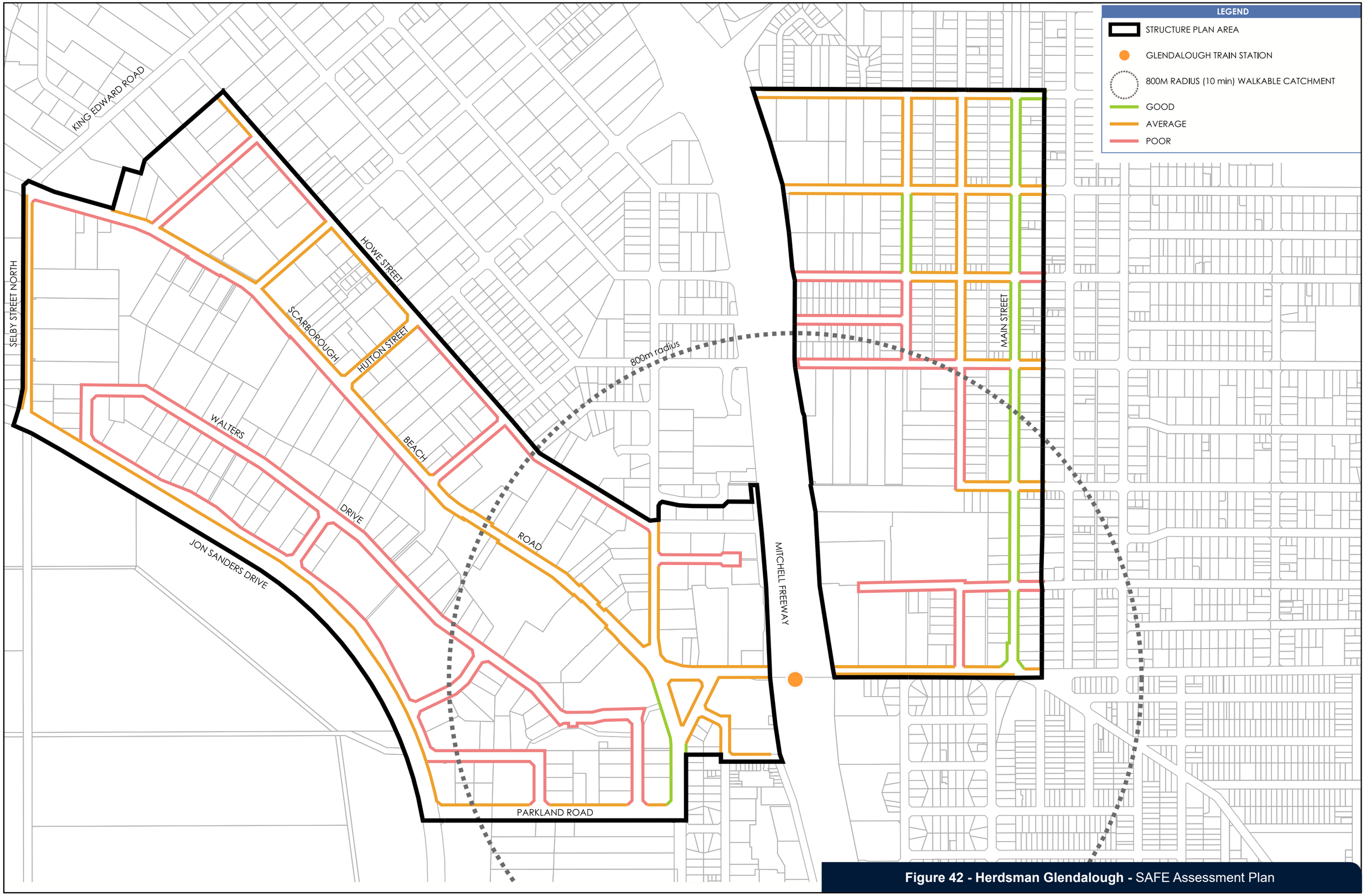


Figure 42 - Herdsman Glendalough - SAFE Assessment Plan

5.6.7 Stirling City Centre – Options Assessment - 2016

Between 2014 and 2016 the Department of Transport undertook a transport modelling exercise for the Stirling City Centre and Herdsman Glendalough area. This modelling included a number of options to verify that the proposed road networks were suitable for the development anticipated by 2031.

The modelling included agreed land use assumptions for the area that were inputs into the STEM model. The STEM model was the regional model used as inputs into the modelling carried out by the Department of Transport.

The final report recommended additional refinements to the future transport network, with the following relevant to the Herdsman Glendalough Precinct Structure Plan:

- Widening Hutton Street / Mitchell Freeway interchange to cater for extra demand associated with the extension of Hutton Street through to Jon Sanders Drive;
- Implement measures, including management of traffic, to improve pedestrian amenity and safety for crossing along Scarborough Beach Road;
- Review parking ratios to further restrict parking and manage parking in areas projected to have an oversupply (i.e. Osborne Park industrial area and Herdsman Business Park);
- Provide traffic signals and/or left-in/left-out lanes where local roads intersect busy arterial roads to minimise delays from right turning vehicles; and
- Improve public transport services in the south-west sector and the eastern sector of the area where densification of residential and commercial development will support public transport viability.

At the end of the modelling a final report was prepared that was agreed by all agencies. The Commissioner of Main Roads / Director General of Transport advised the City that the transport portfolio now agrees with the transport network for the Stirling City Centre and Herdsman Glendalough Area.

5.6.8 Stirling City Centre and Herdsman Glendalough Long Term Transport Plan

An agreed Long Term Transport Plan has been adopted by all agencies through the completion of the above studies over a period of ten years. The Long Term Transport Plan is discussed in Part 2 section 7.8.

5.7 SERVICING INFRASTRUCTURE

A comprehensive assessment of the existing servicing infrastructure within the Herdsman Glendalough area was undertaken. Full details are included within **Appendix 6** – Utilities Servicing Strategy and the key items are summarised below.

5.7.1 Sewer

The Herdsman Glendalough area consists of two sewer catchments, which can be described as follows:

- A small sub catchment in the north that gravitates to a local pump station, which ultimately pumps to the Hamersley main gravity sewer and then into the Beenyup Waste Water Treatment Plant; and
- The majority of the area gravitates to one of two pump stations located within the area – one on the corner of Hasler Road and Jon Sanders Road and the other located in Lot 24 off Walters Drive. Both pump stations pump into the Perth main sewer, and then into the Subiaco Waste Water Treatment Plant.

The Water Corporation has suggested that a high density redevelopment will create the need for these two pump stations to be upgraded.

Most of the area located on the western side of Mitchell Freeway gravitates towards a vitrified clay sewer main. This sewer main starts upstream on the western boundary of the area on Scarborough Beach Road and extends approximately 2km south east through the lots adjacent to Scarborough Beach Road until it reaches the pump station located off Walters Drive.

An unknown portion of the effluent from the DN305 main is diverted to the Hasler Road Pump Station through a sewer gate located in lot 3. This diverted flow gravitates approximately 1.5km west through a DN300 vitrified main to reach the pump station.

The portion of the site located on the eastern side of the Mitchell Freeway (excluding the small northern sub-catchment), and a small section west of the freeway gravitates towards a 305mm vitrified clay sewer main that starts upstream on Baden Street. This main crosses the freeway and continues south west through several lots until it connects to the Harborne Street Pump Station.

5.7.2 Water

There are two large diameter mains that run through the Herdsman Glendalough area. The site is within the Water Corporation Mount Hawthorn Water Supply Scheme and is currently serviced by the Mount Hawthorn Water Pump Station located approximately 500m away from the eastern site boundary.

The site is currently serviced by a DN460 steel main which enters the area through Roberts Road. This main passes underneath the Mitchell Freeway, and then continues approximately 500m south west down Drake Street. This main then continues west through Scarborough Beach Road for approximately 1.2 km before reaching the development boundary.

Within the area boundary, the DN460 main feeds a DN305 reinforced concrete main pumping north up Edward Street and a 300mm diameter steel main branching off Albert Street. The pump station services a DN535 main that also enters the area through Roberts Road. This pipe is connected to the DN460 main near Frobisher Street, however diverts north away from the area up Frobisher Street.

5.7.3 Power

The area to the west of the Mitchell Freeway is serviced by the Osborne Park Zone substation located at the corner Scarborough Beach Road and Ellen Stirling Boulevard. Overhead High Voltage distribution feeders exit the substation and run along both sides of Scarborough Beach Road into the designated area.

The area to the east of the Mitchell Freeway is serviced by the Yokine Zone substation located East of Wanneroo Road and on Darch Street East, between Cape and Hector Streets. Overhead High Voltage distribution feeders run west along Cape, Roberts, Powell and Green Streets into the designated area. There is some limited overlap of the Yokine Zone substation network across the Mitchell Freeway into the area to the west.

5.7.4 Gas

The existing ATCO Gas network appears to cover the entire Herdsman Glendalough Precinct Structure Plan area, and is fed by a high pressure gas supply on Morley Drive from the north. A 230mm main enters the Precinct Structure Plan area along Frobisher Street, branches off with a 200mm link on Scarborough Beach Road to the portion of the Precinct Structure Plan area east of Mitchell Freeway. From here it reduces in size substantially, which could suggest that this may be close to the end of a specific servicing zone.

The area west of Mitchell Freeway has a reticulation service consisting primarily of a 100mm diameter system which supplies the industrial/commercial areas. The same methodology applies directly east of Mitchell Freeway, but tapers off to smaller diameters ranging between 50mm and 100mm where it enters the residential boundary.

5.7.5 Telecommunications

The Herdsman Glendalough area is extensively serviced by Telstra. Other providers in the area include NextGen and it is anticipated that Optus may have services within the area as well. There appears to be a main corridor for communications services along Scarborough Beach Road that links the Precinct Structure Plan area separated by Mitchell Freeway, but most of the existing services focus on distribution/reticulation. There is also another link that crosses Mitchell Freeway towards the north in-line with Roberts Street.

Of the information gathered for communications, no existing information pertaining to the implementation of the National Broadband Network could be found. The National Broadband Network rollout plan (refer to the National Broadband Network rollout website) however indicates that the construction for a fibre network may commence within one year for the City of Stirling area. Although the Herdsman Glendalough Precinct Structure Plan area falls only halfway within this rollout development boundary, these are indicative only. If the existing communications pattern is any indication, the entire Herdsman Glendalough area should be serviced with fibre optic within the next few years.

6.0 OPPORTUNITIES & ISSUES

The Herdsman Glendalough area is characterised by a number of factors that have been relevant to the formulation and design of the Precinct Structure Plan.

6.1 LAND USE

Issues and opportunities associated with future land use, as illustrated in **Figure 43**, are:

- Promote 'active' land uses along Scarborough Beach Road to support increased rapid bus services and the proposed light rail system. (Note - Active uses are uses that generate many visits, in particular pedestrian visits, over an extended period of the day. Active uses may be shops, cafes, and other social uses. Higher density residential and office uses also can be active uses for particular periods of the day.)
- Integrate large-format retailing with mixed-use development along Scarborough Beach Road.
- Promote intensification of retail / residential and mixed land uses around public transport stops and stations.
- Promote residential land use throughout the Precinct Structure Plan area with intensification adjacent to Herdsman Lake, along Scarborough Beach Road and adjacent to public transport stops and stations.
- Promote a mix of land uses within redeveloped sites to maximise land value and intensification of employment and residential uses to meet State government policy expectations for employment and housing infill targets.
- Consider odour buffers from the existing poultry-processing site.
- Promote retention of light industrial businesses/ land uses and provide a transitional area of light industry between the existing Industrial Zone (MRS) to the north in Osborne Park and future business and mixed use areas along Scarborough Beach Road.

6.1.1 Built Form

Stirling City Centre is identified as a 'Strategic Metropolitan Centre' in State Planning Policy 4.2. The future scale and growth of the City Centre is very likely to act as a catalyst for growth and intensity in the Precinct Structure Plan area. The existing built form is therefore vastly under utilising the potential of the location. Significant opportunity exists for a substantial increase in built form density and height to facilitate development to accommodate and sustain the large numbers of residents and workers forecast in the area.

The following built form opportunities and issues are evident in the Herdsman Glendalough area, as illustrated in **Figure 44:**

- Opportunity for intensity of built form, particularly with respect to height;
- Built form to respond to desire for active and safe pedestrian environments;
- Opportunity for landmark built form at key gateway points along Scarborough Beach Road and Walters Drive;
- Opportunity for built form height along Jon Sanders Drive with views over Herdsman Lake;
- Opportunity for built form height around the train station and between Jon Sanders Drive and Scarborough Beach Road;
- Lower building heights to provide for an appropriate interface with adjacent existing residents;
- Recognise and respect lower building heights in existing light industrial areas; and
- Opportunity to provide a well-defined built form edge to Scarborough Beach Road creating a relationship between ground floor uses and the public domain.

