DRAFT

AN URBAN DESIGN ASSESSMENT FOR A 21ST CENTURY FUTURE

WYNDHAM 2040

“Connect, Inspire, Create, Cultivating Places for People to Grow our Community”



(Cover image art work - ‘Looking North over the Werribee Spine 2050+’ – image compiled and developed using Photoshop 2015, with source material acknowledging, Royal Parade Melbourne; UNI Headquarters, Porta Nuova Garibaldi, Master Plan by ‘Pellie Clarke Pellie Architects’; The Adirondack Balloon Festival in Glens Falls, NY. Courtesy of VisitAdirondacks.com; Oz Aerial (IMGL0186) Cover Page Credit :- Dr. John Rollo, Deakin University, Geelong, Waterfront Campus).

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ACKNOWLEDGEMENT

COVER PAGE



Cover image art work - **'Looking North over the Werribee Spine 2050+'** – image compiled and developed using Photoshop 2015, with source material acknowledging, Royal Parade Melbourne; UNI Headquarters, Porta Nuova Garibaldi, Master Plan by 'Pellie Clarke Pellie Architects'; The Adirondack Balloon Festival in Glens Falls, NY. Courtesy of VisitAdirondacks.com; Oz Aerial (IMGL0186)

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DISCLAIMER:-

While Deakin University has provided methodological and technical oversight of this research, the views expressed in this publication are those of the city of Wyndham Council, and should not be attributed to, Deakin University.

1. INTRODUCTION

"Unless we are guided by a conscious vision of the kind of future we want, we will be guided by an unconscious vision of the kind of future we already have"
Hugh Barton

1. INTRODUCTION

The growth and development of the City has historically been influenced by state government policies such as Plan Melbourne. Wyndham is expanding as a one-dimensional suburban city with uniform patterns of development. Central urban areas of Wyndham have not evolved to house higher populations necessary to support social opportunities for the city. Suburbs are not delivering equitable access to social opportunity and lack the basic qualities of 'liveability'; including access to local employment, community services, entertainment and quality open space. The city is characterised by a lack of local distinctiveness, diversity and choice.

Wyndham is anticipating a population increase of around 200,000 new residents by 2040. Housing these new residents in ways that provide people with access to social opportunity will be the primary challenge for the City. Wyndham is - and continues to be planned - as a suburban city and the status quo will deliver more of the same including a lack of economic, aesthetic and social diversity and poor access to community services. To do nothing is not an option.

A sustainable city is one that ensures both its suburbs and its urban centres thrive and flourish. The outward pressure to deliver low density suburban housing is resulting in decentralised patterns of development away from centres. Higher populations housed in urban centres is necessary to support increased diversity, choice, connectedness and social opportunity in Wyndham. Without a planning framework to guide both suburban and urban development, it will be very difficult to deliver the level of social opportunity required.

1.1 Objectives

The purpose of this urban design analysis is to develop a body of informed research which underpins the development of the 'Wyndham Urban Framework Plan'. It examines patterns of growth and suggests how the structure of the city can be improved to provide social opportunity, including access to local employment, education, community services and entertainment. This report seeks to analyse the history and growth of the city, to identify planning issues and suggest a number of "What If" proposals that help to repair, restructure and guide preferred growth patterns for the City. The relationships between land use and transport and how these relate to a suburban and urban context is a key theme explored in the urban design analysis.

This report aims to:

- Interpret the morphology of Wyndham and implications of growth and development for future sustainable growth.
- Identify contextual, spatial and structural issues that need to be addressed to allow the city to thrive.
- Present proposals that will enhance the social, cultural, functional, economic and environmental performance of the city to improve the quality of life of its communities.
- Provide measures that can be used to measure success.

1.2 Wyndham 2040

In 2015 the Quality Community Plan was updated through the Wyndham 2040 project with a new approach to community planning. This approach was locally-focused, strengths-based and community-driven and resulted in a new 2040 vision for the whole of Wyndham, with complementing district plans that identified actions. The Wyndham 2040 Vision identifies very clearly the need to focus on creating Places for People. (Refer Figure 1.2)

Places for People are places:

- That are vibrant and have a human scale, where people can meet, connect with each other or just relax and enjoy.
- Of varied and plentiful local employment options, as a location of choice for businesses of all sizes.
- With a good mix of shops and shopping destinations, local education opportunities, and social services and medical facilities all connected and easily accessible through an efficient and extensive transport system.
- Wyndham's activity centres and the areas around its existing and proposed train stations have been identified as the key places for connection and interaction and will be critical to achieving the community's vision.

1.3 Wyndham Urban Framework Plan

It is intended that the work presented in this report will contribute to the development of the Wyndham Urban framework plan, which will be guided by the following key parameters.

- The Urban design assessment looks to maintain what is valued in the rural and suburban parts of Wyndham while seeking to find the best way of creating urban areas that are able to better support the whole of Wyndham as a place.
- The Wyndham Urban Framework Plan is about positioning Wyndham to have focused urban areas that complement and support its suburban areas.

At present, Wyndham's growth areas are dominated by large land owners, developers and builders. This leads to insufficient funding and delays in social infrastructure developments, requiring government bodies to pay for these developments, in addition to community facilities and future services

Car sharing, using solar power, co-working shared spaces, access to data and other ways of cooperatively using space are the examples of the sharing economy, which will help to empower the local communities financially. The sharing economy is one of the compelling solutions to address social inequity in suburb settings.



(Reference Figure for 1.2 Wyndham 2040 document provides the basis for this Urban Design assessment).

1.4 What are the problems we are trying to solve? What are the challenges?

Spatially Wyndham has been growing outwards from the key elements of its transportation network for many years. Growth has proceeded generally away from these important pieces of infrastructure in a predominantly suburban pattern, with some gaps left primarily in the form of the East Werribee Employment Precinct (EWEP).

Rapid population growth has not been matched by an appropriate level of infrastructure expenditure.

These problems in particular have been identified.

- Dispersal of residential growth across numerous growth fronts
- Need to expand choices in terms of transportation options, employment options, education options, lifestyle and liveability options
- Need to create places of urban uniqueness to complement the suburbs
- Too often be a place to pass through rather than a destination in its own right
- Social opportunity constraints.

Distilling the key challenges and opportunities:

- Congestion and lack of infrastructure
- Dispersal of activity
- Growth not matched by infrastructure, the capacity gap
- Not capturing the benefits of population growth in centres and the social opportunity this creates. (Refer Figures 1.4)

1.5 The urban design assessment process

The objective of developing the body of research in this urban design assessment report, and the development of a series of "What If" ideas for consolidating Wyndham's identity and cultivating places to grow the community for the 21st Century, is to generate discussion in support of the development of the City's Urban Design Framework. This report has been informed by researching the history of the city's development to understand its current form and pattern as well as investigating other cities and current global urban megatrends to identify how the City may best respond to current and future challenges.



(Figure 1.4 - Shows the Lack of Infrastructure despite of precident development).



(Figure 1.4 - Shows Anticipated Infrastructure development).

1.6 Report Structure

The following report is divided into two parts.

Part 1 - Context

It provides an informed urban design assessment of the city of Wyndham and is presented in five sections:

2. Emerging Issues,
3. Context Assessment,
4. Transport and Movement,
5. Urban Structure, and
6. Spatial Assessment.

Part 2 - 'What If?' - Eight Themes for a 21st Century Future

Theme 1 –Transport and Land Use Integration.
Theme 2 –Werribee Spine.
Theme 3 – Strengthen City Structure and The Derrimut Road Axis.
Theme 4 – Suburban Town Centres.
Theme 5 - Design for Successful Town Squares and Framed Urban Spaces.
Theme 6 – Spatial Integration of Social Infrastructure in Urban Centres.
Theme 7 – A Green City Framework.
Theme 8 – Spatial Sequencing, Linkage and Safe Walkability.

The report closes with the section A Strategic Approach to Urban Renewal and presents the following 8 opportunities.

1. Werribee Spine Framework Plan
2. Hoppers Crossing Structure plan
3. Derrimut Boulevard Structure Plan
4. Review of Werribee Town Centre Planning Framework
5. Old Geelong Road Commercial Strip Revitalisation
6. Werribee plaza precinct structure plan
7. Wallace Avenue Mix Use Zone
8. Werribee East
9. Sport Precinct

1.7 Background reports

Background reports were prepared by Wyndham City Council staff in the Urban Futures Department, and the findings of these reports were considered as part of their overall urban design assessment. This analysis seeks to understand, analyse and provide options to address and improve;

- Activity Centres
- Future Public and Road Transport
- Affordable Living and Rising Living Costs
- Innovation, New Enterprise and Disruption
- Housing Diversity
- Urban Form and Sustainability
- Diversity of Employment Opportunities
- Accessibility to Employment Opportunities
- Food Security, Obesity/Health and Planning
- Climate Change and Water Security
- Autonomous Vehicles and Drones
- Non-Sporting Leisure Parks
- Ageing Population
- Infrastructure Priorities

1.8 Implementation

Wyndham can identify and employ best-practice urban design on a case-by-case basis to repair, restructure and guide preferred growth patterns for the City. Local government can be a catalyst for change and has a direct role in improving the physical infrastructure of the City and advocating for change. But governments alone cannot possibly achieve these objectives. Private and public partnerships, public participation and collaboration and coordination between all stakeholders are paramount. An essential part of the process requires multidisciplinary teamwork and collaboration with community groups and users at the immediate, local level.

PART 1- CONTEXT

2. EMERGING ISSUES
3. CONTEXTUAL ASSESSMENT
4. TRANSPORT AND MOVEMENT ASSESSMENT
5. URBAN STRUCTURE ASSESSMENT
6. SPATIAL ASSESSMENT

2 EMERGING ISSUES

2.1 What are Wyndham's Strategic Advantages?

Wyndham has:

- A young and vibrant community compared with Greater Melbourne (Wyndham 2040 Vision)
- A rapidly growing population base; (this should be an advantage if leveraged correctly).
- Two rail corridors centrally located to their residential catchments (many other growth areas have one)
- A strategic location to service the west and north-west of Victoria, particularly as the OMR and potentially Bay West are delivered.
- The potential to balance growth in its greenfield environments with the growth of more urban capacity
- Significant capacity to deliver on Government policy of creating 20-minute neighbourhoods
- Superior green corridors that can be strengthened to better connect the north and south of the city
- An ideal situation to reposition itself as the centre of a constellation servicing catchments such as the Geelong and Ballarat corridors.

2.2 WHAT ARE THE CHALLENGES?

The scale of suburban development has significantly disrupted the relationship between urban structure and social opportunity. The emerging issues relate to a failure of the town centres to evolve into destinations that are able to accommodate the rapid expansion of the city. The scattering of community facilities, and retail activity on multiple and fragmented residential growth fronts has inhibited the consolidation of key urban centres, which are able to support and grow social opportunity

(Refer Figure 2.2 - shows Illustrated the rupture that has occurred between the urban structure and social opportunity).

- **Rapid expansion of the city**

The distance and relationships between suburbs and core areas of Wyndham are becoming increasingly strained and weak. Apart from the duplication of arterial roads little consideration has been given to the visual and functional role of axial boulevards to establish a coherent order that could reinforce and connect the inner and outer suburbs. Lack of integration of land use and transport planning has led to a dislocation of the City. (Refer Figure 2.2.a)

The roles of the Regional Rail Link, the Werribee Metro line and their relationship to the dispersal of existing and new activity centres, Werribee City Centre and Werribee Plaza are not clear. These relationships need to be understood more deeply, especially in regard to aspirations to develop a major urban centre in the city that supports social opportunity.

- **A car dominated city**

Car travel is overwhelmingly the most preferred mode of transport. Limited pedestrian sensitive design of the arterial road network significantly hinders connections between suburbs. Wyndham is experienced as a place to move through by car or train, not as a place to stop. There is a low level of walkability to train stations and activity centres due to poor connections with transport interchanges and unfriendly pedestrian streets and pedestrian crossings.

- **Breakdown of urban structure**

The outward growth of the city is increasing the distance between suburbs. Central areas of the city are becoming increasingly strained and weak. The arterial roads are used beyond their designed capacity and travel time is increasing because of traffic congestion. Existing suburbs are characterised by curvilinear streets and cul-de-sacs that do not assist with accessibility or pedestrian movement to public transport interchanges. Fragmentation of subdivisions in growth suburbs is caused by a lack of neighbourhood planning which promote excessive pedshed distances to bus stops and local centres.

- **Fragmented growth fronts**

Residential development on the urban fringe has become fragmented and piecemeal due to multiple active growth fronts. Disjointed housing estates are being built. Due to a lack of integrated planning that considers overlapping relationships between street structure, natural elements, location of community facilities, open space and the linkage between neighbourhoods, these subdivisions do not seamlessly connect with the existing urban fabric.

- **Poor access to responsive community facilities**

Inequitable distribution of social infrastructure in growth areas and established suburbs is creating neighbourhoods that experience social disadvantage and isolation from community facilities. The number, location and type of community facilities are creating pockets of social disadvantage.

- **Lack of diversity**

The availability of residential land on the outskirts of the city is leading to standard retail formats and dispersal of community facilities and open space outside town centres. Uniform patterns of suburban development have a lack of local distinctiveness. The cost of land and land ownership is prohibitive for the establishment of not-for-profit organisations, schools, churches and private recreation businesses. Town centres are essentially developing into shopping centres with a diminished community focus and public image.



(Figure 2.2 - Illustrated the rupture that has occurred between the urban structure and social opportunity).