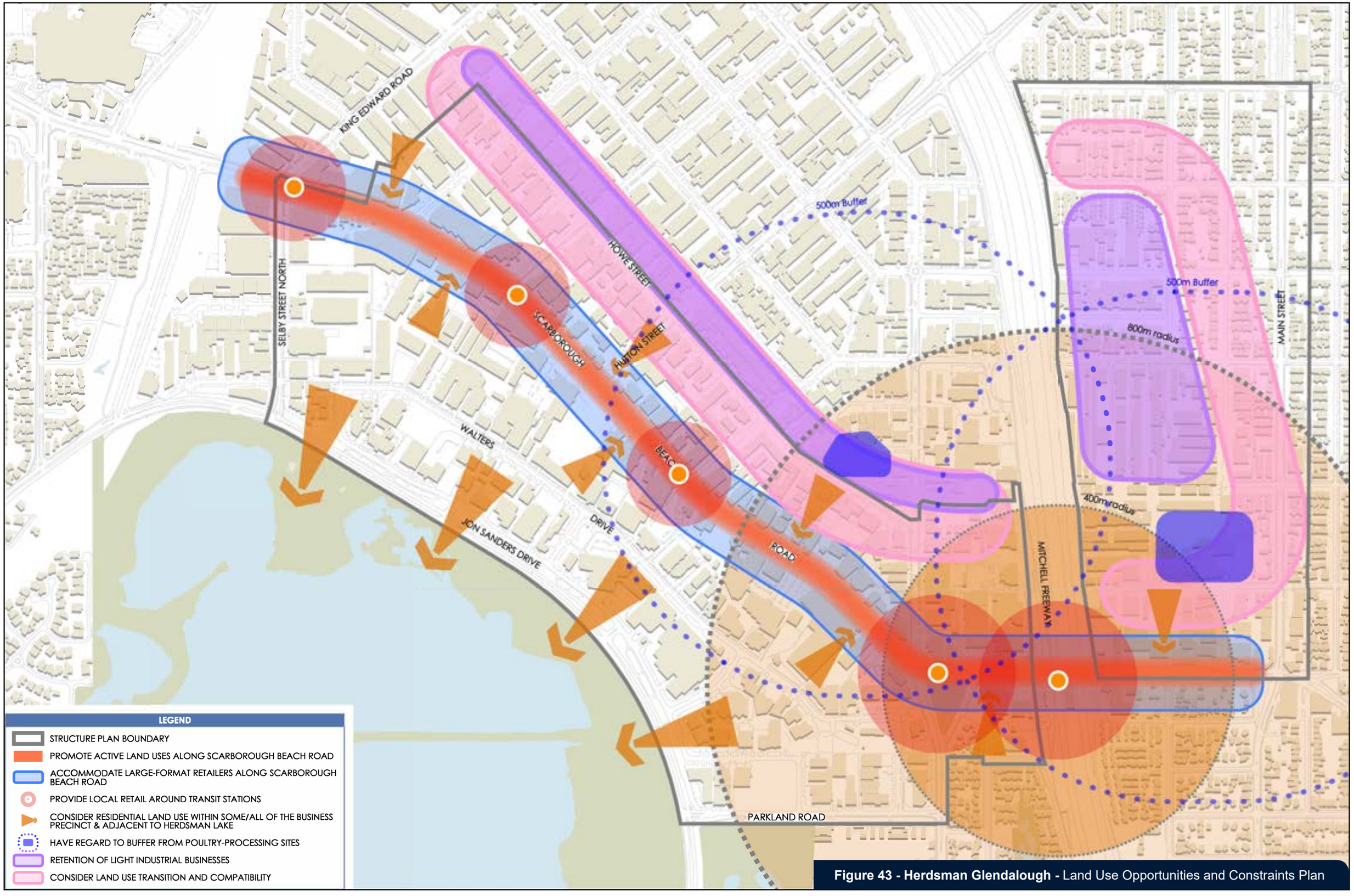


Figure 43 - Herdsman Glendalough - Land Use Opportunities and Constraints Plan

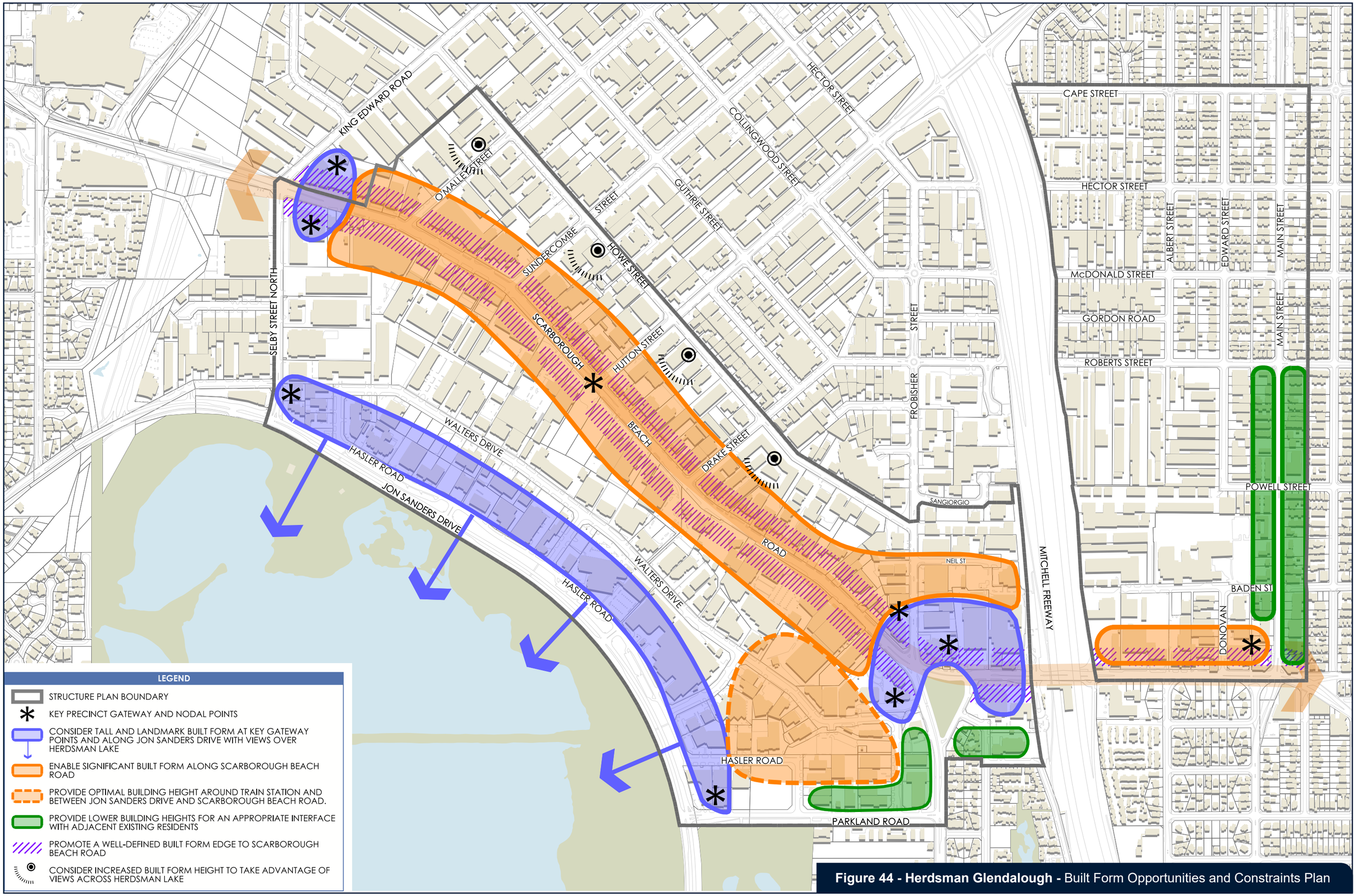


Figure 44 - Herdsman Glendalough - Built Form Opportunities and Constraints Plan

6.2 MOVEMENT NETWORK

With the vehicle, pedestrian and cycle movement throughout the site a significant issue, there is an opportunity to improve the movement network to become more efficient whilst facilitating redevelopment.

The following movement network opportunities and issues are evident in the Herdsman Glendalough area, as illustrated in **Figure 45**:

- Opportunity to provide a Rapid Transit System, improved vehicle movement efficiency and safe cycle and pedestrian movement on Scarborough Beach Road due to the setback of buildings;
- Provide a Rapid Transit System with opportunity to position Transit Stations in strategic locations to support intensification of development at key intersections along Scarborough Beach Road;
- Opportunity to facilitate development by creating strategically located road connections through large street blocks improving vehicular movement, internal traffic distribution and access, whilst creating the potential for more efficient development parcels; and
- Opportunity to improve the pedestrian and cycle network through the precinct and to support an integrated network within the Precinct Structure Plan area supported by the existing Principal Shared Path network (strategic routes).

Table 5 below illustrates the proposed shift in transport mode required to alleviate the congestion in Stirling in order to revitalise the streets and public places in the Herdsman Glendalough area in line with the vision emerging from the stakeholder workshops and current strategic planning goals.

Of particular importance is the potential demand for better cycle paths as part of a shared network with pedestrians or as an integrated system within the road network.

	Average Mode Share (%) Metropolitan Perth (2010)	Average Estimated Mode Share (%) Metropolitan Perth (2040/50)	Estimated Mode Share (%) Stirling City Centre (2040/50)	Estimated Mode Share Herdsman/ Glendalough (2040/50)
Car Driver	58%	48%	35%	40%
Car Passenger	22%	20%	15%	17%
Public Transport	6%	12%	18%	16%
Walking/Cycling	14%	20%	32%	27%

TABLE 5: Proposed Shift In Transport Mode

6.3 LANDSCAPING AND PUBLIC OPEN SPACE

Wide scale regeneration is needed for the public realm within the Precinct Structure Plan area and public realm improvements should be 'big and bold' to signal change and the establishment of a new local character. The changes, however, are likely to be implemented on an incremental basis as site based detailed planning proceeds. An Urban Design and Landscape Strategy has been produced to guide this transformation, **Appendix 8**.

Scarborough Beach Road is the primary piece of private vehicle infrastructure within the Precinct Structure Plan area, with other modes of transportation largely marginalised. Redevelopment in the area should consider both the functional and aesthetic outcome, with public realm improvements fostering a new landscape character and contributing to a new culture of walking, cycling and public transport use. New publicly accessible space should be provided to encourage community formation, through chance encounters and lingering.

Landscaping and Public Realm
The following landscaping and public realm opportunities and issues are evident in the Herdsman Glendalough area, as illustrated in **Figure 46**:

- Herdsman Lake offers a major environmental resource that already has affected adjacent property uses and values beneficially due to its aesthetic qualities. Many businesses now look over the reserve. Actual use of the reserve for recreation is seemingly low and not related to adjacent land uses. Crossing points of Jon Sanders Drive are few and paths are not linked into crossing points, with the road being a major obstacle to pedestrian and cycle use.
- A clear absence of passive surveillance is a major issue at the Glendalough station, placing the public as risk. Furthermore, the dominant daytime use patterns associated with the station contribute to its lack of safety at other times during the day. Parking and property security is an issue as well, in addition to pedestrian wellbeing. The typical response has been with hard infrastructure measures (i.e. fencing, shutters, security cameras etc). Major physical changes are needed to enable a comprehensive character change, which in turn would allow community perceptions and the use of the space to change.
- General lack of suitable pedestrian infrastructure, lack of safe pedestrian crossings and refuges across the whole of the Precinct Structure Plan area. Poor and inconsistent lighting levels to streets, affecting pedestrian use. Poor pedestrian legibility throughout Precinct Structure Plan area, with streets dominated by built form mass.
- Dominance of car parking to all available spaces/verges. Parking and vehicle accommodation adversely affects public realm/ verge/potential for upgrade.
- Commercial signage has been allowed to compete to such a level that it is difficult to discern.
- Overhead power lines dominate streetscapes and form a constraint to street trees.
- Comprehensive lack of vegetation across the area, which leads to poor visual amenity, poor locality character, lack of shade for pedestrian respite/enjoyment, creation of an urban heat island; and lack of carbon absorption.
- Hard surfaces and roofs generate significant drainage.
- Possible green roof initiative, with enhanced amenity and environmental impacts (i.e. reduce runoff, reduce heat hot spot, broader environmental benefits including for fauna etc).
- Possible development of green corridor from core urban areas to Herdsman Lake. This could incorporate primary pedestrian routes and possible drainage as integrated passive irrigation and hydrocarbon runoff management.
- Possible use of exotic species for environmental and amenity gains (i.e. shade and solar access, growth characteristics in urban areas etc).
- Landscaping and public realm upgrades to key streets to ensure they are more attractive and usable environments, The street connections considered to offer substantial opportunity are further outlined in **Figure 46.**

Open Space Network

There are a number of key issues associated with the provision of open space and meeting open space 'standards' within an existing urban area:

- The only area of Public Open Space within the Precinct Structure Plan Area is Enterprise Park (4,700m²) situated at the intersection of Harborne Street and Scarborough Beach Road. This POS area is classified as 'local' and the park is surrounded by heavily trafficked roads on all sides which significantly impacts on its amenity and accessibility.

- There are no areas of Public Open Space located east of the Mitchell Freeway to service existing residents. The Precinct Structure Plan area east of the Freeway will cater for a larger number of residents through redevelopment and as development occurs land for POS will be provided either directly or through cash-in-lieu payments for POS.

- Given the fragmented nature of privately owned lots which forms the majority of the Precinct Structure Plan area and the lack of any large areas of suitable government owned land, there is little opportunity for the acquisition of larger areas for active open spaces or substantial playing fields.

The opportunities for addressing public open space needs are:

- Pocket Park / Urban Squares - The redevelopment of large lots throughout the Precinct Structure Plan area, particularly across areas west of the Freeway, provides an opportunity to develop a network of smaller 'pocket parks' or urban squares as part of private development but which are located and designed to encourage general public use with access secured through easements on titles or other such mechanisms. This network of urban squares provide an opportunity to develop a unique character to the urban fabric of the Precinct Structure Plan area that services the needs of high density apartment dwellers as well as workers and business customers / shoppers. These spaces also provide 'amenity' for the development of alfresco café seating and pleasant places for public seating along the street. There are numerous examples of such public spaces throughout the Perth metropolitan area, as shown in **Photos 5 and 6** below.

- Sites larger than 2 hectares have been identified as suitable for ceding the 10% requirement for Public Open Space as shown on **Figure 27**.

  Sites smaller than 2 hectares will be requested to pay a cash-in-lieu payment for POS.

- To address the need for active open space, and given the lack of suitable land within the existing Precinct Structure Plan area for the development as active space, Public Open Space cash-in-lieu contributions collected from development and subdivision across the Precinct Structure Plan area will be spent on purchasing and upgrading the property identified and upgrading and improving several existing areas of regional open space adjacent to the Precinct Structure Plan area at Herdsman Lake, as shown on **Figure 46**.