(Reference Figure for 2.2.a - shows Rapid Development of the city)

- **Inequitable distribution of local open space**

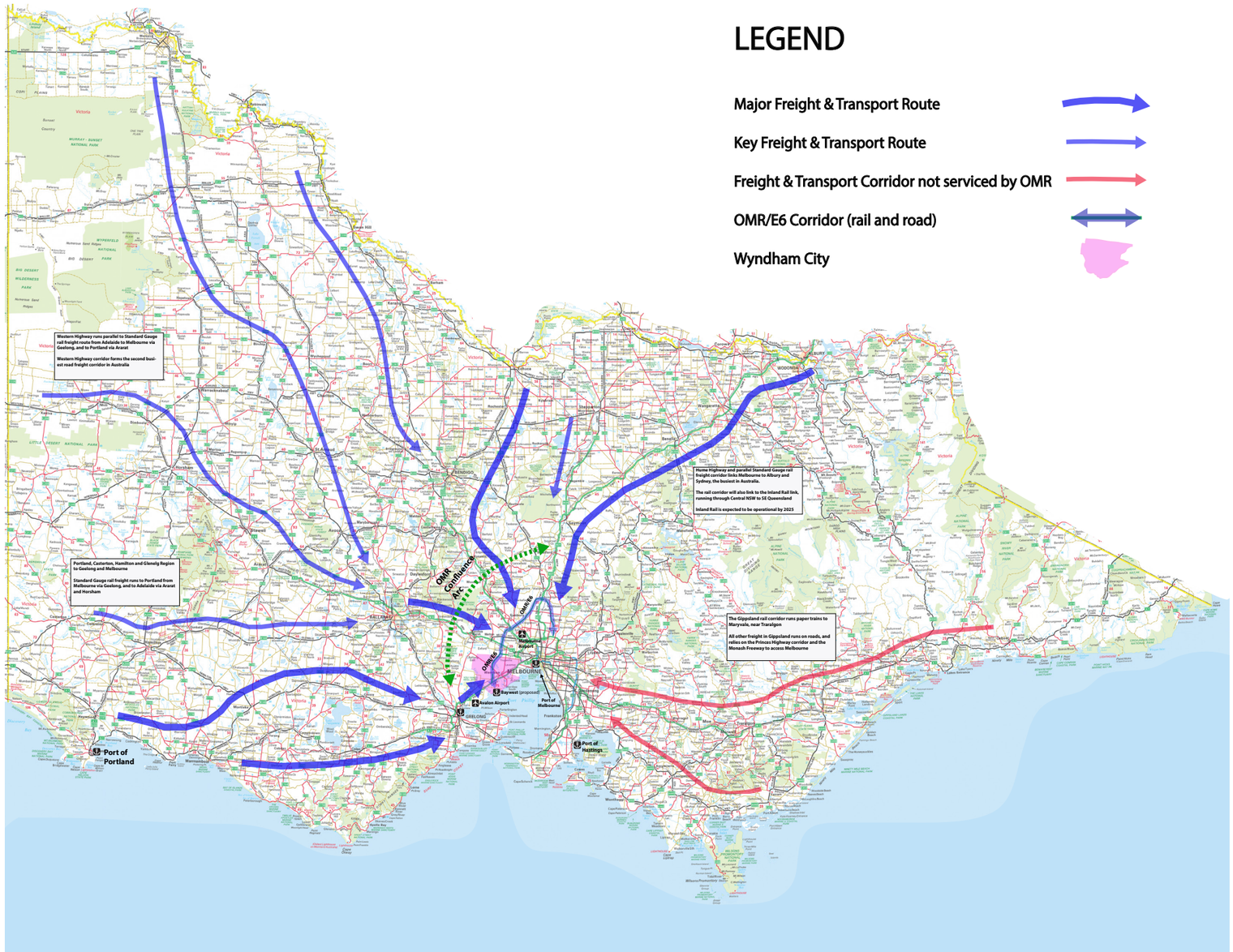
There is an inequitable distribution of open space across the city. The acreage of regional free space has steadily increased compared to the established suburbs but in growth areas a local public network is lacking or is poorly designed. Similarly, established suburbs that have undergone extensive urban infill development have not been able to match the increased density with well-designed and accessible local open spaces.

- **Non-emergence of urban centres with social opportunity**

Urban centres with higher populations that support local employment, social opportunity and entertainment have not emerged in Wyndham. It is a suburban city. Large format shopping centres with standard commercial uses surrounded by car parks and offering little or no genuine community content, are now beginning to replace previously proposed street-based activity centres.

- **Few memorable places**

There are precious few memorable urban parks and public gardens, boulevards, cultural facilities or well-known spots and recreation facilities in the City, especially north of the Werribee-Hoppers Crossing corridor. The public realm looks tired, arterial roads have few trees, streets are not pedestrian friendly and there is a sense of lost space around large format car parks and the leftover pieces of subdivisions. The conservation value of land is often unidentified or unprotected and subdivisions are ill-designed where they meet rail, utility corridors, bridges and waterways.



(Reference Figure for 3.1 - shows Metropolitan Context)

3 CONTEXTUAL ASSESSMENT

3.1 Metropolitan context

Wyndham is strategically located approximately half way between Geelong, which is the second largest city in Victoria, and metropolitan Melbourne. The City is centrally located in the region and well connected by regional transport infrastructure to Melbourne, Geelong and Port Melbourne. The City's major transport network consists of the Princess Freeway, linking Melbourne and Geelong and V/line trains that run from Werribee to Melbourne consisting of existing and future stations and town centres located along the Regional Rail Link. (Refer Figures 3.1)

- **Socio economic**

Wyndham is one of the Interface Councils that form an urban ring around metropolitan Melbourne. Over the past decade, the Interface Council region has significantly outpaced the rest of Melbourne in population growth. New residents have flocked to the outer suburbs for their affordability and proximity to the metropolitan area. Since 2006, the population within the Interface Council region has increased by nearly 43.25% and further population growth of 11.60% is expected over the next four years. Wyndham's population will increase from 9,400 in 1954 to a projected population of 275,000 in 2021 and 367,000 in 2031. DELWP Victoria in their future analysis of ABS data also indicates the population is likely to increase to approximately 465,000 by 2041.

Deloitte Access Economics research found that Melbourne's population grew by over 1.5 million residents over the past two decades, of these 775,000 moved to the city fringe, dramatically swelling the population in the outer suburbs. Deloitte's Research indicates easy access of 4 in 10 jobs for outer Melbourne residents, while inner city residents have access to 11 jobs for every 10 residents. People with better incomes can afford better housing near higher paying jobs with higher amenities and better access to health and educational services. To get to work, those in the outer suburbs predominantly drive, and Deloitte found Melbourne's outer suburban commuter spend more than $2,500 a year on petrol compared with around $1700 for inner city commuters.

- **Plan Melbourne**

Plan Melbourne 2017 – 2050 designates Wyndham as one of four growth areas to deliver affordable housing over the next 30-40 years. Recent suburban growth has radiated out from urban centres to areas such as Wyndham Vale, Truganina, Tarneit and Point Cook. Major town centres will be developed along the Regional Rail Link at Black Forest Road, Wyndham Vale, Sayers Road, Davis Road, Tarneit and Truganina. Many of these suburbs lack basic infrastructure compared to other inner-city and middle-ring suburban areas across Metropolitan Melbourne.

- **Avalon Airport**

Avalon Airport is situated on a 1,754-hectare site central to Geelong and Melbourne, and potentially provides a major employment centre for the region. It offers airfreight operations for export and is becoming increasingly significant as a gateway for interstate and international visitors. Ideally, passengers should be able to interchange to Metro and the Regional Rail Link trains at the airport. Electrification of rail services will reduce travel times and are likely to bring forward opportunities to assist with further evolution of the city's urban areas.

- **Metro rail and the Regional Rail Link**

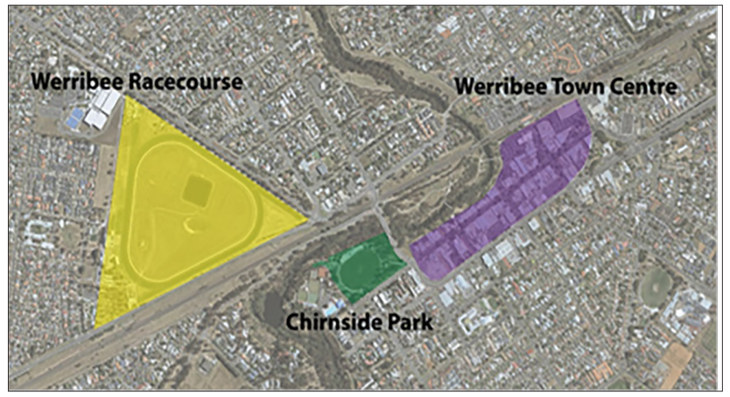
The location of rail infrastructure and town centres provides a sound structure for future urban development and linkage across the city. The Metro rail runs between Werribee and Melbourne city central, interfacing with established western suburbs and Wyndham's emerging activity centres. The Regional rail link operates from Geelong to Melbourne and forms an outer suburban public transport and freight corridor along the northern edge of Wyndham.

- **Outer Metropolitan Ring Road**

The proposed Outer Metropolitan Ring / E6 reservation will accommodate a 100 km/hr transport link for people and freight in Melbourne's north and west. This will eventually create the opportunity for new road and rail transport links through the Werribee, Melton, Tullamarine, Craigieburn/ Mickleham and Epping/Thomastown areas. Upon completion in 2020, the outer Metropolitan ring road will significantly alter the way people access the city.



(Reference Figure for 3.1 - shows The city of Wyndham is strategically located on the outskirts of Melbourne.)



(Reference Figure for 3.1.a - shows The loaction of Werribee Racecourse)

- **Werribee Racecourse**

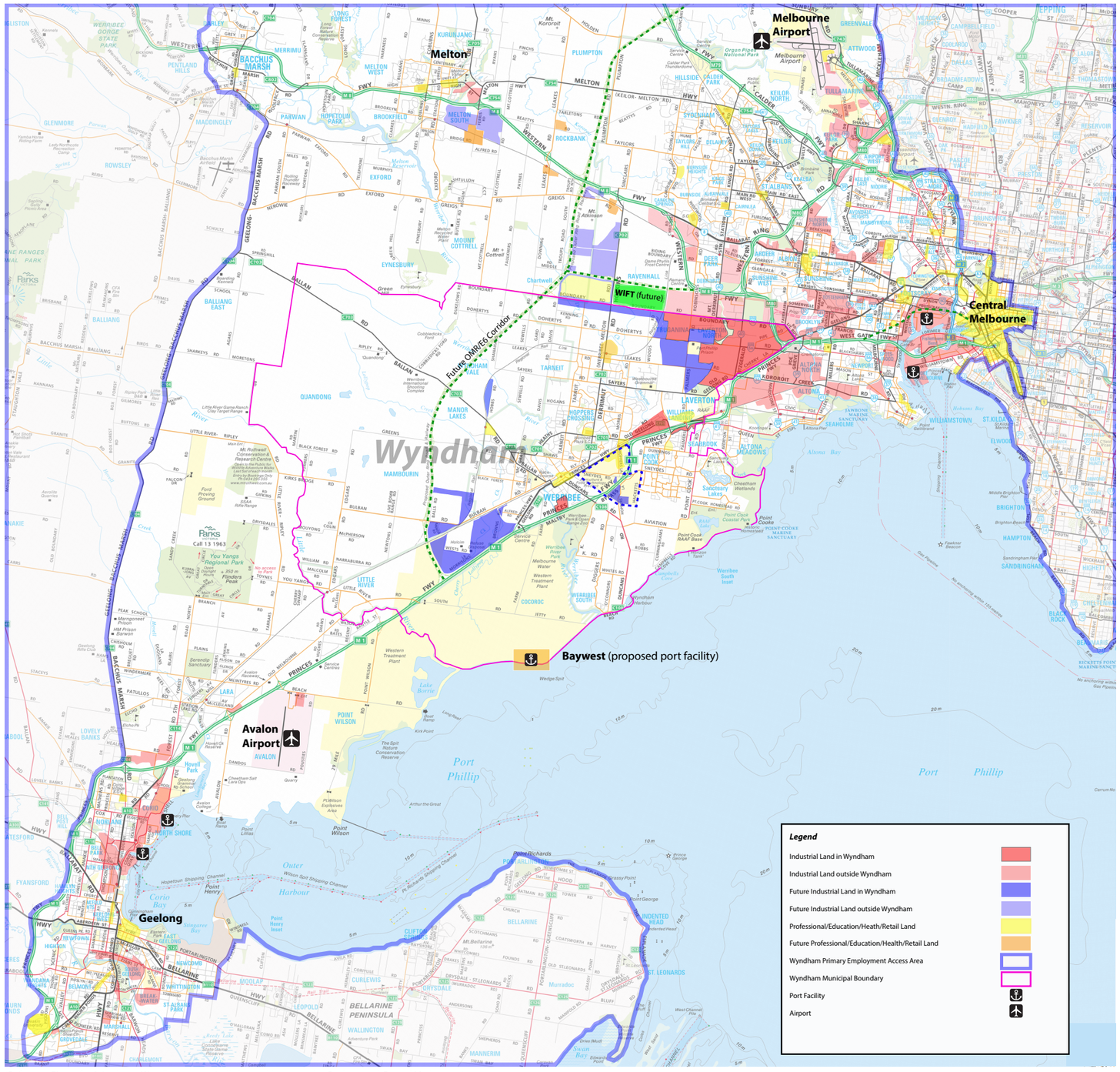
Werribee Racecourse is located at the edge of the Werribee river and a short distance from Werribee city centre. As it stands, it is one of Victoria's oldest track transformations with $5 million invested in it so far. The future of Werribee Racecourse needs to occur with consideration of its surrounding context. The racecourse is a large area of land located close to Werribee town centre and the train station and could therefore potentially be redeveloped with a mix of uses close to the Werribee Town centre. (Refer Figures 3.1.a)

Objectives

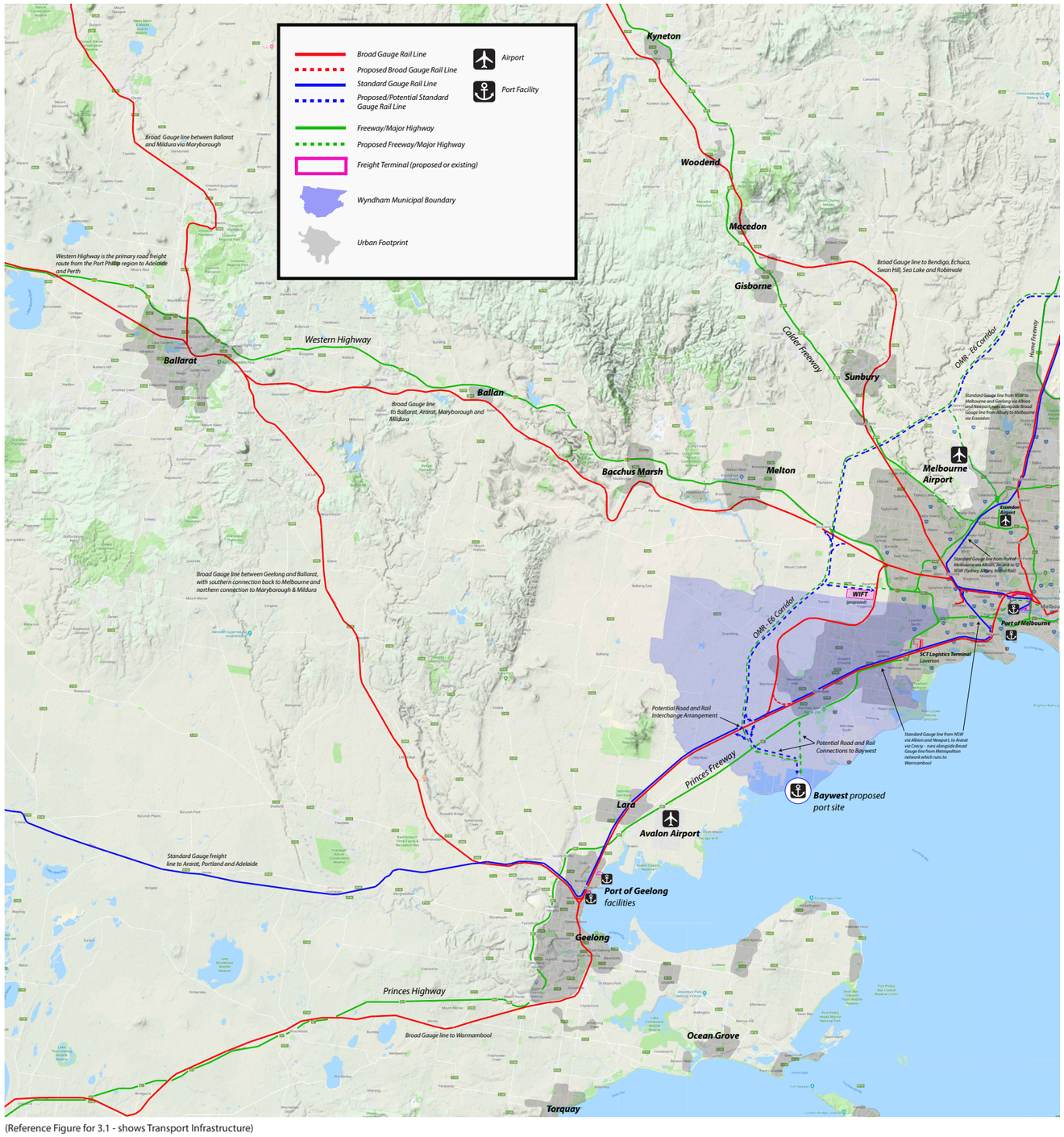
- To ensure that the role of the Werribee city centre with regards to core urban precincts along the rail corridor.
- To ensure building heights retain the low pedestrian scale buildings addressing the main street.
- To have a centre that has strong links and synergies with its surrounding areas.
- To create high quality, comfortable and safe public realm and memorable local parks linking Wanton street.

- **Sunshine National Employment and Innovation Cluster**

The Sunshine National Employment and Innovation Cluster (the Sunshine NEIC) is located about 10km west of Melbourne's CBD at the junction of several key transport routes. The Sunshine Cluster has strong connections to central Melbourne, the Port of Melbourne and the booming western suburbs. The precinct around Sunshine station is forecast to be a major transport interchange, and plans for a Melbourne Airport rail link have been suggested to run through Sunshine, allowing convenient interchange with trains to Bendigo, Ballarat and Geelong.



(Reference Figure for 3.1 - shows Wyndham strategically located between the Geelong and Central Melbourne.)



(Reference Figure for 3.1 - shows Transport Infrastructure)

3.2 GROWTH AND CHANGE ASSESSMENT

The Werribee River formed a natural boundary between areas occupied by several local Aboriginal clans including the Woiwurrung, Wathaurong, and Boonwurrung language groups. Wyndham City 2040 vision acknowledges that Aboriginal people have lived in this area for over 60,000 years. The Werribee River has been a significant meeting place for the Aboriginal people of the area. It has been a centre of economic activity and a place to build community. In this way Wyndham has always been a place for people.

Historically, the development of Wyndham has been influenced by state government policy with major infrastructure interventions intended to support the growth of Melbourne. Werribee Village, Werribee irrigation allotments of the Werribee Estate, Werribee rail, The Melbourne Water Board Sewage Scheme, the Metropolitan Farm and the RAAF bases at Point Cook and Laverton, Werribee Research farm, Melbourne Board of Works and Werribee Mansion and Park all represent important stages of growth and development.

Suburban development around Werribee and Hoppers Crossing occurred in the 1970s and 1980s. These periods of growth corresponded with the establishment of the Town and Country Planning Board in 1970, the introduction of the Green Wedge Zone in 1971, and the Urban Growth Zone in 2002. The latter unlocked extensive Greenfield land for urban development in the Western growth corridors. Establishment of the Victorian Planning Authority (VPA), previously the Melbourne Planning Authority (MPA), and the introduction of the Urban Growth Boundary have been instrumental in producing the city's current pattern of residential growth.

Suburban development from the 1950s onward, changed the visual arrangement of the city. Christine Boyer, author of The City of Collective Memory wrote about a universal trend where modernism in westernised cities and their suburbs now appeared as an open and expansive panorama when viewed as a passing image from cars, trains and the air. The new experience of moving through the city tended to erase the traditional sense of pictorial enclosure as the cityscape was transformed into a series of fleeting impressions and momentary encounters. Views from cars and trains reinforce the city as a place to move through not to stop for any length of time. Two minutes on the freeway now equates to three - four km, where a pedestrian could expect to cover 100-200m and a cyclist 400-600m. Railroad travel resulted in a new space-time continuum and our views and experience of the city became a vast screen of unrolling images. (Refer Figures 3.2 - Summarises biographies of growth and change).

3.3 Future Land Use and Population Growth Assessment

Currently there do not appear to be any clear informed targets for residential densities or population expectations for our town centres. Council is currently undertaking a review of activity centres and this review will assist in defining the role and make up of urban centres.

The projected population densities for town centres along the Regional Rail Link are based on an assumption that all of the major town centres would be modelled on a population of appx. 9,600 as stated in the Precinct Structure Plan (PSP) for Tarneit. This assumption is based on the parameter of 35 Ha per lot. In an assumption was made that TC along the RRC will be approximate to Tarneit. (Refer Figures 3.10)

The potential for population in centres located along the Metro rail is based on conservative estimates for population growth occuring on vacant land at Werribee, Hoppers Crossing and Williams Landing. The population of the Werribee Spine will vary depending on the number of dwellings per hectare contained in the proposed Werribee Spine Growth Framework Plan, and individual Urban Design Frameworks for individual centres.

Year	Details
	Woiwurrung, Wathaurong, and Boonwurrung people
1836	Early European settlement
1849	Werribee village
1857	Werribee rail
1862	Establishment of Local government boundaries
1870	Mansions, Werribee Park Built
1888-	The MMBW Sewage Scheme
1894	The Metropolitan Farm
1904	Irrigation allotments of the Werribee estate
1913	Royal Australian Air Force, Point Cook
1922	Werribee South
1928	Werribee State Research farm
1970	Town and Country Planning Board
1971	Green Wedge Zone
2002	Urban Growth Zone
2014	Plan Melbourne
2015	Wyndham 2040

(Reference Figure for 3.2 shows Summarises biographies of growth and change)

40,000-60,000



The Wurundjeri People

1838



Hoddle Grid, Melbourne

1849



Werribee Village

1857



Werribee Rail

1862



Establishment of Local Government Boundaries

1870



Werribe Park Mansions

1888



The MMBW Sewage Scheme

1894



The Metropolitan Farm

1904



Irrigation Allowments of the Werribee Estate

1913



Royal Australian Air Force, Point Cook

1922



Werribee South

1922



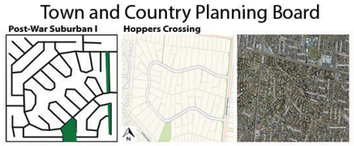
The Radburn Effect

1928



Werribee State Research Farm

1970



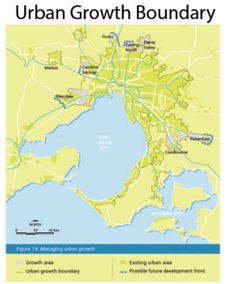
Town and Country Planning Board

1971



Green Wedge Zone

2002



Urban Growth Boundary

2014

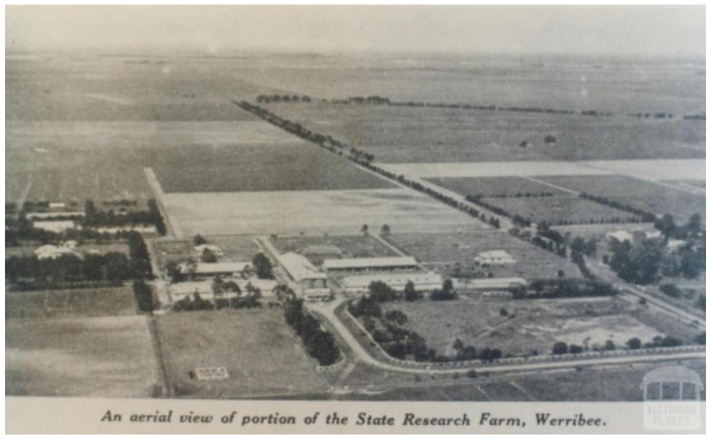
Plan Melbourne



(Reference Figure for 3.4 - shows early Werribee Rail)



(Reference Figure for 3.4 - shows early Werribee Town Centre)



An aerial view of portion of the State Research Farm, Werribee.

(Reference Figure for 3.4 - shows State Research farm, now known as East NBIC)

(Reference Figure for 3.2 shows History of Growth and Development)

3.4 Precinct structure plan population projections

There are currently 3,509 hectares of Net Developable Land within approved Precinct Structure Plans that would accommodate a population of 180,490 people based on the proposed dwellings per hectare (approximately 16 dwellings per hectare) in existing PSPs. At the current household occupancy rate of 3.2 people per household in Wyndham the population of precincts would increase proportionally to 280,762 at 25 dwellings per hectare and a population of 393,067 at 35 dwellings per hectare.

There are 2119.78 hectares of vacant land in non- PSPs that would house an additional 94,910 people at 16 dwellings per hectare, 435,516 people at 25 dwellings per hectare and an ultimate population of 609,722 at 35 dwellings per hectare. It should be noted that these figures are not population aspirations but population assessment that show the impact of 3 alternative scenarios. (Refer Figures 3.4 & 3.10 - shows the population projections based on the dwellings per hectare and Net Developable Land in the PSPs).

3.5 Social investment and housing on vacant land in existing suburbs

There are 238 hectares of vacant land in established suburbs of Wyndham. There is existing capacity in these suburbs to accommodate plug in social infrastructure on vacant land. Large lots are available that could accommodate major social infrastructure such as universities and schools in the central areas of the city. There is also the potential for infill mixed residential lot subdivisions in existing suburbs. For example, if the 238 hectares of vacant land was developed with a third of land (78 hectares) developed with lot yields at 16, 25 and 35 dwellings per hectare respectively, this would provide up to 2,736 new dwellings, housing a population of 8,736 people in established suburbs. (Refer Figures 3.5 and 3.10)

The lot yield from an integrated residential development is determined by a number of variables, including lot dimensions and mix, block lengths, proportion of open space and road reserve widths. In addition, slope, curved roads and irregular shaped lots reduce design efficiency and yield. (Refer Figure 3.5.a - shows an example of the designing the lots)

The higher number of dwellings per hectare potentially provides land for new social infrastructure and open space as a part of mixed residential lot subdivisions. A revised residential schedule to facilitate residential mixed lot subdivisions would ensure that a variety of lot sizes, including large

3.6 Population estimates for Town centres

The Regional Rail Link and the town centres located around the edge of the city should serve their neighbourhood areas, rather than compete with Werribee's town centre, Pacific Werribee, and Werribee East. There are no clear targets for residential densities or population catchments around the town centres specifically. All population targets for the activity centres in the PSPs are about retail catchments, which often extend beyond the activity centre boundaries, and in some cases beyond the PSP boundary.

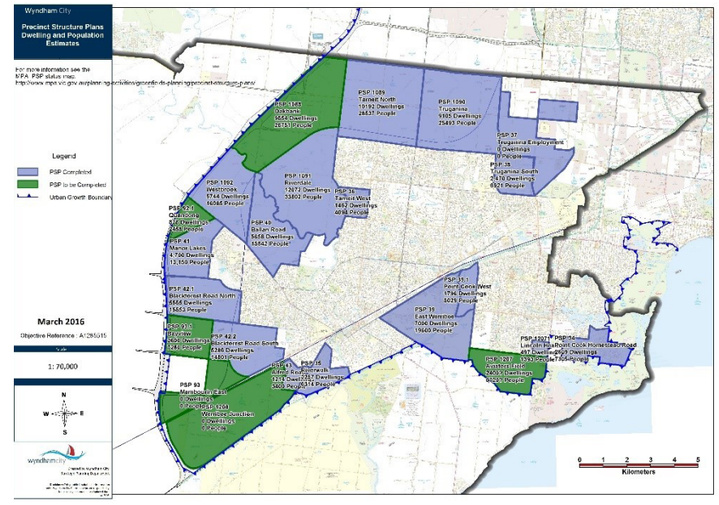
An assumption has been made that town centres could accommodate a minimum of 10,000 people and neighbourhood centres can accommodate 5,000 people. In total, the town centres have a capacity to accommodate approximately 40,000 residents. (Refer Figures 3.6 and 3.10)

3.7 Population growth and Urban Infill

Last year 4,576 building permits were issued in Wyndham. Of these 5% relate to urban renewal and the redevelopment of existing buildings. This equates to 228 dwellings per annum, which would translate to a growth represented by 5,033 new dwellings at existing densities. (Refer Figures 3.10)

	Population Projections		
Dwellings per hectare	16	25	35
Approved PSPs	180,490	280,762	393,067
Non-PSP	94,910	154,753	216,655
Total	**275,401**	**435,516**	**609,722**

(Reference Figure for 3.4 - shows the population projections based on the dwellings per hectare and Net Developable Land in the PSPs)



(Reference Figure for 3.4 - shows Wyndham Precinct structure plan areas with logical inclusion areas; source: Wyndham City Council)

Dwellings per ha	No of Dwellings	Population Projections
16	1248	3993
25	1950	6240
35	2730	8736

(Reference Figure for 3.5 shows - Estimated population on the basis of Suburban Vacant Land)

LOT SIZE AND DWELLING TYPE	LOT MIX 1 % OF LOTS	LOT MIX 2 % OF LOTS	LOT MIX 3 % OF LOTS
600m² detached	20.0	5.0	40.0
450m² detached	30.0	60.0	30.0
300m² detached	50.0	25.0	20.0
250m² detached	0.0	10.0	0.0
450m² detached dwellings (3/lot)	0.0	0.0	10.0
Total	**100.0**	**100.0**	**100.0**

(Reference Figure for 3.5)

3.8 Werribee Spine

There is potential for restructuring a residential precinct adjacent to the Metro Rail, Hoppers Crossing and along Derrimut Road, which is one of the major armatures of the city. It is estimated that the Werribee Spine could accommodate an additional population of 25,000 people. Depending on density an even higher population could be achieved in the urban areas of the city. (Refer Figures 3.8 and 3.10)

- **East Werribee Employment Precinct**

East Werribee, which comprises 775 hectares of predominantly greenfield land, has been earmarked for development as a national employment precinct, to include a university campus located within a mixed-use city development. The East Werribee Employment Precinct Structure Plan (2013) proposes three residential neighbourhood communities for 4,100 dwellings with an estimated population of 9,600 people. (Refer Figures 3.8 and 3.10)

- **Williams Landing**

There are vacant lots of land located along the Werribee Spine including at Williams Landing that are being incrementally developed. The Target office building is one of a number of large format and multi storied buildings under construction. There are strategic sites located on the Southern side of the Princess Freeway in Point Cook (including Wallace Avenue industrial areas) that could also be developed as an extension to the new building height benchmarks occurring at Williams Landing. The scale of buildings at Williams Landing and generally along the rail should visually relate as a 'bookend' to the Werribee spine. There exists an opportunity to extend this intensity of development along the spine by well-planned and designed sequencing of new and inspiring built form and open plaza spaces, and a continuity of connections between precincts and the station. The employment, retail and community uses should provide a mix of land uses that encourage access to employment, social opportunity and entertainment. (Refer Figures 3.8 and 3.10)

3.9 Derrimut Road Axis

Derrimut Road Axis is a major skeleton transport artery of the city that needs to be strengthened as the city grows. It is proposed that the visual and functional role of the Derrimut Road will be reinforced with higher population concentrations, mix of uses and improved public transport.