PHOTO 5: Small Well-Used and Purpose Designed Public Space Incorporated Within High Density Urban Development (Hay St, West Perth)

PHOTO 6: Small Well-Used And Purpose Designed Publicly Accessible Space On Private Property (Central Park, Perth CBD)

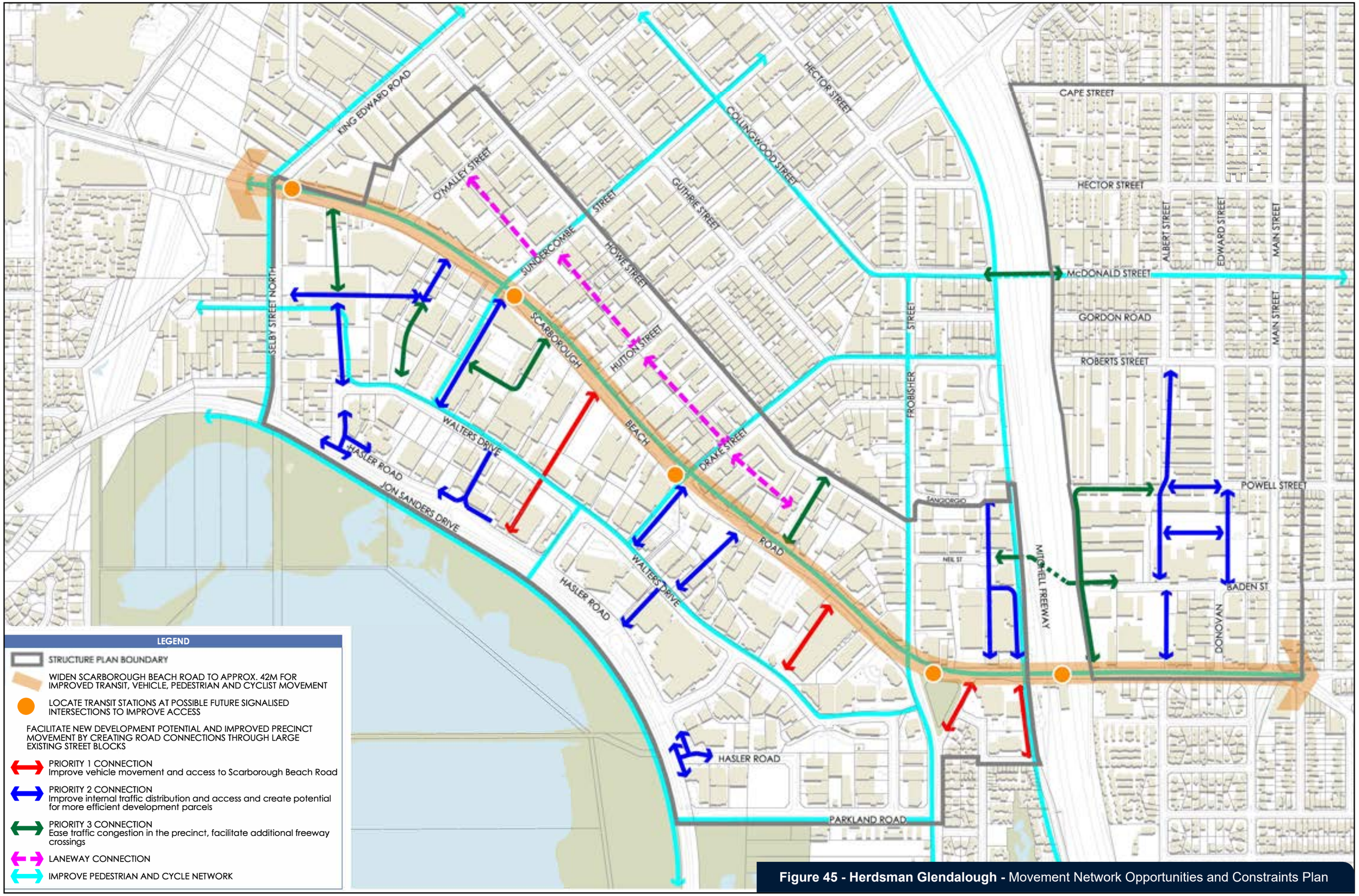


Figure 45 - Herdsman Glendalough - Movement Network Opportunities and Constraints Plan

Figure 46 - Herdsman Glendalough - Landscape and Public Realm Opportunities and Constraints Plan

6.5 MOTIVATION FOR REDEVELOPMENT

The fragmented land ownership within the Herdsman Glendalough area will continue to present a significant issue for future redevelopment.

The diversity in the age of building stock, the viability of current activities and strata ownership arrangements results in a varied desire for redevelopment that will also act as a significant constraint in achieving the redevelopment outcomes. In order to further understand the complexity of this issue, a redevelopment potential analysis was undertaken in 2013 based on:

- Visual assessment of the age of the building stock;
- Assessment of building height (both existing and proposed where known);
- Total area of the lot;
- Existence of residential development on-site;
- Whether strata-titling or multiple ownership arrangements are in effect; and
- Where a lot was adjacent to another lot with 'good' redevelopment potential.

The analysis identified that the key areas with strong redevelopment potential were on large lots immediately adjacent to the Glendalough train station, along with a number of existing large lots on the southern side of Scarborough Beach Road, as shown in **Figure 47**.

Increased accessibility, public transport and amenity will act as a catalyst for further development. Sites with proximity to Stirling City Centre will also be enticed to redevelop as market interest increases.

6.6 LAND USE COMPATIBILITY

Industrial Land Uses

There are numerous industrial land uses operating within the Precinct Structure Plan area and surrounding locality that have the potential to impact on 'sensitive land uses' (i.e. residential, schools, child care etc) within the Precinct Structure Plan area. These impacts may include dust, odour, noise, traffic congestion and/or visual blight that will need to be carefully considered and managed.
This includes management of potential odour from the poultry processing plant located adjacent to the Precinct Structure Plan area in Frobisher Street. Specific requirements include orienting of key aspects of any residential or accommodation land uses away from the odour source that are within 220 metres of the facility.

Contaminated Sites

A search of the Department of Environment Regulation's Contaminated Sites Register was conducted on 24 June 2013 by GHD in the preparation of the District Water Management Strategy.

The search identified seven individual sites within the Precinct Structure Plan area with potential for contamination. These are summarised in **Table 6** below. Two road verges adjacent to the contaminated sites at 7 Hutton Street and 59 Howe Street are also identified as 'contaminated – remediation required.'

Further investigation may be required to confirm the presence or absence of contamination prior to development of these lots for residential development or other sensitive land uses.

LOCATION	CLASSIFICATION	REASON FOR CLASSIFICATION	NATURE OF CONTAMINATION	RESTRICTIONS ON USE
480 Scarborough Beach Road (Lot 22 on Diagram 84775)	Contaminated - remediation required	Historically used as a service station.	Hydrocarbons remain in soils at depths of 4-5.5 m below ground surface. Phase separate hydrocarbons present in groundwater plume.	Groundwater abstraction not permitted. Land use restricted to commercial/ industrial use which excludes sensitive uses.
59 Howe Street (Lot 19 on Diagram 44481)	Contaminated - remediation required	Site affected by groundwater contamination that has migrated from another site.	Hydrocarbons are present in groundwater beneath the site in a plume that extends off-site in a south-westerly direction.	Groundwater abstraction not permitted. Land use restricted to commercial/ industrial use which excludes sensitive uses.
401 Scarborough Beach Road (Lot 211 on Diagram 66724)	Contaminated -remediation required	Site historically used as a service station.	Hydrocarbon, metal and dieldrin contamination present in groundwater.	Groundwater abstraction not permitted. Land use restricted to commercial/ industrial use which excludes sensitive uses.
405 Scarborough Beach Road (Lot 210 on Diagram 66723)	Contaminated - remediation required	Site affected by groundwater contamination from Lot 401 Scarborough Beach Road.	Hydrocarbon, metal and dieldrin contamination present in groundwater.	Groundwater abstraction not permitted at this site because of the nature & extent of groundwater contamination.
54 Hasler Road (Lot 108 on Diagram 70404)	Contaminated - remediation required	Site used as a newspaper print facility which includes storage of fuel in underground tanks.	Soils and groundwater beneath the site are impacted by hydrocarbons.	Land use restricted to commercial/ industrial uses. Should not be developed for sensitive uses without further investigation and/or remedial works
133 Hasler Road (Lot 66 on Diagram 61461)	Contaminated – restricted use	Historically used as depot for storage of landscape gardening materials. Site also filled with dredging waste (containing Acid Sulfate Soil)	Heavy metals present in groundwater underlying the site.	No groundwater may be abstracted from the site.
88 Roberts Street (Lot 10 on diagram 42069)	Remediated for restricted use	Site historically used as a dewatering equipment facility including fuel storage.	Hydrocarbon impacted soils present in the southern portion of the site.	Excavation or disturbance of soils is restricted until further testing. Land use restricted to commercial/ industrial use which excludes sensitive uses.

TABLE 6: Known Contaminated Sites (As At June 2013)

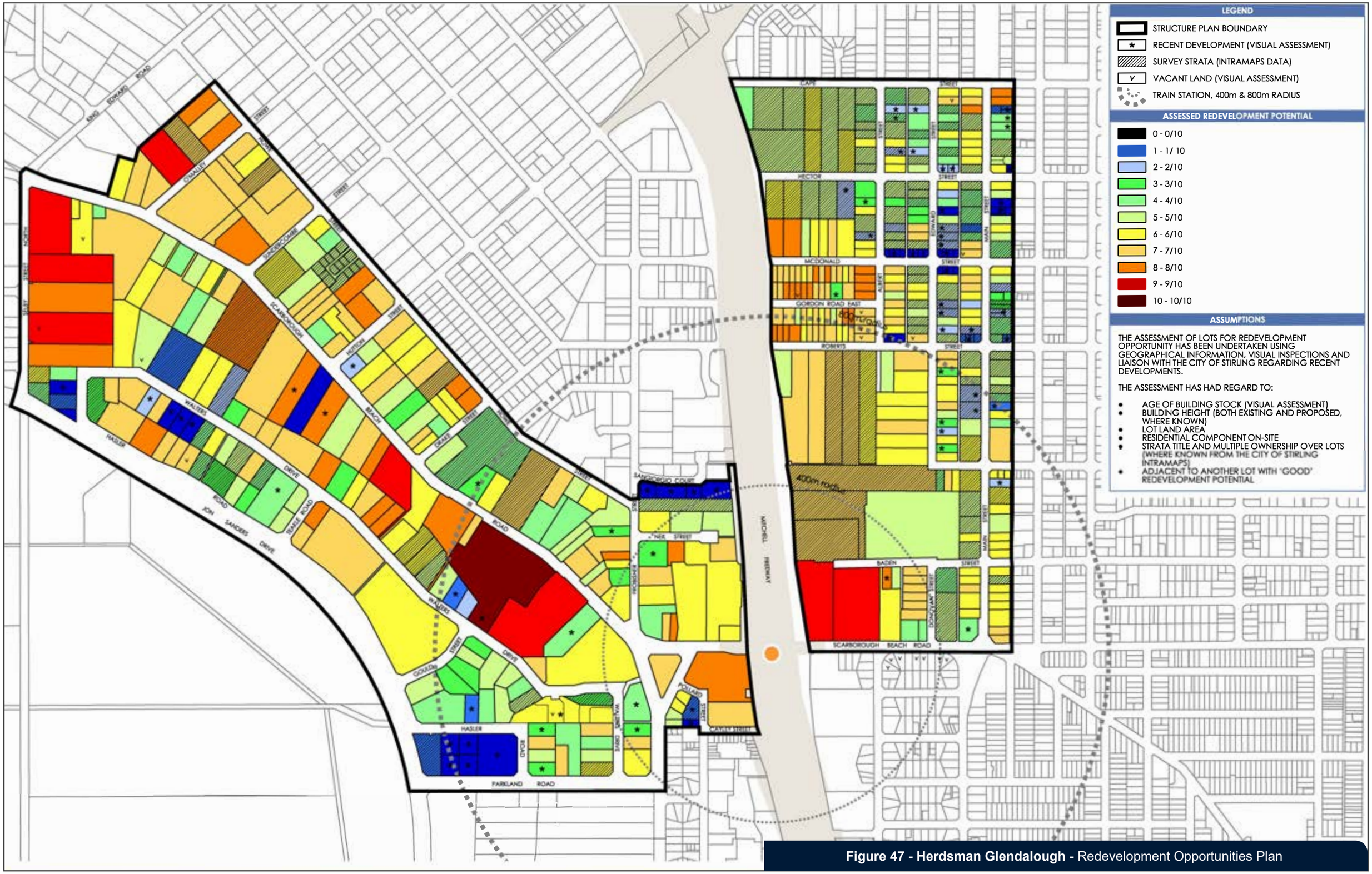


Figure 47 - Herdsman Glendalough - Redevelopment Opportunities Plan

6.7 INFRASTRUCTURE AVAILABILITY

Discussions with the relevant servicing authorities indicates that although certain constraints and limitations exist within the current utility services infrastructure, ultimately the proposed Herdsman Glendalough redevelopment area can be accommodated with essential services (water, sewer and power) and non-essential services (e.g. gas, communications etc).

6.8 MARKET ACCEPTABILITY

Colliers International have provided input into the design formulation process for the Herdsman Glendalough area, with these inputs shaping the dwelling types, product mixes and densities that have been tested for the project. A summary of this advice is provided below.

The Herdsman Glendalough area benefits from several core attributes that should be optimised through the planning process. These include the proximity of the Herdsman Glendalough area to employment centres, retail facilities and civic and commercial services. Furthermore, the area benefits from good connectivity to key destinations (i.e. Perth Central Business District, coastline).

Commercial/retail

Colliers International has identified the following key commercial/retail considerations for the Precinct Structure Plan area:

- Role and purpose of the centre/hierarchy;
- Retail trade catchment (primary and secondary);
- Scale and intensity/distribution;
- Competition and alternate supply options;
- Market (investor/tenant/occupier) preferences for location;
- Transport and accessibility;
- Parking requirements and rate of provision;
- Legibility and navigability including physical barriers to access and egress;
- User group profiles including workers, visitors and resident engagement with the centre;
- Geography and spatial constraints;
- Contemplated employment generators/ numbers;
- Contemplated staff amenity; and
- Contemplated residential density and catchment population.

Residential

The dwelling preference in Western Australia remains the detached house, however, a shift is occurring in the Perth Central Business District and surrounds for apartments, which is being driven by higher employment and lifestyle amenity of the Central Business District. The development of the Herdsman Glendalough area as a Second Central Business District is likely to require similar densities and amenity to that of the Perth Central Business District to support the provision of new residential facilities.

Changing demography through ageing cohorts, immigration, education, career choice and opportunity is influencing change together with an evolving Central Business District /Activity Centre/ Urban Corridor lifestyle. The key locational and built form Demand/Delivery Factors for medium to high density include:

- Employment, civic and community infrastructure and amenity together with accessible transport options critical;
- Product type – targeted sub market; specification and finish-driven (i.e. integrated indoor/outdoor spaces (larger balconies) and utility rooms are currently in demand);
- Product mix and pricing – competitive with other urban regeneration projects in Perth, Subiaco along the Swan River; and
- Time lags – confidence of delivery is essential for the market. Whilst the Precinct Structure Plan may enable new uses, infrastructure and other approvals need to be delivered in a timely manner.