It is proposed through urban renewal that approximately 1,796 new dwellings housing a population of 5,750 people will .....????
(Refer Figures 3.9 and 3.10)

3.10 Land budget summary

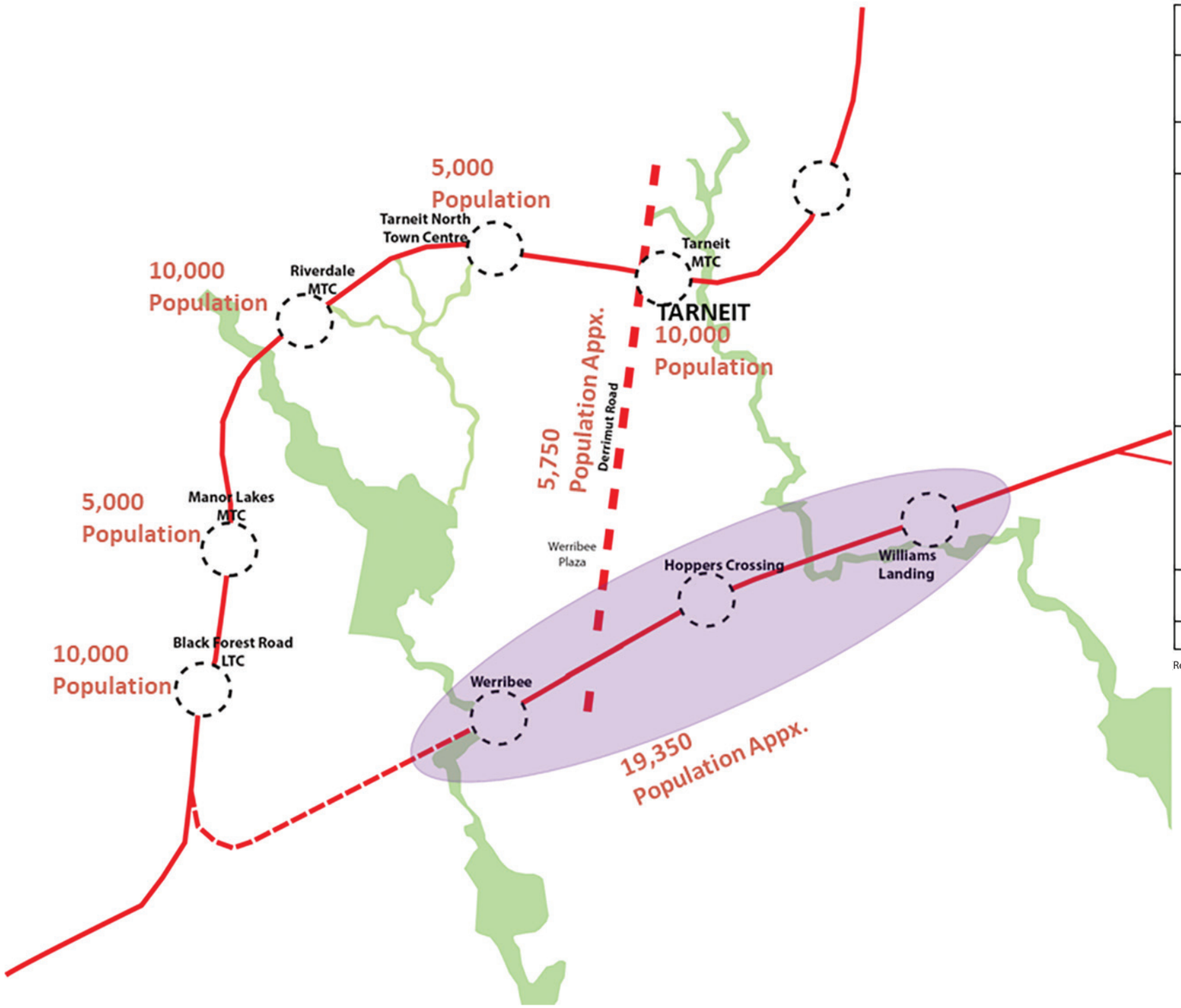
Apart from the estimated population; higher population across the existing suburbs, town centres and Werribee Spine can be accommodated by higher population concentrations supported by public transport. (Refer Figures 3.10)

The number of people living in Town Centres, along the Werribee Spine and the Derrimut Road axis could increase depending upon the built form and the desired future character of these Urban areas of the city.



Net residential density of 27 dw/ha, Stages 3 and 4 Fitzgibbon Chase

(Refer Figure 3.5.a - shows an example of the designing the lots)



(Reference Figure for 3.3, 3.6, 3.8 and 3.9 shows - Population Estimation for Town Centres, Werribee Spine and Derrimut Road boulevard)

Section No.	Sections	Name	Land area Ha	No of dwellings	Population Estimate
3.4	Approved PSP	3500 Ha Land		56,144 (considering 16 Dwgs/ha)	180,490
3.5	Vacant Land	238 Ha Land		2,736	8,736
3.6	Town Centre	Truganina		0	0
		Tarneit		4,348	10,000
		Davis Road		2,174	5,000
		Riverdale		4,348	10,000
		Manor Lakes		2,174	5,000
		Black Forest Road North		4,348	10,000
		Sub Total		**17,392**	**40,000**
3.7	Urban Infill	**Proposed Dwellings on Existing Structure**		**228**	**5,033**
3.8	Werribee Spine	Werribee		870	2,000
		East Werribee		4,174	9,600
		Hoppers Crossing		2,500	5,750
		Williams Landing		870	2,000
		Sub Total		**8,414**	**19,350**
3.9	Derrimut Road	Derrimut Road Boulevard		**2,500**	**5,750**
		Total		**87,414**	**259,359**

Reference Figure for 3.10 shows- Summary of Dwellings and Estimated populatio on the basis of section 3.4 to 3.9)

Location	Projected Population
Approved PSP	180,490
Vacant Land	8,736
Town Centres	40,000
Urban Infill	5,033
Werribee Spine	19,350
Derrimut Road Boulevard	5,750
Total population	**259,359**

(Reference Figure for 3.10 shows- Summary of Dwellings and Estimated populatio on the basis of section 3.4 to 3.9)

4 TRANSPORT AND MOVEMENT ASSESSMENT

4.1 International public transport trends

International cities have experienced a rise in public transport patronage and a decline in car use as public transport becomes cheaper, quicker and more convenient. There is a move towards a place based network that provides a central focus on the community and recognises the interactions between transport and all sectors including place, mobility and environment. The city needs to plan beyond continued congestion and recognise these interactions. International trends show that public transport, priority lanes, cycle networks, street activity and a place-based approach to public transport occurs when it is quicker, more convenient and more affordable. (Refer Figure 4.1)

4.2 Travel to work

Most work oriented travel out of Wyndham is towards Melbourne, and is causing significant traffic congestion on arterial roads. The 2011 census recorded 70.8% of residents travelled by car (either as a driver or passenger). This statistic demonstrates a strong reliance on private vehicles for commuting. The Princess Freeway has a peak hour bottleneck that adds to traffic congestion and travel delays, exacerbated by considerable queuing time out of the suburbs to the freeway. The freeway, along with the V/Line railway line, form a significant barrier to North-South movement across the city. The movement of people and cars travelling to inner Melbourne stresses the transport infrastructure including the arterial road network and public transport. (Refer Figure 4.2)

4.3 Traffic volumes on arterial roads

Arterial roads are dominated by cars to the exclusion of other transport uses. Wyndham's arterial roads have been at or near capacity since the development of the western growth corridor. One of the busiest and congested road networks located in Wyndham is Point Cook Road (between Sneydes Road and Dunnings Road). Based on the road capacity definition of 18,000 – 20,000 vehicle movements, Point Cook has exceeded capacity for many years, with the number of vehicles per day surpassing over 20,000 since data was gathered in 2011. Moreover, Forsyth Rd (South of Old Geelong Rd) has recorded the largest vehicle movement figures of all the two-lane arterial roads in Wyndham. Data also indicates that many of the four-lane roads are nearly reaching capacity, which significantly impacts vehicle movement on the two-lane arterial roads. The number of vehicles crossing the Werribee Line is predicted to increase by 95% between 2011 and 2046, meaning additional grade-separated crossings will be needed. (Refer Figure 4.3 that shows where the road network frequently runs over capacity).

4.4 Travel to train stations

The method of travel to train stations is dominated by use of the private motor vehicle, whether that was car as driver (62.11%) or car as passenger (18.47%). More sustainable forms such as catching the bus or walking had similar figures (16.55% and 15.18% respectively). The survey results identified a correlation between catching the bus to the station and the services provided. Residents that did not catch the bus to the station (47.12%) identified the cause due to the lack of frequency provided by the bus network (37.72%) or that the duration of the journey was too long (35.94%), while nearly a third of residents stated the lack of reliability/ efficiency as a factor (28.81%). Similarly, nearly half of the participants noted that the bus service was 'ok' (46.39%) while a further 19.89% identified it as 'not very good'.

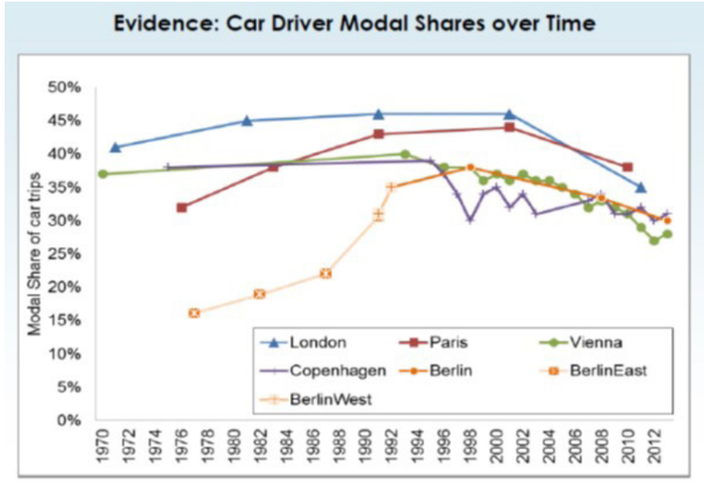
4.5 Walkability

According to the Walk score index, many of the suburbs across Wyndham are considered 'car dependent' with only a few locations across the municipality that demonstrate high walkability. The suburb of Point Cook is the most walkable suburb across Wyndham, recording a ranking of 44 out of 100, which is ranked 248th most walkable neighbourhood across Greater Melbourne. Walking and cycling to work make up a small percentage of the modal share for all areas, including Greater Melbourne. Improved active transport links and inter-modal facilities may promote a shift in the number of people driving to work. The suburban areas of Point Cook, Hoppers Crossing, Truganina and Tarneit feature as the lowest walkable rated suburbs in Melbourne. This is due to the car being the preferred mode of transport for many residents, which would appear to correlate with non-pedestrian friendly streets. (Refer Figure 4.5)

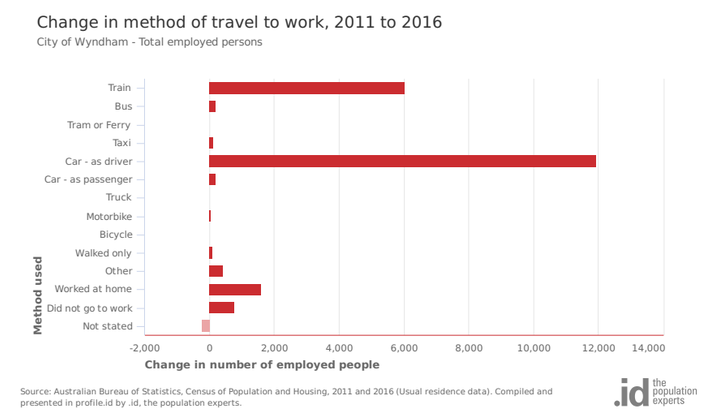
4.6 Ageing and walkability

A recent report conducted by ARUP investigated that the average walking speed is heavily reduced once residents are over the age of 65. The average walking speed of a healthy individual is estimated at 4.8 km/h however, this figure is down to 3.0 km/h once aged 65+ with a further reduction to 2.0 km/h for those aged 80 and over. Bus users demonstrate a tendency to walk no more than 400 metres from home to the nearest stop, while travellers are often inclined to walk further to catch a train, hence the maximum walking distance to a station is approximately 800 metres. The walkability index survey ranks walking to all major stations in Wyndham as low.

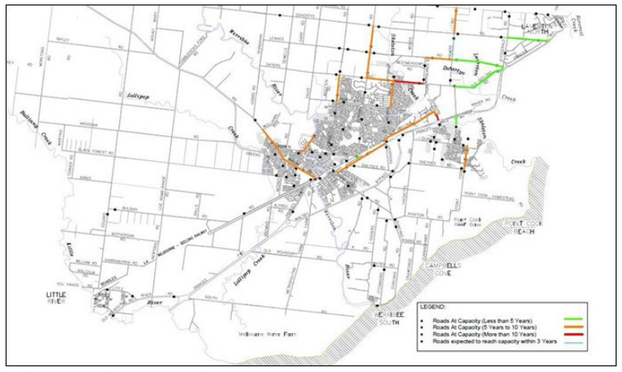
(Refer Figure 4.6 - shows A representation of the distance covered by different age groups can be seen below)



(Reference Figure for 4.1 - shows International evidence based modal share over time)



(Reference Figure for 4.2 - shows mode of Travel to work)



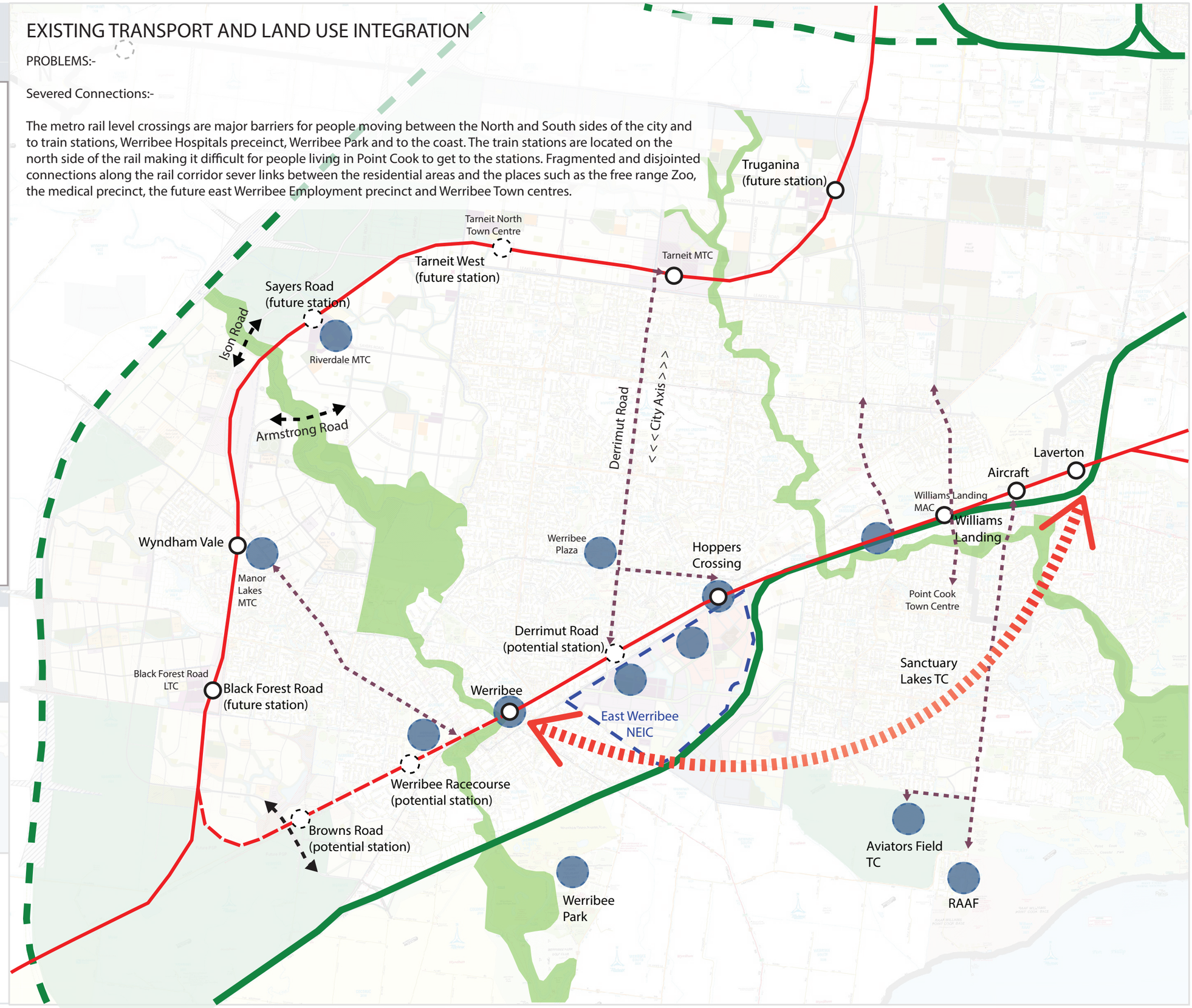
(Reference Figure for 4.3 - shows Traffic volumes on Arterial Road)

EXISTING TRANSPORT AND LAND USE INTEGRATION

PROBLEMS:-

Severed Connections:-

The metro rail level crossings are major barriers for people moving between the North and South sides of the city and to train stations, Werribee Hospitals preceinct, Werribee Park and to the coast. The train stations are located on the north side of the rail making it difficult for people living in Point Cook to get to the stations. Fragmented and disjointed connections along the rail corridor sever links between the residential areas and the places such as the free range Zoo, the medical precinct, the future east Werribee Employment precinct and Werribee Town centres.