7.0 PRECINCT STRUCTURE PLAN

7.1 VISION & PHILOSOPHY

The Herdsman Glendalough area will form one of Australia's premier urban redevelopment areas, exemplifying high density, mixed-use sustainable development to provide quality urban development outcomes for all stakeholders, **Figures 48 and 49**.

The vision of the Precinct Structure Plan is:

"The Herdsman Glendalough area, together with the Stirling City Centre, will form Perth's second central business district, with a vibrant urbanism that embraces mixed use development, dense built form, high frequency public transport and quality public spaces for the enjoyment of residents and employees".

The underlying philosophy forming the foundation of the Herdsman Glendalough Precinct Structure Plan is:

- *Movement and Transport:* The additional trips generated from redevelopment must utilise sustainable transport modes (i.e. walking, cycling, light rail, bus and train services) rather than private vehicle movement. Transport demand associated with private vehicles will be managed through controls on parking ratios and new road connections;
- *Land Uses and Built Form:* The scale and mix of land uses and associated higher density built form will facilitate a greater diversity and intensity of employment and business opportunities; and
- *Landscaping and the Public Realm:* There is a focus and commitment to design excellence within the public realm so that streets, car parks, open spaces, urban squares and other civic spaces provide an enjoyable, comfortable and pleasant experience for all place users.

7.2 PRECINCT STRUCTURE PLAN PRINCIPLES

The following Key Principles were considered in formulating the Herdsman Glendalough Precinct Structure Plan:

- Facilitate the growth of the area as one of Perth's key employment areas as part of a Second Central Business District;
- Provide an appropriate framework for future development that integrates land use, built form and the public domain while managing the interface between light industry/commercial and existing and future residential development;
- Ensure improved public transport infrastructure is well-integrated with new built form and public domain development;
- Effectively manage traffic to facilitate regional traffic flows while improving local amenity;
- Improve the overall public realm amenity and vibrancy of the Precinct Structure Plan area;
- Minimise impact on businesses and residents by ensuring road and transit infrastructure development can be implemented and staged well;
- Optimise the relationship between the area and the Herdsman Lake environs;
- Enable the growth of the areas residential population to accord with key government policies; and
- Private contributions for upgrades to infrastructure and public transport associated with intensification.

LAND USE PRINCIPLES

The following Key Principles were considered in locating the land uses identified on the Precinct Structure Plan:

- Provide local convenience retail in appropriate locations for residents, workers and public transport users.
- Provide residential densities that have regard for the amenity of existing residents and enable appropriate population growth.
- Provide flexibility for the development and integration of permissible land uses within the Precinct.
- Sustain the presence of large-format retailing and enable the growth of mixed-use development along Scarborough Beach Road.
- Facilitate residential development that responds to the amenity of Herdsman Lake and public transport.
- Create a safe, appealing environment around transit stations and throughout the area through street activation and natural surveillance.

7.3 PLANNING FRAMEWORK

The planning framework for the Herdsman Glendalough Precinct Structure Plan is as follows:

- Herdsman Glendalough Precinct Structure Plan – provides the overall redevelopment vision, planning objectives, planning guidance and implementation strategy to achieve the vision.
- Once the Precinct Structure Plan is approved by the Western Australian Planning Commission decision-makers must have “due regard” to the Precinct Structure Plan when considering subdivision and development applications.
- Local Planning Scheme Amendment No.114 – will be initiated by the City to give effect to the land use zones proposed in the Precinct Structure Plan. Proposed development applications must also comply with a number of other aspects of the City’s Local Planning Scheme No.3 and Local Planning Policies.
- Herdsman Glendalough Local Development Plan (LDP) provides detailed planning controls to guide the siting, design, height, scale, setbacks, parking and landscaping. The LDP also provides a number of incentives to encourage more residential development, creation of new roads and rights of ways and urban squares / plazas. It will become operational once Amendment No. 114 is gazetted.
- Infrastructure Contributions – several mechanisms will be enacted to amass funds for the upgrade and development of urban infrastructure to deliver a high quality and amenable area to meet community expectations. This includes 10% Public Open Space (POS) Contribution or cash-in-lieu of POS to fund new and upgraded open space areas, requirements to cede land for road widening, planning incentives to create new roads and urban squares / plazas and quarantining of the uplift value in rates to fund improvements to the transport network.

7.4 ZONES

The Precinct Structure Plan proposes a number of Zones that will be implemented via an Amendment to the City's Local Planning Scheme No.3. This will provide statutory effect to these zones with accompanying development control provisions under Clause 6.4 Herdsman Glendalough Special Control Area.

7.4.1 Mixed Use Zone

A key objective of the Precinct Structure Plan is to facilitate mixed use development (i.e. business uses and residential land uses within the same development) to achieve a more sustainable and compact urban form that integrates the location of jobs with high density living.

Approximately 40% of the Precinct Structure Plan area has been allocated a Mixed Use Zone.

The typical built form typology for mixed use development, as required in the Herdsman Glendalough Local Development Plan, consists of office/commercial on the podium levels built up to the zero lot line, with residential apartment towers setback above. Priority should be given to the relationship of ground floor uses and building design with the public domain to ensure that considerations such as space activation and passive surveillance are optimised.

To facilitate residential mixed use developments and to support the commercial viability of redevelopment, the Mixed Use Zone has been located in areas with the potential to yield the highest amenity and land values according to the following strategic criteria:

- Within 400 metres of Glendalough train station to support State Government policy to deliver higher density residential development and business activity in locations with excellent access to high frequency public transport services (i.e. transit-orientated development);
- Along each side of Scarborough Beach Road to leverage off and maximise future investment in a light rail transit route running from Glendalough Train Station to Stirling City Centre, to leverage commercial exposure to a strategic metropolitan urban activity corridor, and to maximise two-way patronage of future light rail stations generated by employment and residential land uses;
- Adjacent to Herdsman Lake to leverage the amenity gained by easy access and views of the Lake and long-views to the central Perth skyline; and
- Along Main Street to leverage the economic opportunities generated from 'passing trade', high exposure and connectivity to other nearby destinations in the Perth metropolitan area.

The Mixed Use Zone will permit a wide diversity of office, business, services and residential land uses which contribute to a vibrant and compact inner city area. It will facilitate the creation of sufficient employment to maintain current levels of employment self-sufficiency and reduce demand for travel to maintain capacity within the current and planned road network.

7.4.2 Business Zone

The purpose of the Business Zone is to facilitate a range of commercial and office activities, while prohibiting residential land uses.

Approximately 8% of the Precinct Structure Plan area has been allocated a Business Zone.

The Business Zone has been located according to the following strategic criteria:

- To provide land use security for the current commercial operations of the West Australian Newspaper site (which is characterised by 24 hour activity) and extend the Zone to surrounding properties to provide a buffer to future residential development in the Mixed Use Zones, thus avoiding potential future land use conflicts.
- Along Hutton Street to leverage the economic value gained from exposure to a major arterial road and to prohibit residential development along a metropolitan freight route thus avoiding potential future land use conflicts.
- To provide for some areas of transition between Mixed Use, Residential and Light Industrial Zones.

Light Industry Zone

An objective of the Precinct Structure Plan is to retain the existing light industrial, warehousing and distribution and wholesaling activity along Howe Street and some areas east of the Mitchell Freeway.

Offices, showrooms and larger retail establishments may only be permitted under limited circumstances where they are secondary to other uses permitted under the Light Industry Zone.

A total of 31.1 hectares of Light Industry Zone has been provided in the Precinct Structure Plan (14% of the Precinct Structure Plan area).

7.4.4 Residential Zone

An objective of the Precinct Structure Plan is to retain the existing residential area in the north-east part of the Precinct Structure Plan, east of the Freeway, and to facilitate redevelopment these residential land uses to higher densities (grouped and multiple dwellings) by applying the R-AC0 density code over the Residential Zone and across Mixed Use Zones in the City's Local Planning Scheme No.3.

Approximately 9% of the Precinct Structure Plan area has been allocated a Residential Zone.

7.5 ADDITIONAL USE AREAS

The Precinct Structure Plan identifies a number of Additional Use Areas to provide additional guidance.

7.5.1 Shop Use Areas

'Shop Use Areas' have been designated around each future light rail station along Scarborough Beach Road, within a walkable catchment of the Glendalough Train Station and along key intersections on Main Street.

The objective of the Shop Use Areas is to provide an 'overlay' to align the location of shops and other active uses with the public transport network and mandatory residential areas to create compact, vibrant precincts at key locations.

Notwithstanding the underlying permissibility of land uses in the Mixed Use Zone, a 'Shop' Use is a Prohibited Use (i.e. an X Use), except where it may be Permitted (i.e. a P Use) where the Shop Use covers a maximum 0.5 plot ratio floor space located on the ground floor.

There are a range of other built form design criteria in the Herdsman Glendalough Local Development Plan which address the design of shop fronts to create pleasant and comfortable shopping streets for people.

The designated Shop Use Areas will enable the development of new retail developments that capitalise on the increasing passing trade associated with a future light rail system and cater to local demand from increased residential developments.

The Shop Use Areas also recognise the importance of existing retail developments along Main Street and provides for additional development to create niche local retail and café precincts.

7.5.2 Showroom / Hardware Showroom / Retail Establishment Areas

Showroom / Hardware Showroom / Retail Establishment Areas have been designated outside of Shop Use Areas along Scarborough Beach Road and along key arterial cross roads (O'Malley Street, Hutton Street and Frobisher Street).

The objective of the Showroom / Hardware Showroom / Retail Establishment Use Areas is to provide an 'overlay' which focuses large format retailing to high exposure areas, while limiting its extent to preserve other areas for higher density employment-generating land use in the Mixed Use Zones, and diversification of business activity and employment in the Light Industry Zone.

Notwithstanding the underlying permissibility of land uses in the Mixed Use Zone, Showroom / Hardware Showroom / Retail Establishment Uses are Prohibited Uses (i.e.. X Uses), except where these Uses may be Permitted Uses (i.e. P Uses) where new development has a minimum amount of another non-residential land use.

The objective here is to encourage a mix of land uses within a site that maximises the development potential of the area, rather than facilitate low-scale, single use development.

7.5.3 Mandatory Residential Areas

Mandatory Residential Areas have been designated around each future light rail station along Scarborough Beach Road, within a walkable catchment of the Glendalough Train Station and along key intersections on Main Street. The Mandatory Residential Areas have been located to align with the Shop Use Areas.

The objective of the Mandatory Residential Areas is to ensure the development of high density residential developments and population growth in close proximity to the public transport network and to support the future development of a light rail route along Scarborough Beach Road.

New developments within the Mandatory Residential Area must provide at least 15% of plot ratio floor space for residential land uses (residential uses may include hotel, motel and short-stay accommodation). There may also be circumstances where the City will accept a transfer of the Mandatory Residential component between properties to assist with the creation of viable development.

The mix of residential uses with shops will create a string of highly vibrant shopping nodes around future light rail stations.

7.5.4 Sensitive Use Area

A Sensitive Use Area is designated within 220 metres of the poultry processing facility in the Osborne Park industrial area to provide for special design controls for residential land uses within that area.

Figure 48 - Herdsman Glendalough Area

Figure 49 - Herdsman Glendalough Area

7.6 POTENTIAL REDEVELOPMENT YIELDS

A detailed assessment of potential development yields resulting from the proposals of the Precinct Structure Plan and the proposed Amendment to Local Planning Scheme No.3 has been undertaken to demonstrate the ultimate development capacity of the Precinct Structure Plan and compliance with State and Local Planning Strategy. These yields will always be subject to change depending upon the economic climate, as identified in section 5.3 of the Executive Summary.

7.7 BUILT FORM

The scale, form and intensity of development across the Precinct Structure Plan area was informed through application of the following strategic principles:

- The height and scale of new buildings should have an appropriate relationship with the existing built fabric;
- To optimise built form height to facilitate optimal development potential and flexibility, particularly around high amenity areas;
- Provide built form at the street edge ensuring activation of the street whilst respecting human scale;
- Priority given to the relationship between ground floor uses and building design with the public domain to ensure that considerations such as space activation and passive surveillance are optimised;
- Create a well-defined and appealing public domain;
- Create a safe, appealing environment around transit stations and throughout the area through street activation and natural surveillance;
- Provide architectural qualities that contribute to the attractiveness of the area; and
- Minimise the visual impact of surface parking and parking structures on the amenity of the public domain.

The Local Development Plan will provide detailed built form controls relating to siting, plot ratio, height, setbacks, architectural quality, streetscape presentation, parking and access etc.

7.8 MOVEMENT NETWORK

The following Objectives are critical to the implementation of the movement network:

- Enable the provision of an effective, efficient integrated and safe transport network that prioritises the needs of pedestrians, cyclists and public transport users over motorists;
- Support development of a funding model to provide light rail;
- Support the short and long term optimisation of public transport use, with the provision of dedicated transit lanes/light rail along Scarborough Beach Road;
- Improve the connectivity of vehicle, pedestrian and cycle movement;
- Provide a pedestrian network that is safe, enjoyable well landscaped and linked to key destinations;
- Provide a cycle network that adopts world best standard;
- Ensure the key distributor roads combine traffic functionality with high attractiveness for pedestrian and cyclists;
- Ensure traffic movement is distributed rather than concentrated; slow-speed and legible;
- Support management of demand for car travel through limiting car parking; and
- Provide new road and right of way connections to permit redevelopment of sites and improve connectivty.

7.8.1 Long Term Transport Plan - Stirling City Centre and Herdsman Glendalough Areas

Figure 50 illustrates the Long Term Transport Plan for Stirling City Centre and the Herdsman Glendalough area.

The transport modelling completed has shown that without significant mode shift to the alternative transport modes the road network as planned would not be able to accommodate a continuation of the current mode share of cars.

The Long Term Transport Plan is a plan that seeks to prioritise public transport, together with walking and cycling over the private motor vehicle.

Table 8 highlights the transport mode targets that are required to be achieved to ensure that the additional trips generated by the new development can be accommodated by the infrastructure being planned.

Within the Stirling City Centre Precinct Structure Plan area Stephenson Avenue is being extended to link to the Freeway and Cedric Street. This will replace the Cedric Street interchange and provide a series of new east west connections to Osborne Park, including Howe Street and Guthrie Street.