Legend

- Major Destinations
- Freeway
- Future OMR Corridor
- Future PSP Areas
- Rail Corridor
- Future Rail Connection
- Future Railway stations
- Railway Stations
- Weak Linkage
- Existing Connectivity

Scale

0 1 2 3 km

Overview Map

wyndhamcity

Created by Wyndham GIS
gis@wyndham.vic.gov.au

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Wyndhamcity
Melways

Legend

Legend

- Major Destinations
- Freeway
- Future OMR Corridor
- Future PSP Areas
- Rail Corridor
- Future Rail Connection
- Future Railway stations
- Railway Stations
- Suggested road Connectivity Buses / Trackless Trams

Scale

0 1 2 3 km

Overview Map

wyndhamcity

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PROPOSED TRANSPORT AND LAND USE INTEGRATION - TRACKLESS TRAM

The public transport network is the glue that can bring together people and movement across the city. The trackless tram is one way to stregthen north south links between Tarneit, Werribeee plaza, Hoppers Crossing and Point Cook and from Manor Lakes to werribee and Werribee Park. Also East West connections between Aviators Fields to Werribee park would complete a system of movement connections destinations around the city.

Wyndham is aiming to achieve sustainable future development and proposing the trackless tram is a part of it.
To propose trackless tram some factors, need to consider such as, which road routes are appropriate with respect to the widths, contextual existing and future built developments, accessibility for the users, connectivity to the town squares or activity centres, etc.

The viability of the proposal depends on the fact that how well it is served the effective economic urban future development. To measure its viability some criteria's, need to delineate such as connectivity of trams; the trams should connect to the maximum activity centres or population catchment (existing and future) areas as these areas are the basic source of socio-economic opportunities, travel time; the proposed trams should reduce the travel time between the farthest destinations.

The implementation of these trams will help to shape future sustainable development. The good accessibility of trams will help to strengthen the north to south precinct connectivity as it is separated by the rail corridor. Furthermore, it will support to reinforce the land-use and to have a future higher density growth. Apart from that, it will help to reduce the volume of private vehicles and pollution.

Truganina
(future station)

Tarneit North
Town Centre

Tarneit West
(future station)

Tarneit MTC

Sayers Road
(future station)

Ison Road

Riverdale MTC

Armstrong Road

Derrimut Road

< < < City Axis > > >

Laverton

Aircraft

Williams Landing
MAC

Williams
Landing

Wyndham Vale

Manor
Lakes
MTC

Werribee
Plaza

Hoppers
Crossing

Point Cook
Town Centre

Derrimut Road
(potential station)

Black Forest Road
LTC

Black Forest Road
(future station)

Werribee

East Werribee
NEIC

Sanctuary
Lakes TC

Werribee Racecourse
(potential station)

Browns Road
(potential station)

Aviators Field
TC

Werribee
Park

RAAF

4.7 Bus services

While Wyndham's bus network is sophisticated, there are still missing links that need to be considered to provide an efficient public transport system. Currently the bus network does not extend to some suburbs and various sections of the urban grid are not connected to the network. A notable example is the link from Point Cook to Werribee. Residents who need to get to Werribee City Centre would have to catch a bus towards their closest train station before travelling via train to Werribee. Extending the bus routes through this area, would provide residents with connections to other areas such as EWEP or the health precinct.

4.8 Car parking

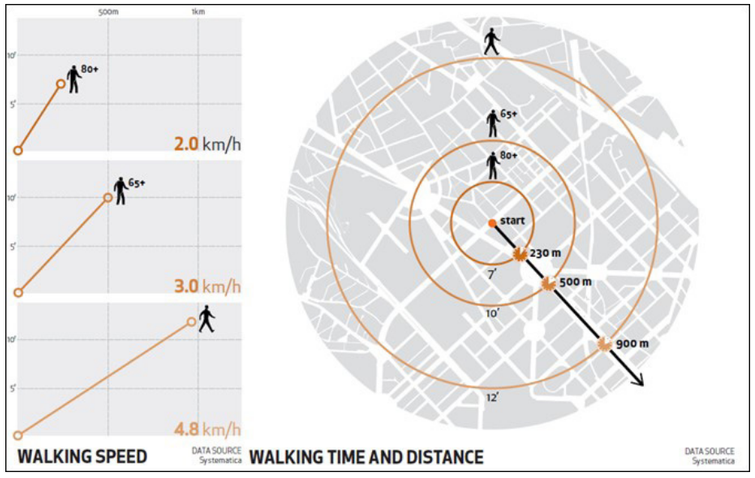
On average, Victorians are adding up to 300 new cars per month to the number of privately owned vehicles. That is an additional 3,600 new cars per year on the road according to existing numbers. In providing conventional style parking for the population. Many stations (and shopping centres) tend to copy one another. The conventional style parking refers to using large parcels of land dedicated to parking. Car parking is a vital aspect for all motorists; however, cars are parked for 95% of the time. Tarneit Station located on the Regional Rail Link is one of the busiest V/Line Stations after Southern Cross. Due to the demands of a railway station, there are currently 1000 car parking spots provided for commuters. The image below demonstrates the extent of this type of car parking.

Despite this, there is still an inadequate amount of parking space available forcing many commuters to park illegally on the side of roads.

(Refer Figures 4.8 show the extent of car parking).

Suburb	Walk Score	Most Walkable Neighbourhood Score
Melbourne City	100	1
Carlton	97	2
Point Cook	44	248th
Hoppers Crossing	41	275th
Werribee	40	280th
Truganina	20	328th
Tarneit	18	332nd
Manor Lakes	N/A	N/A
Wyndham Vale	N/A	N/A
Werribee South	0.60	Last

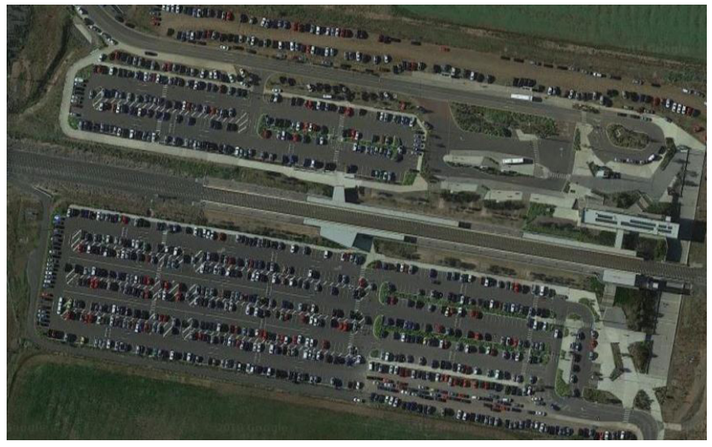
(Reference Figure for 4.5 - shows Transport walkability Index Victoria)



(Reference Figure for 4.6 - shows the Average no. of walking movements per person per day across total Metropolitan Melbourne & Outer Melbourne regions)



(Reference Figure for 4.8 - shows The extent of Car parking at Tarneit Station)



(Reference Figure for 4.8 - shows The extent of Car parking at Tarneit Station)

5 URBAN STRUCTURE ASSESSMENT

5.1 Wyndham Today – A Morphological Assessment

A 'Lynchian' analysis was conducted at varying macro and micros scales to identify city elements peculiar to Wyndham. The city elements identified in the Wyndham context include edges, districts, nodes, paths and landmarks, which in combination contribute to the character of Wyndham. The city is made up of different character areas located on the north and south sides of the Princes Freeway. The Outer Ring Road, the Western Plains and Port Phillip Bay are edges that define the macro scale urban area of the city, while the rail, Werribee river, arterial roads, and early 1970s Radburn style subdivision plans at Woodville, are the major structural elements that establish significant edge conditions contributing to the internal micro scale fragmentation of Wyndham's neighbourhoods.

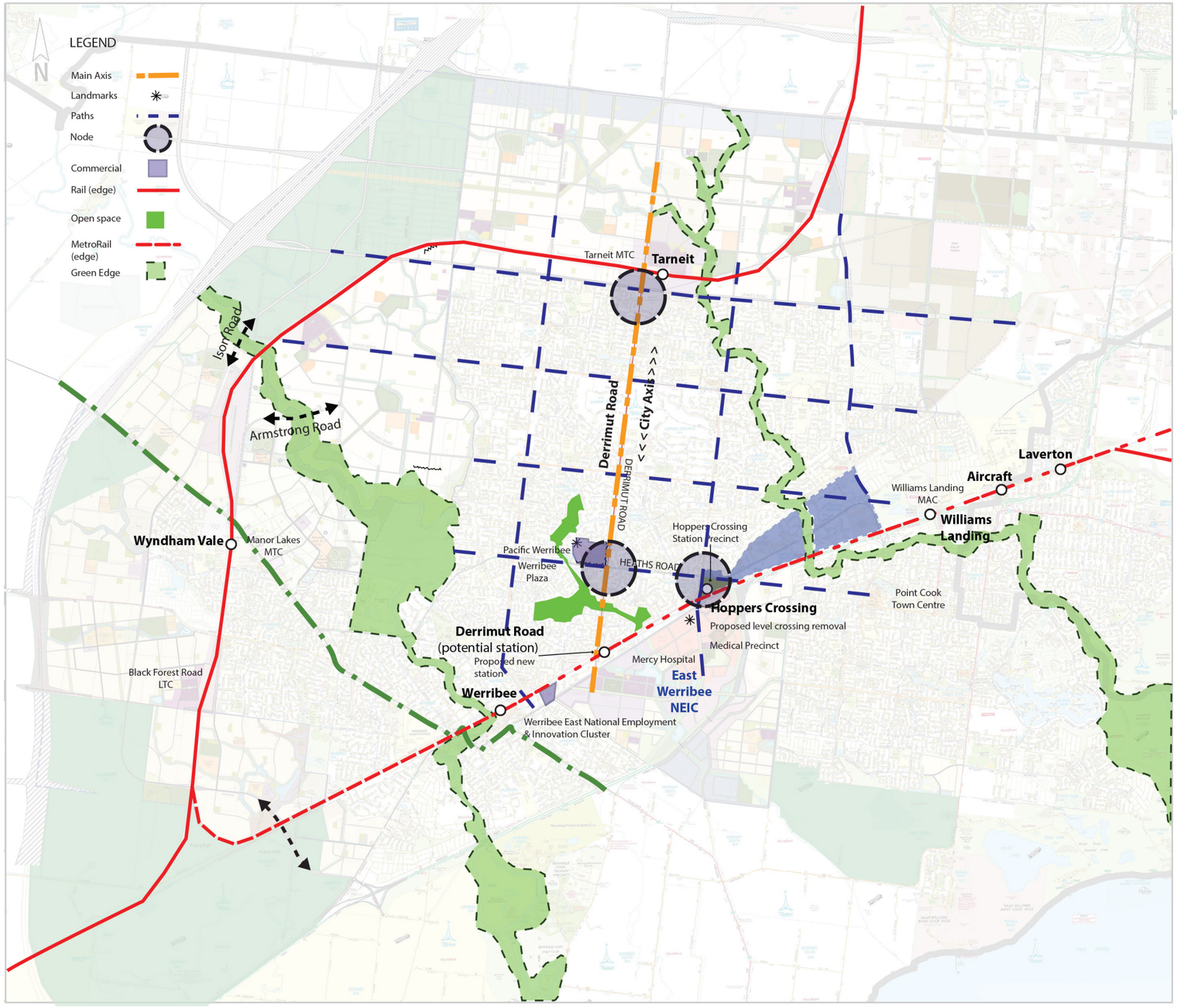
(Refer Figure 5.1 - shows Some of the city elements are defined in more detail below and have been mapped)

Edges are the linear elements that form boundaries, breaks in the continuity of urban areas or seams along which two regions are joined together. Wyndham examples include the Western Plains Grasslands, Port Phillip Bay and the Princes Freeway, the rail corridors and the Werribee river. (Refer Figure 5.1.a)

Districts are the medium to large sections of the city which are identifiable because of a strong common recognisable character. Wyndham examples include East Werribee Market Gardens, Sanctuary Lakes, Werribee town centre, Woodville, and the Werribee Mansion/Park Precinct.(Refer Figure 5.1.b)

Paths are the channels that assist with the flow of people and allow the city to be observed while moving through it. These are predominantly streets, parks, waterway corridors, boulevards, squares and malls. Wyndham examples include Princess Highway, Federation Trail, and Derrimut Road (NB Princess Freeway and the two rail corridors, while providing intercity connections are significant edge conditions).(Refer Figure 5.1.c)

Nodes are strategic points, or intensive foci created by activity centres, junction of paths, main streets or enclosed squares that have a unique physical character. Wyndham examples include Point Cook Shopping Centre, Werribee Town Centre, Pacific Werribee and Werribee East.