These new east west links will directly connect Osborne Park to Innaloo. These east west links plus the Stephenson link will significantly reduce traffic on Scarborough Beach Road by providing alternative routes to the Freeway.

Mode	Current	2031 Target
Car driver	73%	40%
Car passenger	6.5%	17%
Public transport	12.5%	16%
Walking	3%	15%
Cycling	1%	12%

TABLE 8: Transport Mode Targets

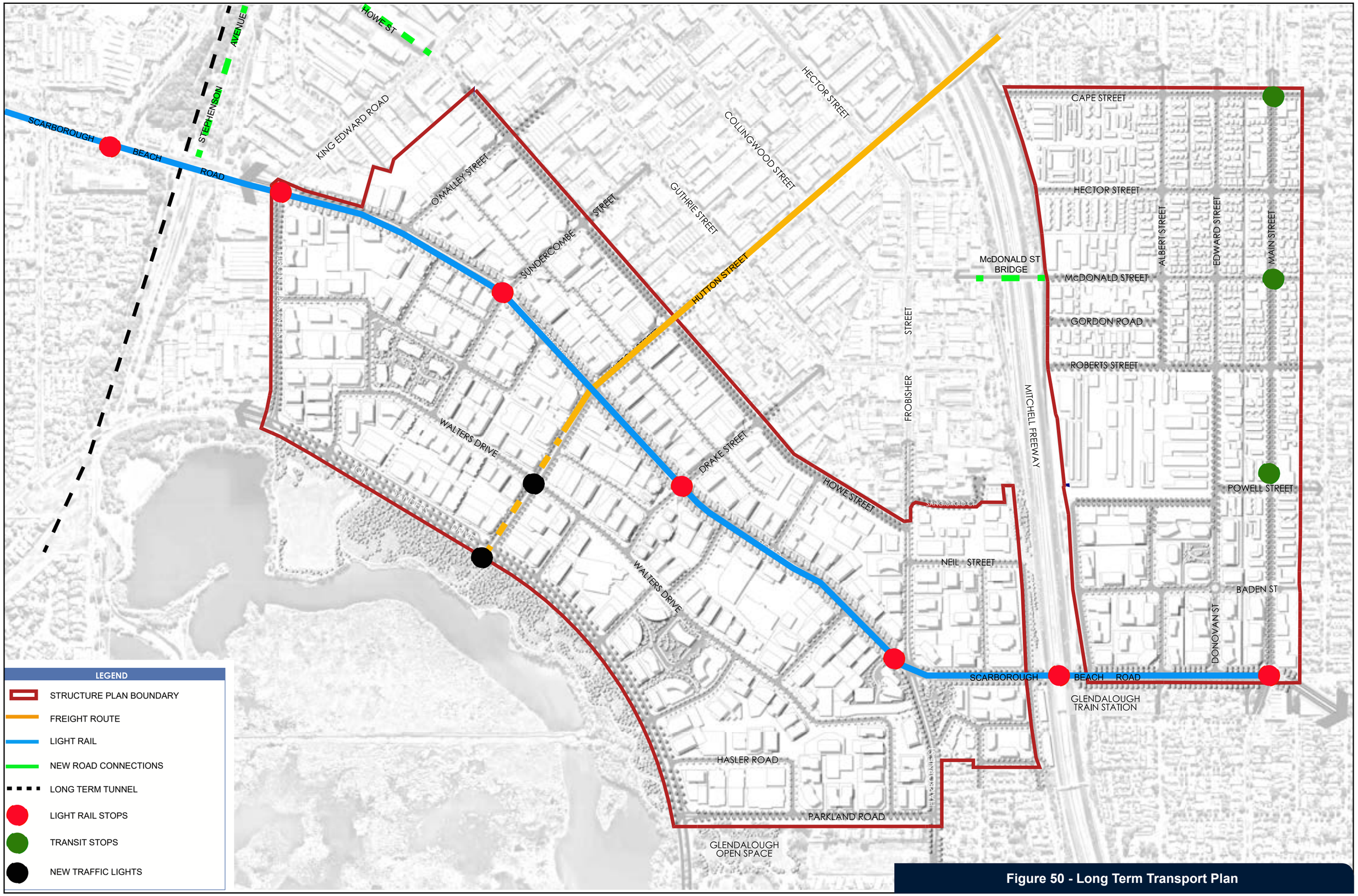
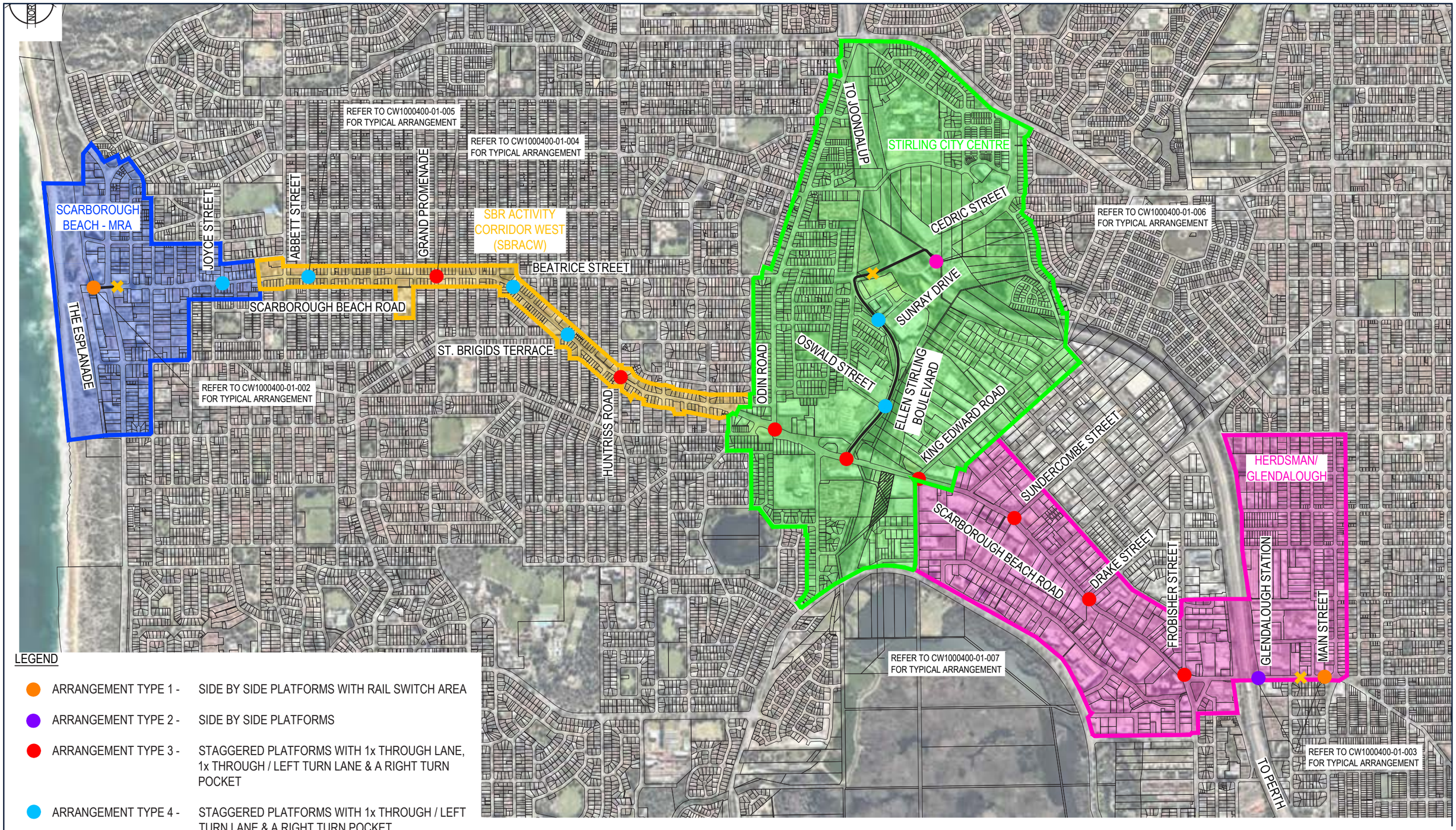


Figure 50 - Long Term Transport Plan



LEGEND

- ARRANGEMENT TYPE 1 - SIDE BY SIDE PLATFORMS WITH RAIL SWITCH AREA
- ARRANGEMENT TYPE 2 - SIDE BY SIDE PLATFORMS
- ARRANGEMENT TYPE 3 - STAGGERED PLATFORMS WITH 1x THROUGH LANE, 1x THROUGH / LEFT TURN LANE & A RIGHT TURN POCKET
- ARRANGEMENT TYPE 4 - STAGGERED PLATFORMS WITH 1x THROUGH / LEFT TURN LANE & A RIGHT TURN POCKET
- ARRANGEMENT TYPE 5 - SINGLE PLATFORM SERVING ONE RAIL, LOCATED NEAR THE EXISITNG TRAIN STATION
- DEPOT LOCATION
- RAIL SWITCH AREA

0 500m

SCALE 1:20,000 @A3

Figure 51 - Light Rail Plan

7.8.2 Light Rail

Light Rail (mass transit) is critical to increase the mode share of public transport by 2031. It will provide a line running from Glendalough at the corner of Main Street and Scarborough Beach Road through to Scarborough Beach and with a spur line to Stirling Station, **Figure 51**. The light rail will be a 9km system linking the beach to the heavy rail at both Glendalough and Stirling Stations. There will be a total of 18 stops along the route.

The City is undertaking analysis of other new emerging technologies that may have similar cost benefits as light rail. This is discussed in section 7.8.3.

The system will operate as a two line system, one line running from Scarborough Beach to Glendalough and the other line running from Stirling Station to Glendalough. This will provide increased frequency along Scarborough Beach Road from Stirling City Centre to Glendalough where the highest density of development is expected to occur.

To construct the light rail Scarborough Beach Road will be reduced from a 4 lane road for traffic to a two lane road for traffic with two dedicated lines for light rail from Scarborough Beach to Glendalough. In Stirling City Centre there will be a short section of 4 lanes for traffic and two dedicated light rail lines.

Modelling conducted by the Department of Transport has confirmed that Scarborough Beach Road can be downgraded to a two lane road for traffic and include dedicated light rail lines once the Stephenson Avenue link has been completed to the Freeway and once the Hutton Street link is completed to Walters Drive.

Light Rail has been determined to be required along this corridor for a number of reasons, including:

- It will provide the capacity required for future population, employment and tourism growth forecasted along the corridor;
- It will provide approximately a 25% increase in the value of land along the corridor (including vacant State Government owned land);
- Modelling conducted has identified that the increase in development and subsequent increase in trip generation cannot be accommodated through cars and the existing road network.
- Business Cases produced have shown that it is not economically viable to increase the capacity of the road network to accommodate the increase in trip generation if the current percentage of car trips is maintained. This is due to the requirement of significant widening and overpasses required on most major roads in the area;
- It will reduce the need for parking along the corridor and achieve the shift in transport trips to public transport from cars;
- To reduce car usage as a percentage of trips and to ensure the road capacity is not exceeded as a result of the increase in development; and
- It will provide an approximate 20% increase in public transport patronage compared to a comparable bus system.

The City of Stirling has been planning for light rail since 2007 and has completed the following:

- Three l business cases prepared showing that light rail achieves the highest BCR, one being presented to the Federal Government for funding;
- 15% design of the light rail, including all stops, depots and service requirements from Scarborough Beach to Glendalough;
- Secured road widening through a combination of MRS Amendments and Planning Control Areas for on-street parking, cycling lanes and wider verges along Scarborough Beach Road;
- Planning frameworks are completed along Scarborough Beach Road which allow for greater density of development specifically at light rail stops; and
- 100% design of part of the transit lanes along Scarborough Beach Road.

Perth and Peel@3.5 million anticipates that light rail will be built from Glendalough to Scarborough Beach after 2031. The City of Stirling is continuing to advocate for light rail prior to this time to ensure the light rail catalyses development in the area. Light rail has been planned for running on grass in areas outside of intersections and stations.

7.8.3 Mid Tier Transit

The City of Stirling has completed three detailed land use / transport business cases that have analysed 4 options for transport solutions. These options included:

- Do nothing;
- Road upgrades;
- Bus Rapid Transit; and
- Light Rail.

All three business cases have shown that light rail produces the highest Benefit Cost Ratio (BCR). This is due to its fixed location that cannot be moved that gives certainty to the development industry, business and residents. Because light rail technology has been in existence for over 130 years it is also widely studied and has shown to have numerous accepted benefits that give it the highest BCR. These include:

- 30% uplift in land value - leading to an increase in government land value, rates and other land taxes;
- Reduction in car usage - leading to environmental benefits;
- Reduction in car usage enables less car parking and consequently greater development intensity;
- Reduction in car parking and increase in intensity leads to an increase in paid parking revenue and additional fringe benefit taxes for car parking;
- Provides an economic stimulus for an area by attracting high value export oriented jobs;
- Community acceptance that it has a superior ride comfort and is clean and green leading to a Increase in patronage of about 30% above other non-rail public transport technologies; and
- Reduced noise levels that enable higher value uses such as dining.

The City is undertaking a new land use / transport business case that will re-evaluate a number of transport options again, including trackless trams.

This business case will analyse each option and the relevant benefits, revenues and costs that arise from detailed research. This will determine which technology provides the greatest BCR.

The preferred technology will have to demonstrate that it supports the planning framework that is already in place along the corridor. This framework includes residential development, mixed use, new retail centres and other high intensity uses such as offices. It will need to generate the same level of benefits as light rail.

7.8.4 Buses

The current bus system will be expanded and services increased to ensure that the increase in public transport mode share occurs to compliment the new light rail system but not compete with light rail.

Three key bus routes will continue to serve between Glendalough Station and Stirling Station, **Figure 52**, including:

- Route 407 will expand its current service to connect to Stirling Station from Glendalough Station via Walters Drive. This will provide a key linkage between the stations and the Herdsman Business Park;
- Route 413 will continue to serve the industrial area of Osborne Park between Glendalough Station and Stirling Station via Guthrie Street. Once the new Oswald Street connection to Stephenson Avenue is in place the 413 bus will be able to run across Stephenson Avenue to reach Ellen Stirling Boulevard; and
- Route 414 will continue to run from Glendalough Station to Stirling Station via Main Street, however opportunities to shorten the route through to Stirling Station should be explored.

7.8.5 Cycling

Currently cycling mode share is about 1% of all trips and the target is to increase this mode share to 12% of all trips. To achieve this increase in trips new cycling infrastructure is required that provides separated and safe cycling boulevards to encourage cycling. **Figure 53** identifies both existing and new infrastructure that is required.

There are numerous gaps in the current cycling infrastructure and over time these gaps will be removed through the delivery of the City's cycling strategy and through private sector contributions for upgrades to the public realm.

The Cycling Plan identifies 5 types of cycling infrastructure, including:

- Principal Shared Paths along the Mitchell Freeway (existing);
- Recreational Shared Paths around Herdsman Lake (existing);
- Segregated Cycling Tracks on Scarborough Beach Road and Stephenson Avenue;
- Segregated Cycle Paths On-Street on King Edward Road (existing), Selby St and Frobisher St; and
- Bicycle Boulevards on Drake St and McDonald St.

7.8.6 Walking

The existing pedestrian network is minimal and poorly connected which has led to a low level of walking. The mode share needs to increase from below 3% to 15% of total trips.

Improving vehicle, pedestrian and cycle movement is a key objective of the Precinct Structure Plan. A number of new road connections are proposed to transform existing large street blocks into a more effective urban structure. This will deliver new footpaths and better street environments with street trees and awnings to promote more walking.

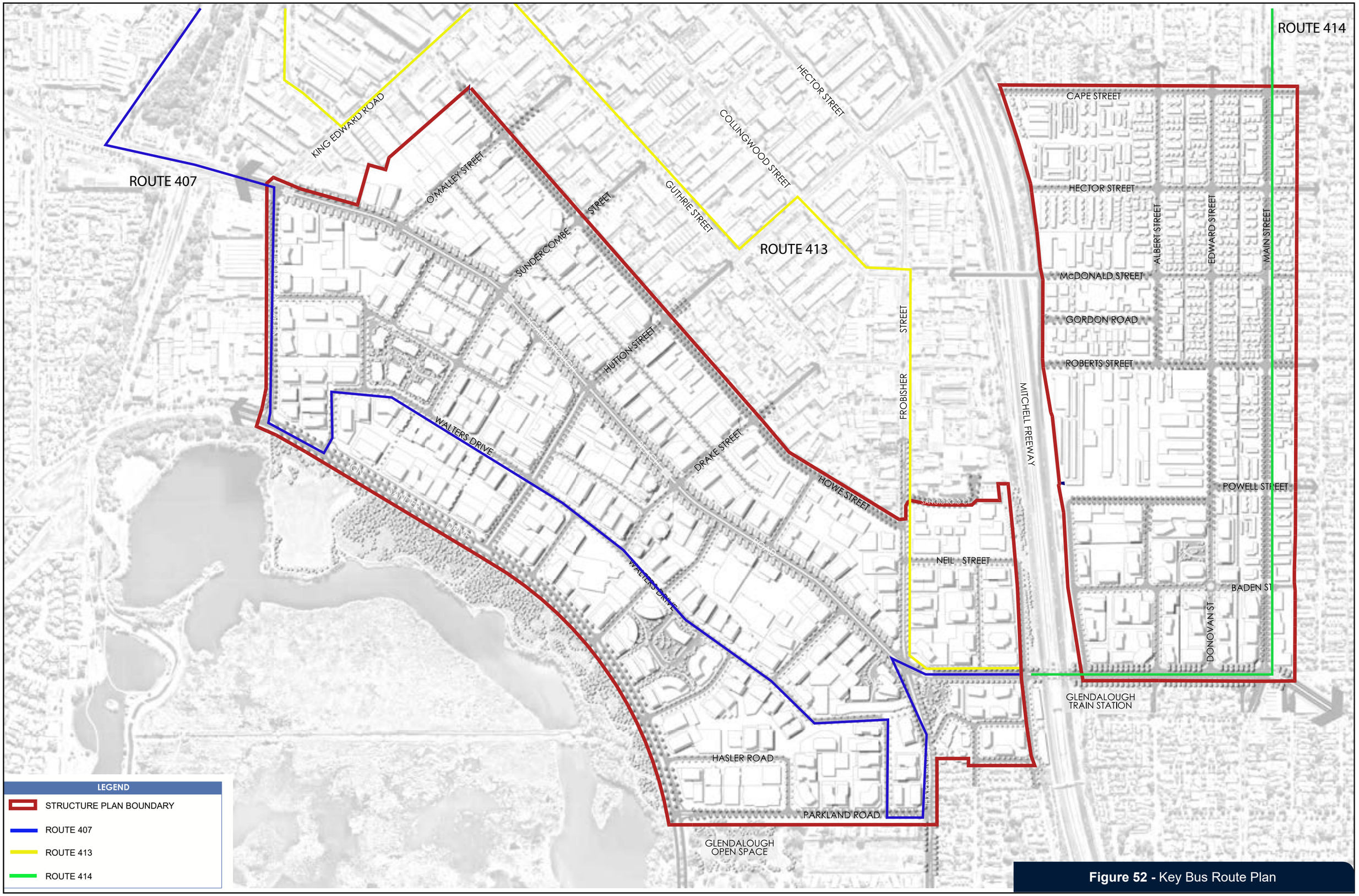


Figure 52 - Key Bus Route Plan

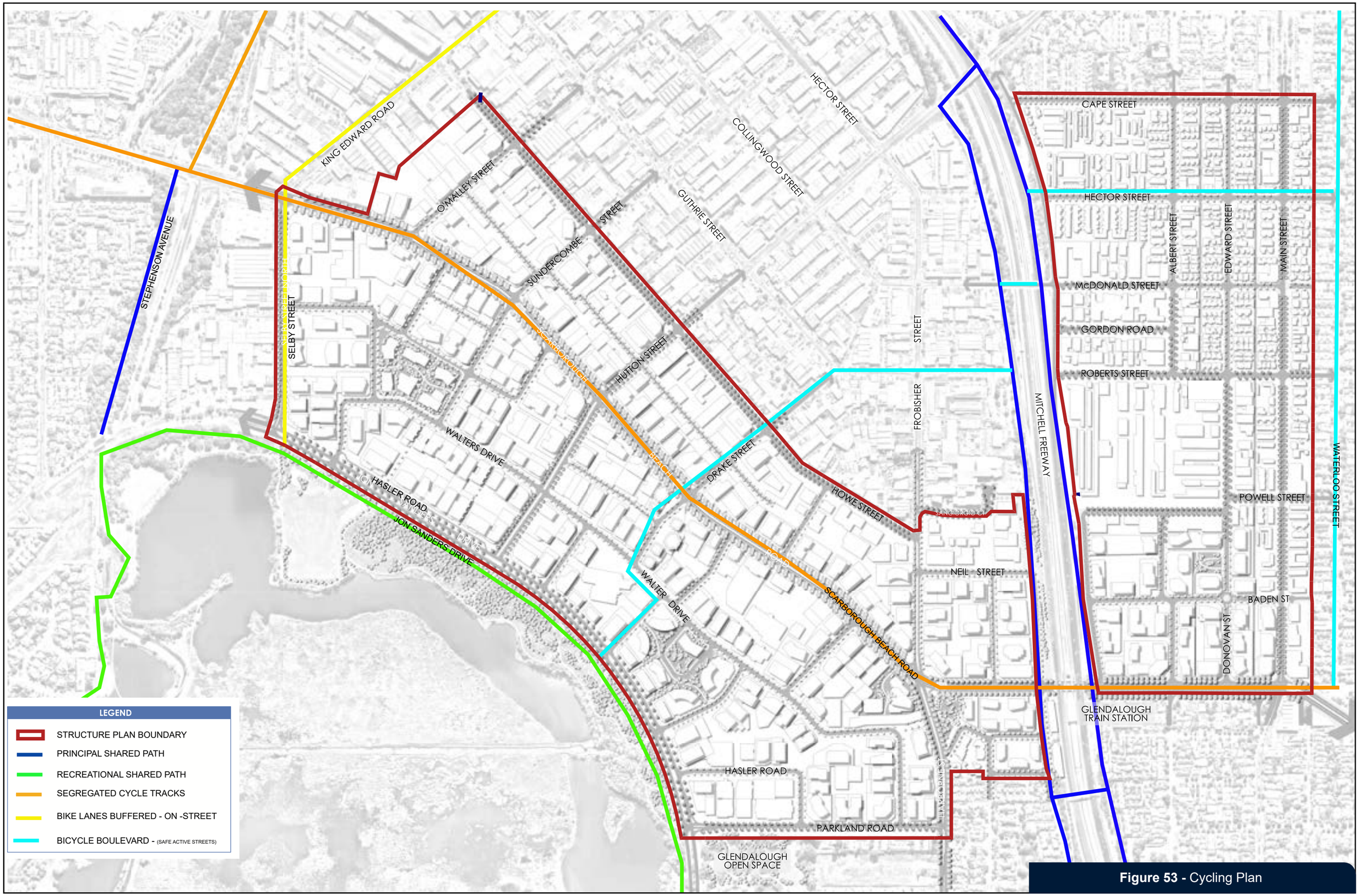


Figure 53 - Cycling Plan

7.8.7 Street Character Types

A Street Character Type approach has been adopted for the Herdsman Glendalough area and the different types are outlined in the Local Development Plan. A key feature of the Street Character Type approach is its relationship with both the built form and public realm. A Street Character may define the following elements:

- Road reserve width;
- Street planting;
- Verge planting;
- Setbacks;
- Parking within the street and lot boundaries;
- Vehicular Access and Crossovers;
- Corner requirements;
- Articulation and fenestration;
- Entry;
- Openings;
- Balconies;
- Awnings and Canopies;
- Signage;
- Landscape design within the front setback;
- Built Form elements such as roof form, materials and colour;
- Fences;
- Service elements; and
- Staging.

A description of each Street Character that is present within the Precinct Structure Plan area is provided below.

Street Character Type 1

Street Character Type 1 relates to Scarborough Beach Road, Jon Sanders Drive and Harborne Street (south of Scarborough Beach Road).

The objectives for Street Character Type 1 are to:

- Create a grand urban boulevard.
- Create more pedestrian friendly environment;
- Create safe crossing points;
- Create cycling lanes;
- Provide for light rail; and
- Provide wider pedestrian footpaths with alfresco areas.

Kings Park Road is a good example of the typology for Jon Sanders Drive and Harborne Street. Scarborough Beach Road is planned to feature light rail in the central median.

The development vision for Street Character Type 1 is for:

- Diverse mixed-use urban form with office/ commercial, shops, residential, restaurants/ cafes.
- Buildings and Podiums shall be located close to street edges.
- Tower elements shall be set back from the street and should comply with development criteria outlined in the Local Development Plan.
- The streets will be landscaped to provide good tree cover and appealing pedestrian amenity, whilst allowing for ground level tenancies to have good exposure to passing traffic.

Street Character Type 2
Street Character Type 2 streets are predominantly situated in the area between Howe Street and Jon Sanders Drive, with some other Type 2 streets east of the Mitchell Freeway. These streets form a secondary movement network which provides access to office and light industrial businesses from the busier Street Character Type 1 streets.

These streets will experience major transformations with buildings lining the streets and improvements to the streetscapes. Most Street Character Type 2 streets will be 20-25m wide, and include tree planting, wide footpaths, on-street parking, slower traffic speeds and safe pedestrian crossings.

The Hutton Street road reserve, however, is required to be 30m. Murray Street in West Perth is an example of an attractively landscaped street that would befit the Type 2 vision.

The development vision for Street Character Type 2 is for:

- Diverse mixed-use urban form that supports residential development;
- Buildings and podiums shall be located close to street edges; and
- Tower elements shall be set back from the street.

Street Character Type 3
Street Character Type 3 streets are situated predominantly around Glendalough train station.

These streets will have the ability to accommodate mixed-use development within low to mid-rise buildings, taking advantage of the proximity to Glendalough Station. The existing Type 3 streets will be upgraded and, together with future street links, will provide appealing conditions for pedestrians, cyclists, residents and businesses.

The majority of streets will be 20m - 22m wide and comprise street trees, improved pathways, on-street parking, slower traffic speeds and safe pedestrian crossings at intersections.

The development vision for Street Character Type 3 is for:

- Diverse mixed-use urban form that fosters residential development at ground and upper floor levels, and facilitates local retail development in designated locations;
- Buildings and podiums shall be located close to street edges;
- Tower elements shall be set back from the street; and
- Streets will be characterised by the plentiful planting of trees and soft landscaping in the road reserve.

Street Character Type 4
Situated within the north-eastern corner of the precinct (east of the freeway). Street Character Type 4 streets are local access streets currently developed with a mixture of low to medium density residential housing.

The lack of public open space in the area north of Powell Street means that the streets become vital as spaces for informal recreation activity.

Street Character Type 4 streets are 20m wide with room for footpaths on each side and the establishment of more frequent tree planting and on-street parking.

The strategy for Type 4 streets is to redesign sections of streets to create slow-speed (10-30kph), child-safe environments similar to the Home Zone streets in the United Kingdom and Woonerf streets in Europe.

Street Character Type 4 streets accommodate residential development, with opportunity for home-based businesses.

Removing overhead power lines in Type 4 streets will significantly improve the ability to create high amenity streetscapes.

Verges (some of which will be widened) will be seen with elements such as closely-spaced trees, vegetable gardens, play equipment, visitor parking, seating and shelter.

Street Character Type 5
Streets identified as Street Character Type 5 will support existing and future light industrial development. These streets will be upgraded to improve streetscape amenity whilst supporting the function of light industrial businesses.

The streets will have a carriageway that enables large-vehicle access, on-street parking bays, footpaths on each side and street trees that do not affect access into the properties.

The focus for Howe Street, and the area between Roberts Street and Powell Street, will be for the continuation of light industrial businesses.

Street Character Type 6
Streets identified as Street Character Type 6 is limited to Main Street. Main Street includes road widening for wider verges and on-street parking.

The road will accommodate peak hour bus lanes and off peak parking lanes in a 25m wide reserve, which includes 2.5m road widening each side.

The built form will be characterised by mid-rise buildings along the corridor with mixed uses focussed at transit stops. Between stops the land uses will be predominantly residential uses.


END
SCHOOL
ZONE

7.8.8 Additional Specific Road Reserve Requirements

In addition to the Street Character Type information provided above, a number of roads within the Precinct Structure Plan area may have different road reservation and cross-section requirements in order to achieve specific movement network objectives.