(Reference Figure 5.1 - shows Lynchian Map for Contextual Assessment)

Landmarks are reference points visually seen above buildings or on prominent routes, and include physical objects, buildings, signs or prominent natural features. Wyndham examples include external views to the You Yangs or the Melbourne CBD. Local landmarks include the Laverton Weather Station, the Melbourne Water Board water towers in Werribee on Cowie's Hill, and Werribee South. Cowie's Hill is one of the few prominent elevated rises in the Tarneit district, however, the opportunity to reinforce this landmark as a memorable parkland with passive recreational space, offering extended vistas and views to Melbourne's CBD and the western planes, was lost with residential subdivision being allowed to be extend over the site. (Refer Figure 5.1.d)

5.2 Landscape structure

The Werribee River is a major waterway and feature within the municipality. It is a perennial river located on the western plains and its headwaters are a major tributary of the Lerderderg River. Running from the north of Ballan near Daylesford, it flows 110 km across the basalt plains into Port Phillip Bay at Werribee South. Throughout the Wyndham landscape there are multiple natural depressions (wetlands) across the volcanic plain. Ephemeral waterways include Skeleton Creek, Dry Creek, Davis Creek, Lollypop Creek, Cherry Tree Creek and other unnamed tributaries generally running on a north-south axis through the suburbs. The landscape structure present challenges such as providing bridges and crossings and ways to integrate natural areas into the urban fabric. Wyndham is often described as being flat with few natural elevated landmarks. Hence, an opportunity exists to develop landmark buildings of world class design along the Werribee spine, which could assist with enhancing visual identity, legibility and movement.

5.3 Town centres

Town centres are located along the rail line at Black Forest Road, Wyndham Vale, Sayers Road, Davis Road, Tarneit and Truganina. There is a string of emerging urban centres located along the Werribee Line including Werribee City Centre, East Werribee, Hoppers Crossing, Old Geelong Road commercial strip and Williams Landing. Linkage of the Werribee Line and the Regional Rail Link with a connecting spur line in the future will create a city loop of trains connecting centres with regional destinations.



(Reference Figure for 5.1.a - shows Edge, Port Phillip Bay)



(Reference Figure for 5.1.c - shows Paths, Princess Highway)



(Reference Figure for 5.1.b - shows District, Werribee South Market Gardens)



(Reference Figure for 5.1.d - shows Landmark, Werribee Mansion)

5.4 Arterial roads

In Wyndham the superblock (or the one-mile grid) has provided a framework for suburban growth since the 1950s. The arterial roads that define the boundaries of neighbourhoods form the basic building blocks of the city. Derrimut Road, Heaths Road, Point Cook Road and Ballan Road are main axial roads in Wyndham.
The arterial roads are more than twice the width of inner-city roads, and this impedes linkages between suburbs. The extra width provides opportunities to develop arterial roads as boulevards catering for all forms of movement, with the introduction of trees, parkways and other compatible land uses. (Refer Figures 5.4 - shows the grid structure of the city)

5.5 Major axial roads

Derrimut Road and Heaths Road transect the city and combine to form the main axial boulevards of the city. Derrimut Road connects Tarneit Central, Pacific Werribee junction, Werribee East and Hoppers Crossing station. The main axial boulevards have the potential to communicate their visual and functional role as well as restructuring with higher residential densities. The central axial boulevards should unite elements of the city as opposed to becoming wide functional car dominated thoroughfares. Derrimut Road has an important role to play in strengthening connections between the inner suburbs of the city.

5.6 Junctions and activity nodes

The intersections of arterial roads form prominent junctions and are viewed by large numbers of people moving through the City. The intersection of Heaths Road and Derrimut Road is a high profile site punctuated by Pacific Werribee. These prominent joints in the urban fabric provide possibilities for creating activity nodes accessible from local neighbourhoods. There are opportunities to increase densities, and a mix of uses including commercial, civic and community focused activities, around these intersections. Visual amenity, urban definition and destination legibility can be significantly enhanced through world class architecturally designed five to six storey buildings and sensitive landscape designed plaza spaces framed by a pedestrian sensitive boulevard approach to these nodes.

(Refer Figure 35 that shows the grid structure of the city).

5.7 Neighbourhood structure

Modern approaches to suburban development have produced distinct areas with their own structure and identity. The typologies shown here are common to suburban areas with similar characteristics. Each of the typologies discussed have strengths and weaknesses. Learnings from these assists with the formation of principles that lead to the application of preferred patterns of subdivision design.

- **Traditional grid**

The Werribee grid was built in the 1960s and is characterised by small block sizes approximately 250x 84m. This allowed lots to address the streets. Local open space was integrated with houses into the fabric of the urban area and the fine-grained areas provided a street network that assisted with permeability, movement and walkability. (Refer Figures 5.7.a)

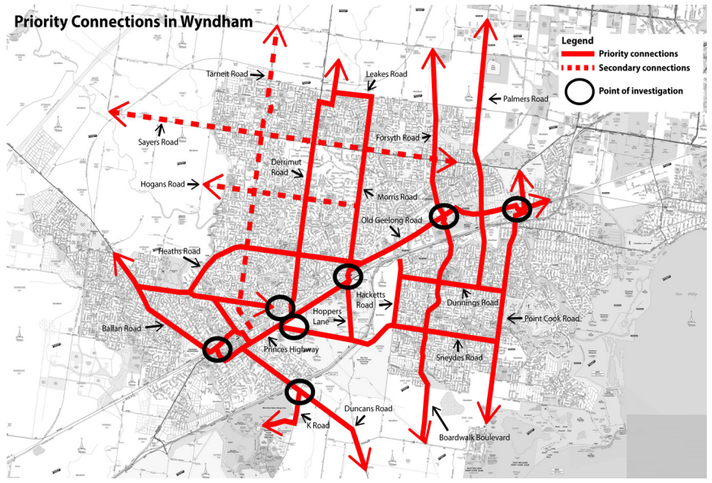
- **Post War Suburban – The Radburn experiment**

The Hoppers Crossing subdivision is based on the layout of Radburn Sunshine New Jersey (1922-1929), which has urban blocks, on average, five times larger than Werribee. The suburb has an irregular structure, curvilinear streets, a high number of cul-de-sacs and open space penetrating behind houses. The social inequity in some of these areas needs to be addressed to provide access to community services and local open space. This planning structure lacks permeability and connectivity to neighbouring areas. While the structure eliminated inter-neighbourhood drive through access, very few pedestrian short-cuts were provided. Consequentially 'Pedsheds' were extended significantly, with residents having to walk excessive distances to connect with public transport or access activity centres.
(NB. Henry Wright and Clarence Stein's design for "Radburn" New Jersey 1922 -1929 punctuated the start of suburbanisation. The design applied to 1970s Australian suburbia was one of a series of factors leading to serious social problems on these types of estates i.e. social isolation, open space penetrating behind houses through the organic subdivision layout. The issues that relate to connectivity, access to quality public spaces and community facilities are still apparent today). (Refer Figures 5.7.b)

- **Fused grid**

Suburban areas of Hoppers Crossing have a fused pattern of grid streets broken down with fewer intersecting streets. Open space is frequently located at the end of dead-end streets. While this offers a higher level of passive recreation, it is nonetheless confusing to motorists and depending on the quality and maintenance of these open spaces, can be disconcerting to residents and out-of-neighbourhood pedestrians. The fused grid of local streets consumes land and requires high levels of infrastructure services.

(Refer Figures 5.7.c)



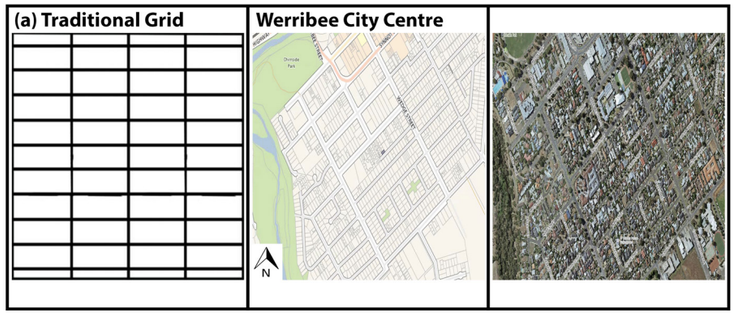
(Reference Figure for 5.4 - shows Arterial Roads)

WYNDHAM ROADS	WIDTH	INNER CITY ROADS	WIDTH
Derrimut Road	43	Clarendon Street – South Melbourne	25m
Point Cook Road	49m	William Street – Melbourne	30m
Ballan Road	61m	Nicholson Street – Carlton	26m
Tarneit Road (with service roads)	50m	Canterbury Road – Camberwell	20m
Leaks Road	51m	Tooronga Road – Malvern	20m
Old Geelong Road*	61m	Kooyong Road – Caulfield	20m
Snyedes Road	63m	Bourke Street – Melbourne	30m
Greens Road (with service roads)	61m	Arden Street – North Melbourne	30m
Forsyth Road (with service roads)	81m	Hopkins Road Footscray	21

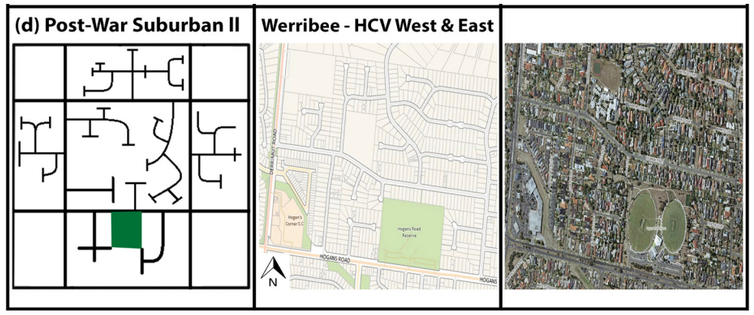
(Reference Figure for 5.4 - shows Comparison between Arterial Roads and Other City roads in Victoria)

- **New Growth neighbourhood design**

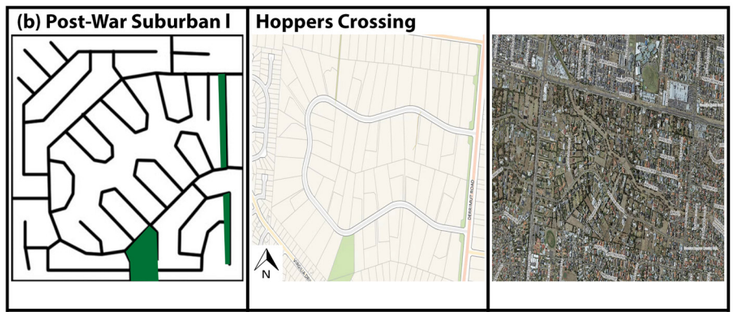
The urban areas include Tarneit, Point Cook, Truganina and Wyndham Vale that were developed after 2005. The adapted grid pattern of development generally supports the urban structure's permeability and movement. The grid has broken down with limited crossings where roads meet waterways, railway lines and conservation areas. Wide swathes of organic free flowing open space such as utility corridors penetrate suburban areas in and behind houses and the grid has been poorly applied where it encounters different land ownership, often resulting in the disconnection of main roads. (Refer Figure 5.7.d)



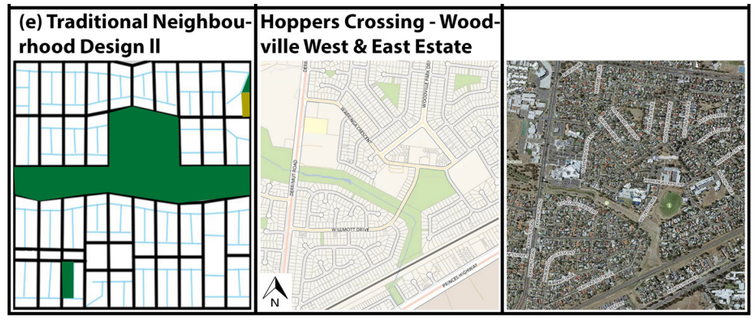
(Reference Figure for 5.7.a - shows Traditional Grid of Suburban Structures)



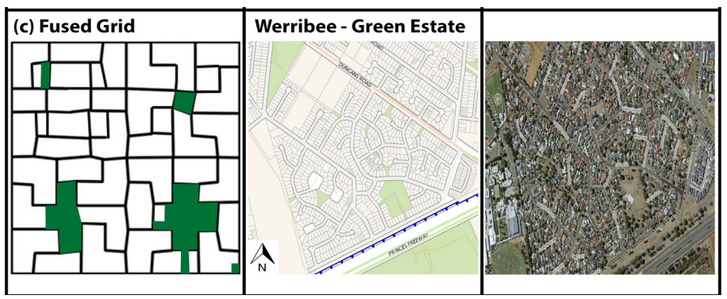
(Reference Figure for 5.7.b - shows Post War Suburban Structures)



(Reference Figure for 5.7.b - shows Post War Suburban Structures)



(Reference Figure for 5.7.d - shows Traditional Neighbourhood Design of Suburban Structures)



(Reference Figure for 5.7.c - shows Fused Grid of Suburban Structures)



(Reference Figure for 5.7.a - shows Adaptive Grid of Suburban Structures)

6 SPATIAL ASSESSMENT

6.1 Land Area

The City of Wyndham is located on the western edge of Melbourne, between the metropolitan area and Geelong. Wyndham covers a square area of 542km and features 27.4km of coastline bordering Port Phillip to the east. The city is approximately the same area as Melbourne. Melbourne and Wyndham have a similar catchment within an eight kilometre catchment of Flinders Street and Werribee railway stations respectively. In measured physical area Werribee, Wyndham Vale, Tarneit and Point Cook are comparable to the inner suburbs of Melbourne. Population densities vary significantly from Melbourne with Wyndham having some of lowest suburban densities.

6.2 Residential land use

The central parts of the city are predominately residential zones with the outer suburbs located in the Urban Growth Zone. While development in Wyndham is occurring on two fronts, firstly infill development and secondly Greenfield sites in growth areas, most of the land being actively developed is in the urban growth zone. This accounts for 88%, compared with 7% infill development in the established suburbs. Five per cent of residential activity is tagged as urban renewal which pertains to the redevelopment of existing sites. In 2017 4,576 building permits were issued across the city, the majority of these being for detached housing located along multiple fragmented growth fronts on the urban fringe of the city.

In percentage terms, the 2017 calendar year distribution of permits between the groupings of suburbs was as follows:

- North 47% (Tarneit 27%, Truganina 17% and Williams Landing 3%)
- West 9% (Wyndham Vale 6% and Manor Lakes 3%)
- Central 17% (Werribee 16% and Hoppers Crossing 1%)
- South 27% (Point Cook 26% and Werribee South 1%)

(Refer Figures 6.2)

6.3 Growth fronts

Plan Melbourne 2017 – 2050 designates Wyndham as one of four growth areas to deliver affordable housing over the next 30-40 years. Precinct Structure Plans (PSPs) orientate new development along a North-West Axis and along the existing V-Line and Metro Railway corridors. Five new suburbs are being established around new major activity centres (Tarneit, Truganina, Williams Landing, Point Cook and Wyndham Vale). By the time they are fully developed and extended northwards, there is potential for at least another 56,000 new dwellings in these suburbs. A further three new suburbs around Werribee West, Black Forest and Riverdale (Sayers Road) are also planned.