These roads are as follows:

- Hutton Street: 30 metre wide road reservation to accommodate regional freight traffic, **Figure 19**; and
- Main Street: 25 metre wide road reserve to potentially accommodate peak hour bus lanes and right turn pockets. This includes 2.5m road widening on both sides of Main Street, **Figure 17-18**.

7.8.9 Additional Movement Networks

Right of Ways are proposed within the Precinct Structure Plan area, **Figures 13, 22-23**. Pedestrian paths are proposed on both sides on all existing and proposed roads.

7.8.10 Proposed Road Connections

Proposed road connections have been strategically located to primarily improve connectivity to Scarborough Beach Road and public transport; and to link to the amenity provided by Herdsman Lake. The road connections south of Scarborough Beach Road have been provided to improve vehicle, pedestrian and cycle movement between Scarborough Beach Road and Jon Sanders Drive. In addition, these connections also contribute to distribution of local traffic improving traffic congestion.

Proposed north-south road connections west of Glendalough Station improve vehicle, pedestrian and cycle movement to the station and facilitate redevelopment in accordance with transit-orientated principles and State Planning Policy requirements.

Similarly, road connections proposed east of the Mitchell Freeway improve the transport network, facilitate transit-orientated development and provide more efficient transport routes south of Roberts Road to Scarborough Beach Road and Glendalough Station.

New fixed location roads are identified in **Figure 13** are fixed linkages (i.e. extension of Sundercombe, Hutton and Drake Streets) are key to the overall improvement of the movement system across the Precinct Structure Plan area.

New flexible location roads are identified in **Figure 13** are road connections that shall be provided to improve network connectivity, however the exact locations and alignments are subject to confirmation and agreement at the subdivision and detailed design stage. The specific location of these roads may alter, however a link must be provided.

7.9 STREETSCAPE AND PUBLIC SPACE

The existing character of the Herdsman Glendalough area can be characterised as devoid of vegetation and elements of the natural landscape, dominated by commercial signage, overhead power lines and surfaces of concrete and asphalt.

This presents as a harsh and hard urban landscape rather than a more desirable and attractive, people-friendly and sustainable landscape akin to the vision for Herdsman Glendalough.

The future landscape of the Herdsman Glendalough area must be of sufficient scale and robustness to make a meaningful contribution to the transformation of the area's character and identity.

Figure 54 illustrates all of the landscaping features, including:

- A primary east west avenue along Scarborough Beach Road.
- A network of Identifiable Secondary Streets containing street trees and associated pedestrian infrastructure to emphasize the street hierarchy and define core streets including those leading down to Herdsman Lake.
- Tertiary streets: Verge tree planting.
- Green & civic spaces: Small, quality spaces providing a diversity of interesting meeting places and destinations that promote social activity and commercial opportunities for visitors, workers and residents alike.
- Privately-owned, publicly accessible open spaces: A network of small parks and civic squares integrated with developments and streetscapes for use by the public year around.

All landscape elements and spaces will provide more than an aesthetic enhancement. They will contribute to effective environmental management of the urban space by providing integrated urban drainage, cooling shade, nutrient management of run-off and local wind speed reduction.

7.9.1 Scarborough Beach Road

Scarborough Beach Road is the primary physical element that establishes the character of the area. It is intended that this road develops as a major avenue of large trees that are the dominant feature.

The avenue will consist of very large trees that mature to have a high canopy allowing clear views beneath, such as:

- Platanus acerifolia, London Plane Tree (20-30m)

7.9.2 Secondary Streets

These streets will have a strong pedestrian friendly environment accommodating footpaths and verges. The verge treatment where practical will incorporate urban water treatment devices that will also provide passive irrigation for street trees, such as:

- Platanus acerifolia, London Plane Tree (20-30m)
- Agonis flexuosa – Peppermint (7-10m)
- Corymbia ficifolia – Red flowering Gum (8-15m)
- Melaleuca quinquinervia – Broad leaved Paperbark (10-15m)
- Melaleuca preissiana – Moonah paperbark (10-15m)

7.9.3 Tertiary Streets

The network of smaller streets will be subject to tree planting where possible. The streets will not be avenues but will be less formal with groups and irregularly space trees located where appropriate within parking and access arrangements. Species will not be defined allowing diversity of smaller specimens.

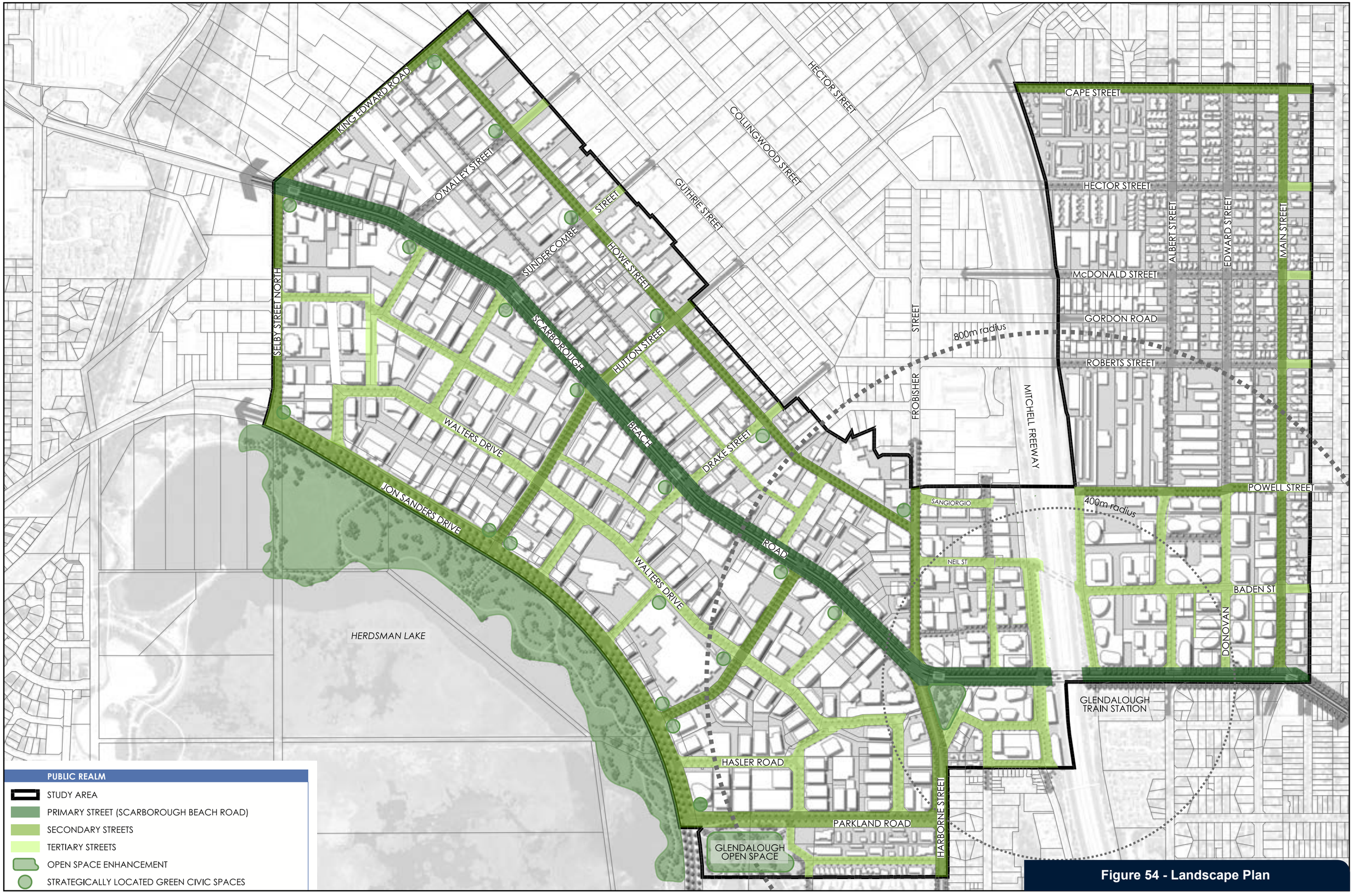


Figure 54 - Landscape Plan

7.9.4 Spaces And Places

The creation of quality urban spaces at strategic locations will complement the development opportunities and provide much needed punctuation within the built form. These spaces will create and respond to community use.

They will provide passive recreation opportunities and enhance the potential for adjacent commercial uses. It is anticipated that these spaces will incorporate highlight species, including (but not limited to) the following:

- Platanus acerifolia, London Plane Tree (20-30m)
- Pheonix canariensis – Canary Palm (15m+)
- Tipuana tipu – South American Rosewood (7m)
- Erythrina indica – Flame or Coral tree (7-10m)
- Platanus x acerifolia – Spanish or London Plane (20-30m)
- Ficus macrophylla – Morton Bay Fig (up to 60m over a long time)

Herdsman Lake offers a major environmental resource that already has affected adjacent property uses and values beneficially due to its aesthetic qualities. Many businesses now look over the reserve. Actual use of the reserve for recreation is low and not related to adjacent land uses.

It is proposed to integrate a range of facilities that will enhance recreation potential while still respecting and conserving the environmental qualities of the lake and its environs. Greater managed access routes will link pedestrian and cycle routes to passive activity nodes. The nodes may include interpretive sites, sites for public repose, areas for meeting and linked health and fitness courses.

7.9.5 Enterprise Park

Enterprise Park (4765m² in area) is in a prominent location that has the potential to be transformed into a major gateway open space.

The park is of a size to accommodate a large public art piece or structure announcing the precinct. This large green space is of high value in a hard urban environment. The link from the park through to the Glendalough Station along the south side of Scarborough Beach Road could extend tree canopy or have reference to a built structure within the park creating a strong visual connection.

7.9.6 Community Parks

Glendalough Open Space is located on Parkland Road, and is an open grassed parkland which provides playground equipment, park benches and gazebos, accommodating passive and active recreation opportunities in the area.

The Ingham Chicken Site is located on Baden Street, between Main Street and the Mitchell Freeway, and when this site is redeveloped, has the potential to provide Public Open Space which will contribute to transforming the character of the locality to create a more desirable environment.

Herdsman Lake Regional Park is located adjacent to the Precinct Structure Plan area and approximately 400 hectares in size, and is recognised for its regionally significant conservation, landscape and recreational values.

The park offers a variety of recreational facilities, including walking and cycle circuits, sheltered picnic facilities, play equipment and observation sites.

The Perth Horse and Pony Club is located in the northern edge of the Herdsman Lake Regional Park. The Club includes a clubhouse, storage sheds and a horse-riding area.

7.9.7 Greenlink Drainage Reserve

The existing drain that runs down the western boundary of the Mitchell Freeway has potential to be transformed from a utilitarian trapezoidal (V-channel) ditch into a 'living stream' linear parkland link to Scarborough Beach Road.

The corridor can be reformatted to maintain an effective drainage function and be designed as a habitat corridor of riparian plants and trees with a cycle and pedestrian pathway running alongside it.

7.9.8 Integrated Drainage Management

Water Sensitive Urban Design techniques and approaches shall be used to manage on-site drainage and stormwater, wherever possible, as well as assist with creating opportunities for amenity and landscaping around buildings.

The space available for constructing nutrient stripping swales on-site may be limited, however the use of linear and incidental 'rain gardens' and 'nutrient sinks' can be implemented discretely in road verges.

These devises should be fully integrated with the road drainage promoting passive irrigation of street vegetation and controlling hydrocarbon runoff.

Within the context of a dense urban area, the design of these Water Sensitive Urban Design devises do not need to be natural in appearance, but can be incorporated within the urban public realm infrastructure.

The use of permeable pavements and porous asphalt treatments in key locations possibly associated with lower level threshold treatments of road junctions, should be incorporated as a component of the approach to integrated drainage management. (Refer **Appendix 7**).

7.9.9 Road Treatments

The road hierarchy and legibility of the Herdsman Glendalough area can be improved with the use of varied road and footpath treatments. Consideration should be given to the use of block pavers at road junctions or to create varying precincts.

The selected paving treatments of tertiary roads can significantly change the character of streets especially in locations where separated pedestrian access is limited. All paving detailing at junctions and associated with pedestrian circulation should address the need to reduce traffic speeds, manage drainage and create a distinctive character.

7.9.10 Privately-Owned, Publically-Accessible Open Space Areas

Development bonuses are provided to incentivise the provision of publicly accessible open space areas on private land. These will be integrated with the design of buildings and the streetscape, to address a shortfall in existing public open space across the Precinct Structure Plan area. In addition they will create a network of convenient and amenable spaces for residents, workers and visitors, to mingle and linger in the Herdsman Glendalough area.

Public access in perpetuity will be secured through easements or other mechanisms, the spaces will remain in private ownership and management control.

7.10 WATER MANAGEMENT

A District / Local Water Management Strategy has been prepared and endorsed by the Department of Water and the City of Stirling (Refer **Appendix 7**).

The District / Local Water Management Strategy considers an integrated water cycle providing design and management objectives on water conservation, water quality and water quantity.

7.10.1 Water Quantity

The following water quantity measures are recommended:

- The post-development annual stormwater discharge volumes and peak flows are to be maintained relative to pre-development conditions;
- Manage and minimise changes in groundwater levels following development. Minimise changes in hydrology to prevent impacts on receiving environments;
- Seek opportunities to disconnect existing properties from the drainage network and increase infiltration on site where practicable;
- Retain and/or infiltrate runoff from new impervious surfaces close to the source generated by the critical 1-year 1-hour annual recurrence interval event, using soak wells, permeable pavements, flush kerbing, rainwater tanks, vegetated swales or bottomless pits in piped systems;
- Protect groundwater as a resource;
- Protect infrastructure and assets from flooding and inundation by high seasonal groundwater levels, perching and/or soil moisture;
- Ensure serviceability of roads and infrastructure in minor storms through the use of flush kerbing and swales where practicable;
- Runoff from the 5-year annual recurrence interval events (residential) and 10-year annual recurrence interval events (commercial or industrial) should be managed within new or existing stormwater conveyance systems and landscaped areas such as swales, basins and open space; and
- Habitable floors at least 500 millimetres above the 100- year annual recurrence interval flood event or storage level at any location.

7.10.2 Water Quality

The following water quality measures are recommended:

- Maintain surface and groundwater quality at pre-development levels and if possible, improve the quality of water within and leaving the development area to maintain and restore ecological systems. If the pollutant outputs of development exceed catchment ambient conditions, the proponent shall achieve water quality improvements in the development area or, alternatively, arrange equivalent water quality improvement offsets inside the catchment. If these conditions have not been determined, the development should meet relevant water quality guidelines stipulated in the National Water Quality Management Strategy (ANZECC and ARMCANZ, 2000);
- Ensure that all runoff contained in the drainage infrastructure network receives treatment prior to discharge to a receiving environment consistent with the Stormwater Management Manual (Department of Water, 2004 – 2007);
- Protect groundwater dependent ecosystems from the impacts of urban runoff;
- Protect groundwater as a resource; and
- Ensuring acid sulfate soil management protocols are in place during construction.

7.10.3 Water Management Implementation

Urban Water Management Plans shall be required for all developments incorporating a new road or right-of-way connection.

The Management Plan shall be prepared in accordance with the requirements of the Herdsman Glendalough Combined District / Local Water Management Strategy and the Herdsman Glendalough Urban Design and landscape Strategy (Refer **Appendices 7 and 8**).

7.11 SERVICING INFRASTRUCTURE

A thorough assessment of existing servicing infrastructure in the Herdsman Glendalough area was undertaken and a strategy was prepared to guide the provision of future services to support redevelopment (refer to **Appendix 6** – Utilities Servicing Strategy). The key elements of the assessment and Strategy are:

7.11.1 Sewer

The majority of lots within the area are served by a reticulated sewerage system. Some sites in the north western section are served by private sewers.

The critical elements to the wastewater system are the Hasler Road and Harborne Street Pump Stations. It is anticipated that the Water Corporation will ultimately be able to provide sufficient pump station capacity to service the Herdsman Glendalough area.

Another element involves the private pump stations that are located on the northern boundary of the Herdsman Glendalough area west of Frobisher Street. These fall into the following categories (or a combination of these):

- The original use (industrial) may not have required a sewer connection, but have been rezoned since;
- The area was not comprehensibly serviced by sewer initially, and mains extensions and sewer connections were done on a lot by lot basis; and/or
- Without broader planning, gravity sewers were too high, would require substantial extensions, would be costly to extend or would have insufficient capacity (diameter) to connect into.

The report states that to construct new sewerage reticulation, the cost to do so will be the responsibility of the developer (for water and sewer, diameters DN300 and below). Developers would undertake the changes to the system at their own cost, but could recover their costs for shared components with other landholders through private agreement. This has been the traditional model that has been used in areas where no access to the sewer is available,

7.11.2 Water

Water Corporation planning to date has not considered substantial growth to the Herdsman Glendalough area. Water Corporation has indicated that the long term capacity will be looked at in a future review. Water Corporation will be responsible for ensuring that sufficient capacity exists within the water distribution system for pipe diameters above DN300. It is envisaged that water reticulation upgrades will be required perpendicular to the alignment of the existing DN460 distributions mains that services the majority of the Herdsman Glendalough area currently and that these reticulation services will need to be provided as part of the redevelopment.

7.11.3 Electricity

Western Power has undertaken a feasibility study which indicates the existing distribution 11 kV power network currently supplying the Herdsman Glendalough area is unable to support the projected 2021 and 2031 increase in demand without significant network reinforcement.

Ultimately, at least ten high voltage distribution feeders are expected to be extended from the zone substation into the growth area which would be funded by developers. This would also include other associated infrastructure (i.e. new transformers, ring main unit switch gear, low voltage network, removal of the existing power lines). The feasibility study is very high level and provides feedback based on the total expected 50 MVA load demand.

7.11.4 Gas

Gas is considered a non-essential service and ATCO Gas usually keeps up with areas being developed within the Perth metropolitan area, including centres marked for redevelopment. The Herdsman Glendalough area appears to be well reticulated with gas services, and this will be confirmed when looking at the growth strategy with ATCO Gas once the future demand has been determined.

7.11.5 Telecommunications

Telecommunication upgrades will occur as required as development proceeds, as outlined in Section 5.7.5.

7.12 COMMUNITY INFRASTRUCTURE

A Community Structure Plan (refer to **Appendix 4**) has been prepared to assess existing and to determine future community infrastructure demands in the Herdsman Glendalough area as redevelopment proceeds.

The Community Structure Plan has identified a number of new facilities required to support the increased population of residents and workers within and surrounding the Herdsman Glendalough area, as outlined in **Table 9** – Community Structure Plan Recommendations.

COMMUNITY INFRASTRUCTURE	RECOMMENDED PROVISION	LOCATIONAL REQUIREMENTS	RECOMMENDATIONS
CHILDCARE	• 2 Long Day Care Centres. • 2 Out of School Hours Care facility. • 1 Play group.	• Away from main roads and electricity substations. • Directly near bus stop and high quality pedestrian access. • Corner sites preferred. • Walking distance to residential areas and shops. • Parking/drop off/pick up required. • High levels of public safety. • Sites around 2500m^2. • Locate near schools, parks and public facilities to reduce conflict with other uses.	Provided by the private sector.
MULTIPURPOSE COMMUNITY CENTRE	Expansion of existing facilities		Existing facilities in Osborne park are sufficient.
HEALTH FACILITIES	Additional primary health care services.	• On public transport route/high quality pedestrian access. • Walking distance to residential areas. • In commercial centre and neighbourhood shopping centre but affordable locations. • Meets accessibility requirements for people with a disability/limited mobility.	Provided by the private sector.
LIBRARY	Expansion of existing facilities		Provided by the City
PUBLIC OPEN SPACE AND RECREATIONAL FACILITIES	• Four local parks with a 400m catchment. Each park to be between 0.2 and 2ha. • A neighbourhood park on the eastern side of the freeway being provided approx size .35ha. • Utilise existing Pony Club site on Jon Sanders Drive for new sports field - approx 2.7ha. • Utilise existing Parkland Road Reserve for active recreation space - 1.5ha.	• Utilise existing sites where possible. • Public transport access including walking/bicycle routes. • Potential for on-site parking. • High levels of public safety day, night and weekend. • Fully accessible. • Low maintenance costs. • Flat sites. • Allows for multipurpose use. • Allowance for floodlighting of fields and glare for adjoining uses.	• Four local parks with a 400m catchment to be provided as part of redevelopment of sites larger than 1ha in area. • One neighbourhood park being provided as part of the public open space requirement at the time of redevelopment - 9 Baden Street, Osborne Park. • Utilise existing Pony Club site on Jon Sanders Drive for new sports field - approx 2.7ha. • Utilise existing Parkland Road Reserve for active recreation space - 1.5ha.
LOCAL SHOPPING CENTRES INCLUDING SUPERMARKET, FRESH FOOD OUTLETS, CONVENIENCE STORES, CAFES AND PUBS	Additional services to be provided by the private sector. The Precinct Structure Plan envisages that this will be provided along Main Street and in the Glendalough District Activity Centre.	• High level of public transport access. • Fully accessible with high quality, accessible pedestrian environment. • High level of public safety.	Provided by the private sector
EDUCATION FACILITIES	Incremental growth of existing schools to accommodate the increased residential population. Additional primary and high school site identified within Stirling City Centre.	• To be located in accordance with the guidelines outlined in Liveable Neighbourhoods.	To be provided by the Department of Education

TABLE 9: Community InfraPrecinct Structure

COMMUNITY INFRASTRUCTURE	RECOMMENDED PROVISION	LOCATIONAL REQUIREMENTS	RECOMMENDATIONS
PEDESTRIAN AND CYCLING AMENITY	• Increased provision of pedestrian and cycling facilities. • Improvement in pedestrian and cycling amenity.	• Low grades, high levels of public safety and link to key destinations (i.e. schools, shops, community facilities). • Pedestrian/bicycle facilities need to integrate with existing network and to adjoining provision. • Bus routes to be provided. • Public transport infrastructure required (i.e. bus shelters, bicycle parking etc). • Parking code at shopping centre/workplaces to give priority to bicycles/motorbikes/ pedestrians.	• To be provided by the City through the capital works programme. • To be provided by the private sector through upgrades to existing facilities as part of development and subdivision.
EMERGENCY SERVICES	Incremental expansion of existing emergency services.	To be determined by the appropriate agency.	To be provided by each agency.
CULTURAL FACILITIES INCLUDING MUSEUMS, ART GALLERIES, PERFORMING ARTS ETC.	N/A	N/A	N/A
SKATEPARK	Provision of one neighbourhood facility within the locality as well as suitable access to a district facility within the broader region.	To be developed in accordance with the City of Stirling Skate and BMX Facility Strategy.	Provision of one neighbourhood/ incidental skatepark facility within existing public open space.
SOCIAL AND HEALTH CARE SERVICES	Expansion of existing services including: • Maternal and child health services; • Multi-agency service centres; • Aged day care; and • Seniors centre.	N/A	Expansion of existing services.
EMPLOYMENT ASSISTANCE PROGRAM	Service provided by the Osborne Community Centre.	Provided as part of a youth centre/space within an existing community centre.	Confirm that the Osborne Community Centre offers employment assistance services.

TABLE 9: Community InfraPrecinct Structure

8.0 IMPLEMENTATION

8.1 ADOPTION & OPERATION OF PRECINCT STRUCTURE PLAN

The Precinct Structure Plan becomes operational when approved by the Western Australian Planning Commission (WAPC) as per Clause 22 of Part 4 (Precinct Structure Plans) of the Planning and Development (Local Planning Schemes) Regulations 2015).

8.2 AMENDMENT TO LOCAL PLANNING SCHEME NO.3.

To give additional statutory weight to the provisions contained in Part 1 of the Precinct Structure Plan, the City of Stirling will initiate Amendment No.114 to the City of Stirling Local Planning Scheme No.3 to 'transfer' the provisions into the Scheme.

8.3 LOCAL DEVELOPMENT PLAN.

The Local Development Plan for the Herdsman Glendalough Area will become operational once Amendment No. 114 is gazetted. It provides the design guidelines for new development on based on Street Character Types.

8.4 NEW ROADS

New roads identified in the Precinct Structure Plan will be delivered through redevelopment of sites by the applicant as public road connections. The location of the new roads allows for the gradual delivery of new roads.

In some instances the full width of new roads will not be achieved in the first instance. In these instances the new roads can be delivered one side at a time, i.e. a 11m wide two way road in the first instance and then the remaining 11m is delivered when the adjoining site redevelops.

In other instances the full length of new roads will not be achieved in the first instance. In these instances the new roads can be delivered if possible one lot at a time and it will take the redevelopment of a number of lots to achieve the full length of the new road connection. In the first stage the new road will be the main access point to the lot redeveloping where possible.

8.5 ROAD WIDENING

Road widening on Scarborough Beach Road will be delivered incrementally over a period of time through redevelopment of sites. The road widening is not required in the first instance to deliver transit lanes. However the road widening is required to deliver the cycle lanes as well as on-street parking and wider verges for landscaping.

Road widening on Main Street will also be delivered incrementally over a period of time through redevelopment of sites. The road widening provides larger space for the verge and on-street parking and is not required for traffic lanes.

8.6 NEW PUBLIC OPEN SPACE

For development of sites below 2ha in size the City will generally be requesting a cash-in-lieu contribution for the purchase of future POS sites in the area and upgrade of existing areas of POS.

At the development/subdivision stage of large sites (greater than 2 ha generally) the City will work with the landowners to decide whether it is appropriate to accept new Public Open Space areas on the site or a cash-in-lieu payment or a combination of both.

8.7 MANAGEMENT PLANS

- The preparation and approval of Management Plans in support of subdivision and development applications, may be required to address site-specific issues and detailed design treatments, in some cases as follows:

- Urban Water Management Plan – for proposals incorporating a new road or right-of-way connection, and the Management Plan shall be prepared in accordance with the requirements of the Herdsman Glendalough Combined District / Local Water Management Strategy and the Herdsman Glendalough Urban Design and Landscape Strategy (**Appendices 7 and 8**).

- Environmental Management Plan - for proposals adjacent to Herdsman Lake and residential proposals within the Sensitive Use Area identified on **Figure 4** Use Areas Plan of this Precinct Structure Plan.

- Road and Rail Transport Noise Assessment and Management Plan – as per the requirements of State Planning Policy 5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning.

- Contaminated Sites Assessment and

Remediation Plan – for proposals:

- On sites listed on the Department of Water and Environmental Regulation's Contaminated Sites Database and any other DWER database.

- On sites that previously accommodated industrial, light industrial and/or commercial uses which may have contaminated the site, where a preliminary site investigation should be undertaken in accordance with the Department of Water and Environmental Regulation's Assessment and Management of Contaminated Sites Guidelines to determine any potential contamination and remediation requirements.

- Acid Sulphate Soil Assessment and Management Plans – for proposals that meet the requirements outlined in the Acid Sulphate Soils Guidelines (WAPC, 2008).

8.8 STAGING

Given the fragmented nature of landownership across the Precinct Structure Plan area, it is difficult to spatially and temporally define how redevelopment will proceed. While the Precinct Structure Plan and Local Development Plan establish a land use and built form control framework, it will be the prerogative of each individual private landowner to redevelop their land and capitalise on the benefits provided by the planning framework. If private landowners choose to redevelop, then the timing of redevelopment is also at their discretion, and as such, the private sector will largely determine how and when redevelopment of the Herdsman Glendalough area occurs.

9.0 REFERENCES

- Economic and Employment Lands Strategy
- Draft Public Transport for Perth in 2031
- Draft Stirling City Centre Precinct Structure Plan
- Scarborough Beach Road Activity Corridor Framework
- Herdsman and Glendalough Concept Precinct Structure Plan 2011

PART THREE - APPENDICES

1.0 APPENDIX - VISIONING WORKSHOP OUTCOMES SUMMARY

2.0 APPENDIX - PRECINCT WORKSHOP OUTCOMES SUMMARY

3.0 APPENDIX - RETAIL NEEDS ASSESSMENT

4.0 APPENDIX - COMMUNITY STRUCTURE PLAN

5.0 APPENDIX - INTEGRATED TRANSPORT STRATEGY

6.0 APPENDIX - UTILITIES INFRASTRUCTURE STRATEGY

7.0 APPENDIX - DISTRICT / LOCAL WATER MANAGEMENT STRATEGY

8.0 APPENDIX - HERDSMAN GLENDALOUGH URBAN DESIGN AND LANDSCAPE STRATEGY

9.0 APPENDIX - SCARBOROUGH BEACH LIGHT RAIL - PRELIMINARY DESIGN REPORT