6.4 Town centres

The location of activity centres provides a strong structure for city growth. The distance between most town centres located along Regional Rail link and Werribee City Centre is less than five kilometres. There are no obvious gaps in overlapping retail catchments, i.e. the centres are competing for retail space especially town centres with large format retail that have a wider population catchment. The size of the retail catchment appears to be determined by a number of factors, including population density and accessibility, format and size of the specific retail components and the development's competitive intensity. (Refer Figures 6.4)

6.5 Strategic sites

Werribee East, Hoppers Crossing, Point Cook and Williams Landing, are located adjacent to the Werribee Metro rail line. There are vacant sites available for infill development within 800metres of stations along it. These sites include:

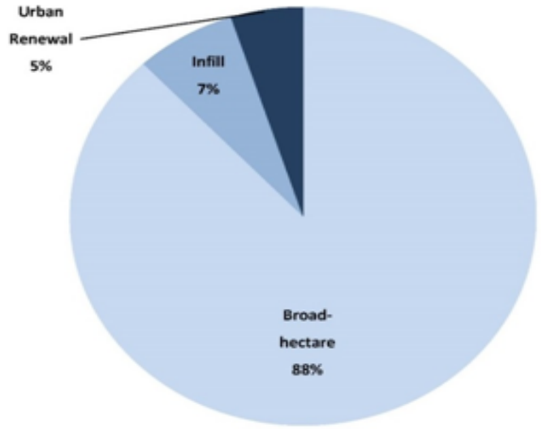
- East Werribee, comprising 775 hectares of predominantly Greenfield land that has been earmarked for development as a national employment and innovation cluster (NEIC) with a university.
- Old Geelong Road commercial area in Hoppers Crossing, comprising a total area of approximately 187.74 hectares of land that could be suitable for future urban renewal. (Refer Figures 6.5)

6.6 Employment land

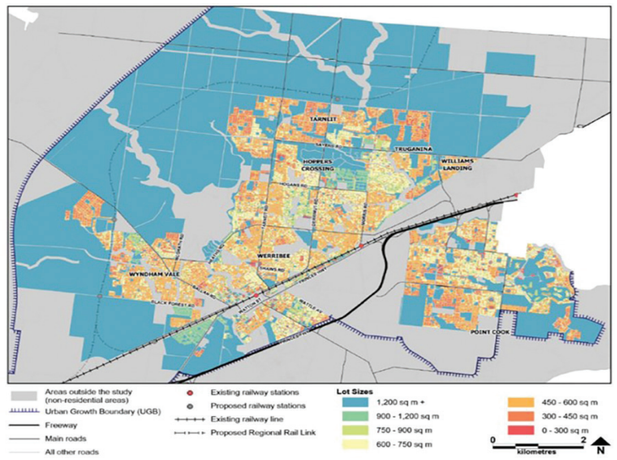
Wyndham has a diverse local economy, including major industrial and logistics areas located in Laverton North and Wallace Avenue in Point Cook. The major industry sector for employment is manufacturing, construction, retail trade, transport and health care. In a regional context, however, there are fewer employment opportunities in Wyndham compared to Melbourne. The absence of local employment and education opportunities leads to the substantial movement of people in and out of the city at peak times. (Refer Figure 6.6)

6.7 Dwellings per hectare

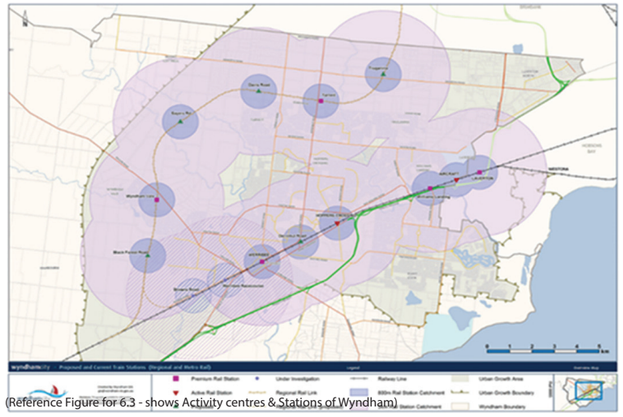
Suburban development in growth areas is predominantly low-density development with an average of 16 lots per hectare. The number of dwellings per hectare range from 15.63 in Black Forest Road precinct to a high of 17 in Westbrook. Dwelling density per ha has remained relatively constant despite reducing lot sizes. This is largely due to encumbered land, increased open space and wide road reserves. Also land for conservation, drainage, leisure and education uses are often provided through individual parcels of land – each fulfilling a separate function. This means that higher net residential densities may not yield the gross residential densities necessary to support viable neighbourhood centres or public transport. (Refer Figure 6.7)



(Reference Figure for 6.2 - shows Development patterns for Inner and Outer suburbs of Wyndham)



(Reference Figure for 6.2 - shows Wyndham housing density map showing the distribution of low density housing on the fringe of the city)



(Reference Figure for 6.3 - shows Activity centres & Stations of Wyndham)

(Reference Figure for 6.4 - shows Town Centres and Railway Stations)

6.8 Density and urban form

Suburban development patterns are characterised by declining lot sizes, an increase in dwelling site coverage, low number of dwellings per hectares and increasing amounts of open space in new suburbs. Lot sizes have been steadily decreasing with dwelling site coverage increasing. High site coverage is occurring in growth areas with older suburbs having less site coverage because of the large lot sizes.

Infill development in older suburbs often occurs with dependent persons units and dwelling extensions. This is creating greater site coverage on some lots in older suburbs such as Werribee and Hoppers Crossing. Established suburbs are more likely to evolve and change with residential infill. This allows these suburbs to evolve with higher densities in the future.

Some of the specific patterns of contemporary suburban development is characterised by the following.

- A progressive decline in lot size from an average of 900 sq. m. in the 1970s to below 400 sq. m. in 2017.
- A decrease in front setbacks from 6.67m in traditional subdivisions to 4.3m in growth areas
- A reduction in side setbacks from 6.33m in post war suburban areas to 1m side setbacks in growth areas
- A decrease in rear setbacks from 25.33m in Post War suburbs down to 6.33 in growth areas (Refer Figures 6.8)

6.9 Distribution of community facilities

Community facilities are dispersed across the suburban areas of Wyndham. Most of the community facilities are located on the periphery or outside of activity centres. The location of activity centres is influenced by factors such as the high cost of land in activity centres, co-location of community facilities with schools and the lag time between the delivery of community facilities and the establishment of residential neighbourhoods. For similar reasons, social infrastructure, including non-profit organisations and low-valued activities (high-catchment reliant), find difficulty in locating within activity centres. Wyndham has five libraries but parts of the City do not have reasonable access to libraries within their immediate catchments e.g. Hoppers Crossing, from a spatial perspective, Hoppers Crossing, Williams Landing have few community facilities, which, given its development potential, stands as a location to consider when introducing any services. (Refer Figures 6.9)

6.10 Access to community facilities

Wyndham is socially disadvantaged, as illustrated by the contrasting levels of services and infrastructure across Metropolitan Melbourne. A City Pulse report published in the Herald Sun, indicated that Inner-City suburbs have better access to community facilities such as aged care, childcare, all levels of education, churches, health services, and hospitals. Geographically most of Wyndham's regional tourist destinations, community facilities, major sport facilities and open spaces are located south of the metro rail corridor. The Northern side of the city is therefore significantly under-represented with respect to community facilities, sport and recreation amenities. (Refer Figure 6.10)

6.11 Regional cities benchmarking

Compared to regional cities such as Greater Geelong and Melbourne, Wyndham has fewer major regional and cultural facilities such as national sports stadiums, botanic gardens and urban parks, which attract tourists on a more regular basis with their sporting events and cultural attractions. Even though Wyndham has significant tourism assets such as the Werribee Zoo, the Rose Garden, the Mansion and Werribee Park, these are once again outside of any walkability catchment or easy access via public transport for local residents, especially families living north of the Princess freeway and the metro rail corridor. Unfortunately, none of the PSP plans appear to have taken this aspect into consideration, and sites which may be able to accommodate this form of social infrastructure are quickly diminishing.

6.12Location of open space

The amount of open space required in suburbs has steadily increased from the current allocation in established suburbs and the allocation being planned and provided for in new suburbs. For example, some neighbourhoods in established suburbs have as little as two per cent open space, compared to growth suburbs that have more than ten per cent active and passive open space, yet significantly reduced private open space.

With infill development and changing socio-economic demographics, open space needs to be acquired to provide access for local residents. In established suburbs, there is limited access to open space within easy walking distance of houses. A gap analysis should be completed to investigate where additional amount of space is needed. There is an absence of civic space with meaningful cultural associations in activity centres. There are also few well-designed and memorable open spaces in the city with genuine cultural meaning. Adding to this the lack of public access to land along the Werribee River, to the coast at Werribee South, and gaps in the regional links such as the Federation Trail contribute to a lost opportunity to offer natural spaces to inhabitants of the area. (Refer Figure 6.12)

Town centre	Km	Comments
Manor Lakes	5.0	Located on Ballan Road armature
Tarneit	6.8	Central axial connection along Derrimut Road
Riverdale	8.8	Located on the north side Werribee River
Black Forest Road North	5.2	Poor connections West of Werribee City Centre
Pacific Werribee	4.3	Directly competing with Werribee

(Reference Figure for 6.4 - shows Town Centre Distances by Road from Werribee City Centre)



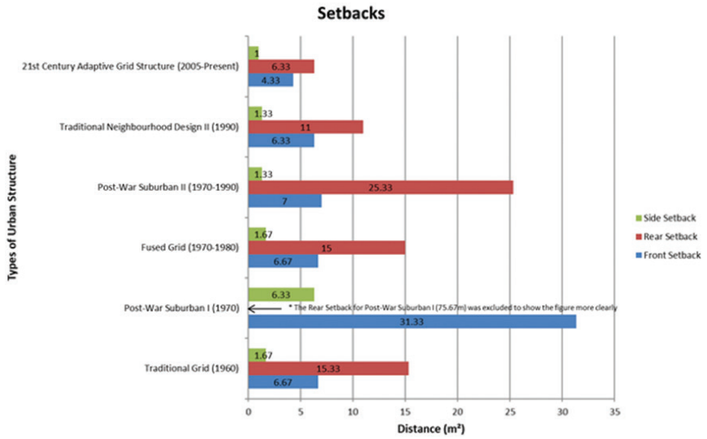
(Reference Figure for 6.5 - shows Williams Landing - Strategic Site)



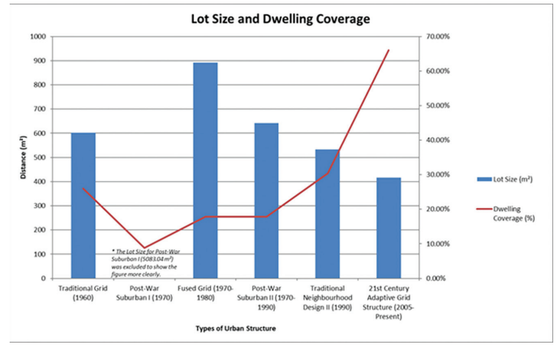
(Reference Figure for 6.5 - shows East Werribee Employment Precinct Strategic site)

6.13 Non-residential land

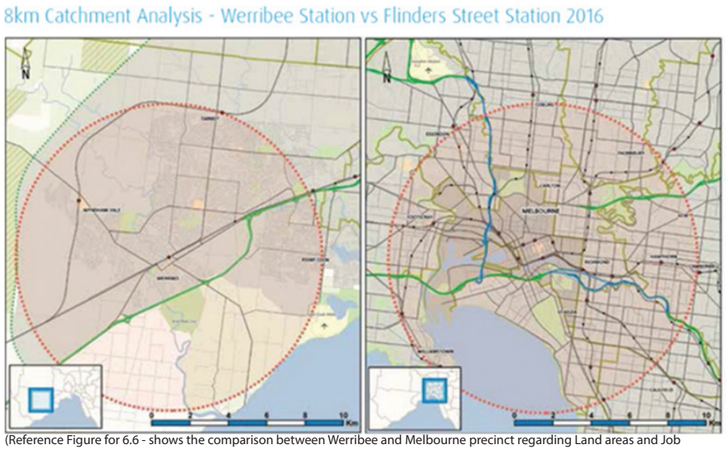
More land is being reserved for non-residential purposes. These include open space (over 10%), road reserves (Wallan Road 24 %) and Ballan Road (24%) which all reduce the net developable land. While the use of land for non-residential purposes is resulting in lower density residential suburbs that are often separated by a free-flowing open space network, many of these linear spaces, being tributaries of a dry watercourse system, do not have street frontage. Hence, the opportunity to establish high value passive recreation spaces along this dry-water course network using Crime Preventative Environmental Design principals CPED (reinforcing perceived safety with 'eyes-on the space', appropriate low level planting, and a well-considered lighting strategy), could significantly improve the walkability and cycling within and between neighbourhoods. While there has been a decrease in lot size there has been no corresponding increase in the number of dwellings per hectare.



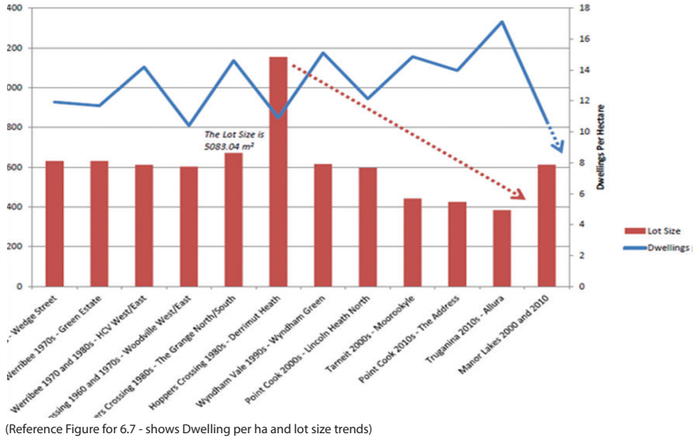
(Reference Figure for 6.8 - shows Front and Side setbacks from; Source: City Design)



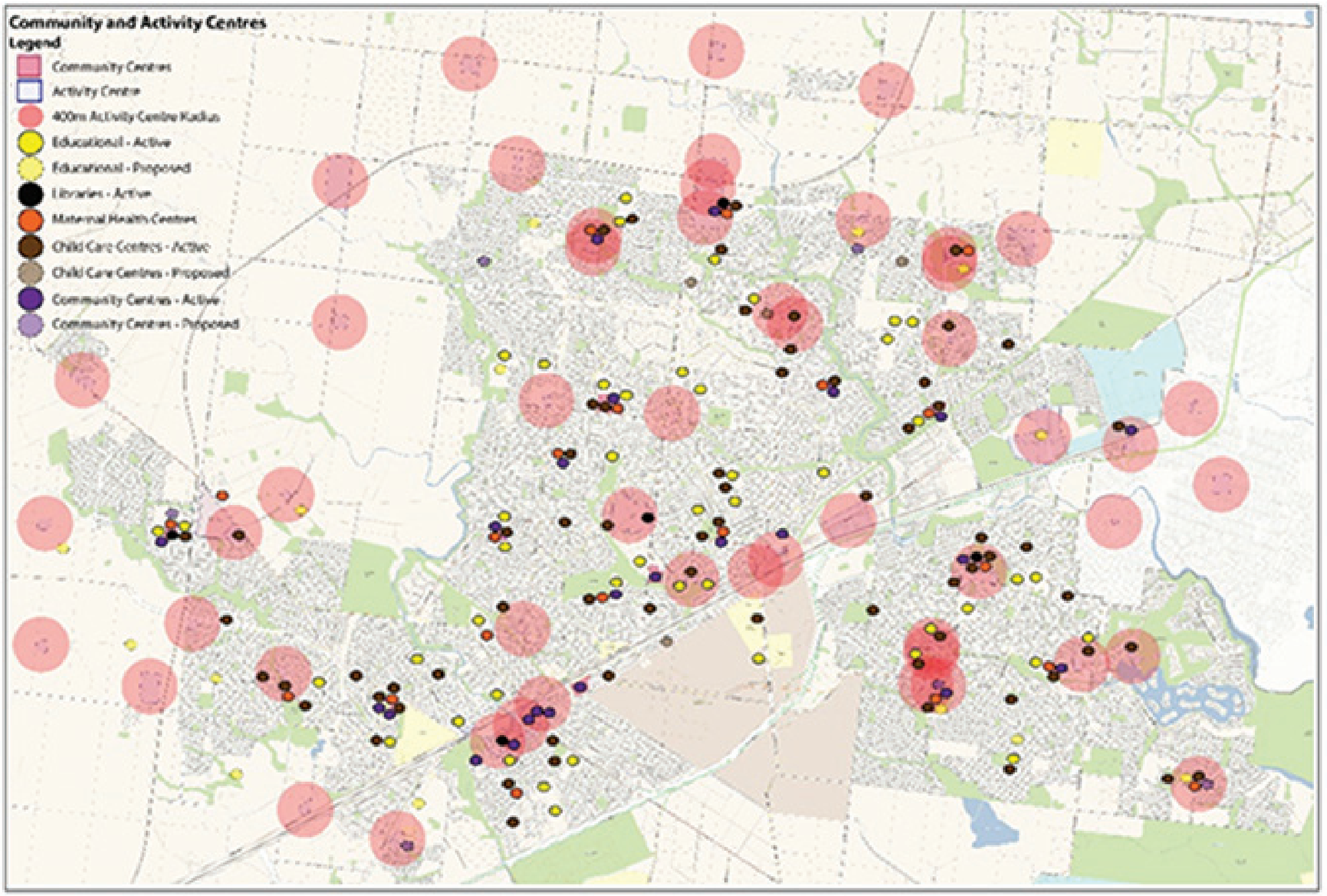
(Reference Figure for 6.8 - shows Lot Size and Dwelling Coverage; Source: City Design)



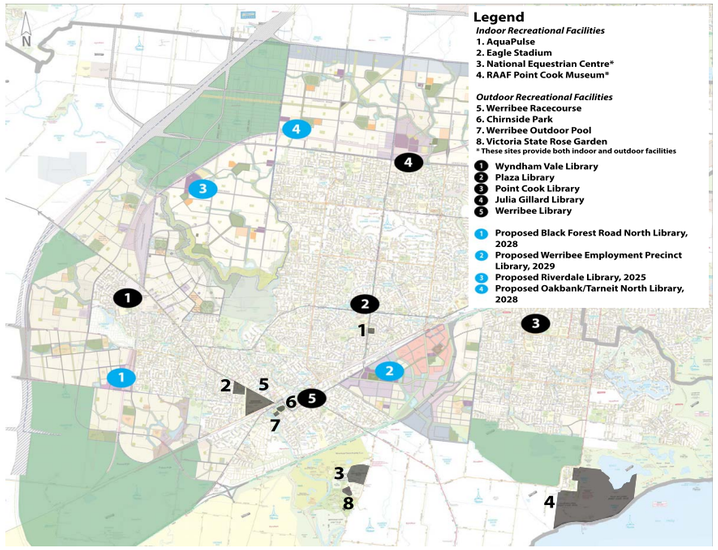
(Reference Figure for 6.6 - shows the comparison between Werribee and Melbourne precinct regarding Land areas and Job opportunities)



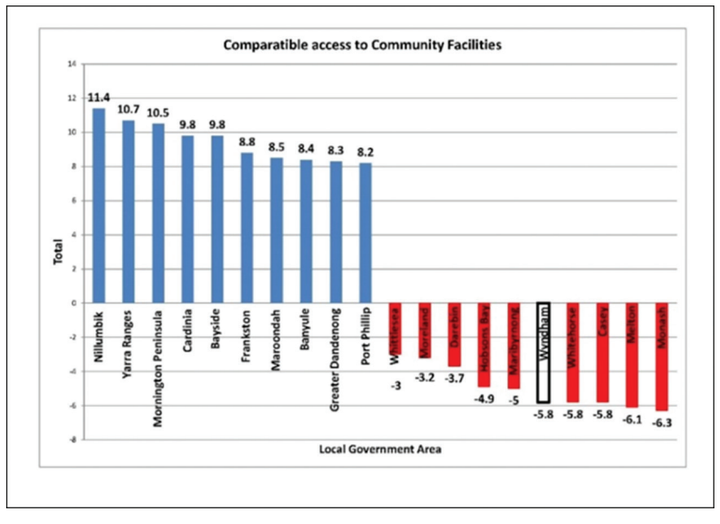
(Reference Figure for 6.7 - shows Dwelling per ha and lot size trends)



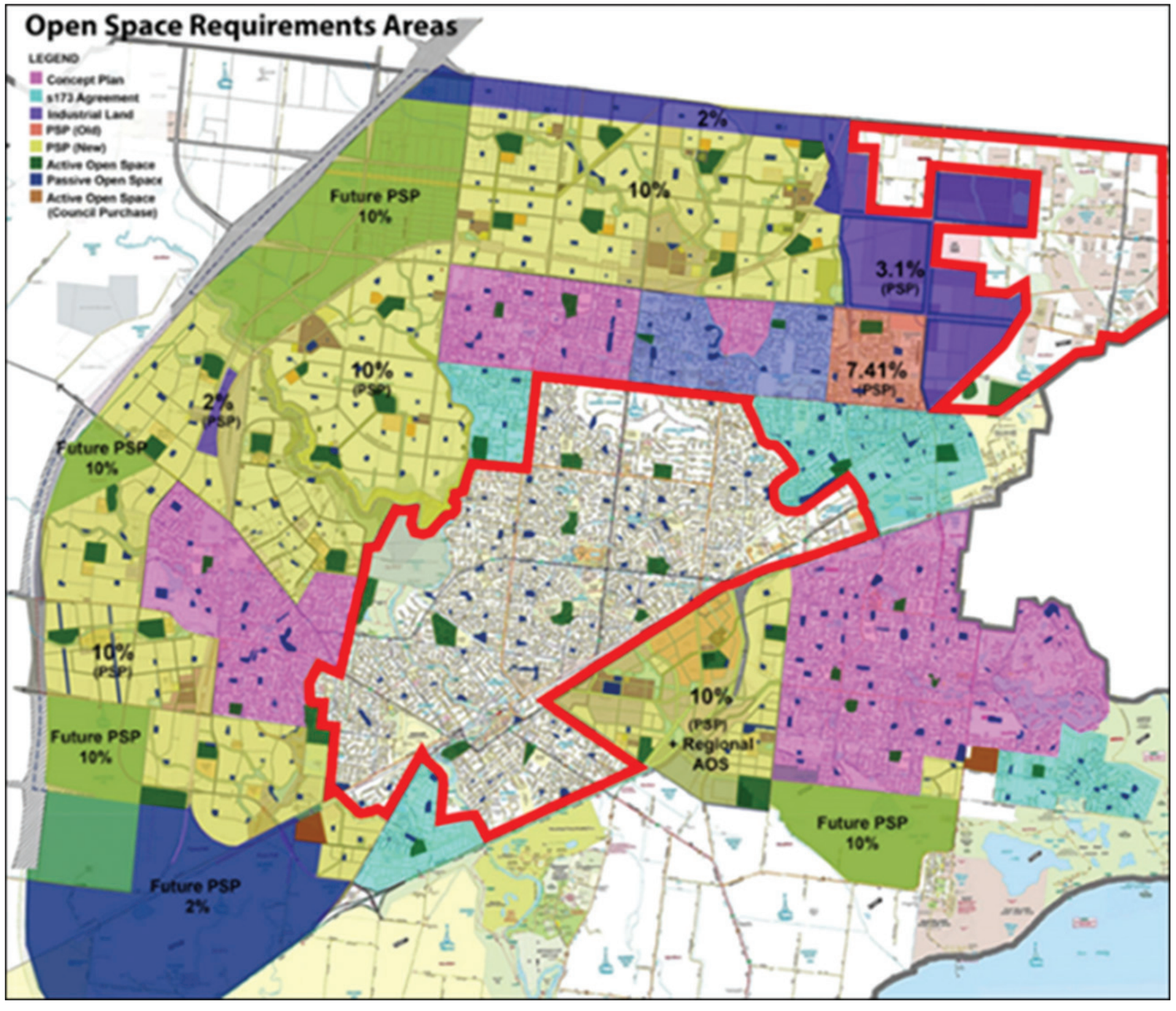
(Reference Figure for 6.9 - shows Variety of sports and cultural activities across differing Municipalities across Australia)



(Reference Figure for 6.9 - shows Distribution of Libraries and other community facilities across Wyndham)



(Reference Figure for 6.10 - shows Comparable access to community facilities; Source: Herald Sun Newspaper)



(Reference Figure for 6.12 - shows Distribution of Open Spaces)

PART 2- “WHAT IF?”

8 THEMES FOR A 21ST CENTURY FUTURE

“CONNECT, INSPIRE, CREATE, CULTIVATING PLACES FOR PEOPLE TO GROW OUR COMMUNITY”

THEME 1 – INTEGRATING TRANSPORT AND LAND USE
THEME 2 – OUR CENTRAL STRENGTH: THE WERRIBEE SPINE
THEME 3 – STRENGTHENING CITY STRUCTURES AND AXIAL ROADS
THEME 4 – CREATING SUB-URBAN TOWN CENTRES
THEME 5 –TOWN SQUARES AND FRAMED URBAN SPACES:SUCCESSFUL DESIGN
THEME 6 – DEVELOPING SPATIAL INTEGRATION
THEME 7 – GREENING THE CITY FRAMEWORK
THEME 8 – SPATIAL SEQUENCING, LINKING AND WALKABILITY

PART 2 - “WHAT IF?”



THEME 1 - INTEGRATING TRANSPORT AND LAND USE

Metro rail and the Regional Rail Link provide public transport infrastructure that supports the future development of growth areas, town centres and higher populations along Derrimut Road axis and the Werribee Spine.

THE CHALLENGE

Regional trains bypass Werribee, undermining the emergence of urban centres through the centre of the City. The role of the RRL and the Metro rail line need to be clarified in terms of their suburban and urban contexts i.e. rail should support the emergence of urban centres along the Werribee Spine, as the RRL provides a suburban passenger service to the outer suburbs on the edge of Wyndham.

Wyndhamcity Melways

Legend

Legend

- Core Activity Spine
- Freeway
- Future OMR Corridor
- Future PSP Areas
- Rail Corridor
- Future Rail Connection
- Municipal Boundary
- Focal Area/Node

Numbered Corridors and Focal Areas:

1. Hoppers Crossing (LX removal and station precinct renewal)
2. RRL Spur Link (plus connection to Avalon Airport)
3. Derrimut Road Spine (light rail corridor)
4. Werribee River Crossings (Ison & Armstrong Roads)
5. Ison Road to Princes Fwy Connection
6. Point Cook Light Rail Corridors

Scale

0 1 2 3 km

Overview Map

wyndhamcity

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1. Hoppers Crossing (LX removal and station precinct renewal)
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5. Ison Road to Princes Fwy Connection
6. Point Cook Light Rail Corridors

Truganina (future station)
Tarneit North Town Centre
Tarneit West (future station)
Tarneit MTC
Tarneit
Sayers Road (future station)
Riverdale MTC
Ison Road
Armstrong Road
Derrimut Road
City Axis
Laverton
Aircraft
Williams Landing MAC
Williams Landing
Wyndham Vale
Manor Lakes MTC
Werribee Plaza
Point Cook Town Centre
Hoppers Crossing
Derrimut Road (potential station)
East Werribee NEIC
Black Forest Road LTC
Black Forest Road (future station)
Werribee
Werribee Racecourse (potential station)
Browns Road (potential station)

PART 2 - "WHAT IF?"

This part of the report presents a sequence of speculative large scale visions focused around eight key themes.

THEME 1 – INTEGRATING TRANSPORT AND LAND USE

Transport infrastructure improvements have occurred in isolation to land use planning. The main transport issues relate to the lack of clarity regarding the roles of the Werribee Metro rail line and the Regional Rail Link, and how these relate to land use, the activity centre hierarchy and broader regional connections. The regional train system that bypasses Werribee City Centre fails to reinforce its role as the primary regional destination linking both Melbourne and Geelong. More clarity is needed in relation to the role of Regional Rail Link and the major town centres in the suburban context. The Regional Rail Link that stops at Tarneit should also provide a suburban passenger service to Melbourne. The future spur rail connection between the Regional Rail Link and the Metropolitan line would provide a loop between Werribee Town Centre and Wyndham's out of town centres servicing the northern growth areas.

The northern and southern sides of the city are divided by the Metro rail and the Princess Freeway. The design of a station where Derrimut Road intersects with the Metro line along with suitable road/rail crossings at Hoppers Crossing (Werribee East), are crucial to the revitalisation of central urban areas of the city, and to enhance connections between Hoppers Crossing and Point Cook.

Providing a light-rail connection between Tarneit and the proposed station at Derrimut Road, would complete the rapid transport link between the Northern growth areas, Pacific Werribee and the Werribee spine, and facilitate access to the neighbourhoods flanking the east and west sides of Derrimut Road.

Design objectives

- An efficient rail system that reduces travel times to town centres, regional destinations and Melbourne
- Light rail that improves north south connections across the city linking destinations
- A place based approach to improved public transport interchanges
- Multi modal movement on boulevards uniting different layers of activity and movement
- Pedestrian friendly streets and transport interchanges.

Opportunities and proposals

- **Regional rail interchange**

Avalon Airport is centrally located in the region between Geelong and Wyndham. Its location and proximity to Wyndham makes the airport an ideal place for a transport interchange involving international air transfers to either the Metro rail connections at Werribee or continuing to Melbourne via the Regional Rail Link to Sunshine and either Tullamarine Airport or Melbourne's Southern Cross Station. The location of the regional transport interchange in one of Wyndham's suburban town centres located along the regional rail link, such as Tarneit, is likely to lead to one of these centres eclipsing Werribee town centre as the principal city centre. Hence management of the size, retail floor space and access to this town centre requires considerable forethought. (Refer Figure T1.1)

- **New train stations**

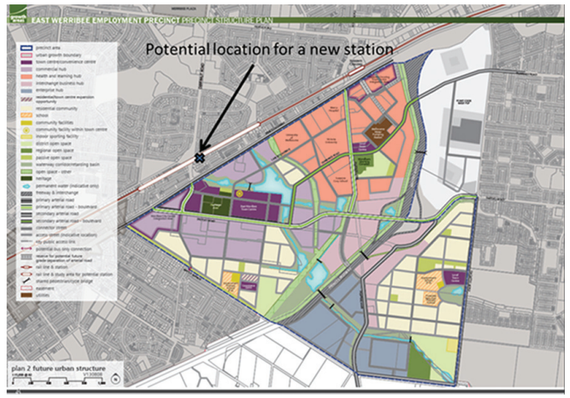
A new station needs to be located on the Metro rail line at Derrimut Road. The proposed station located at the junction of the Princess Highway and Derrimut Road could bridge into Werribee East Employment Precinct at Hackett's Road to better link it into the Werribee movement spine along the metro corridor. This would complement existing stations at Werribee Town Centre, Hoppers Crossing and Williams Landing. Hoppers Crossing station and the areas around the station could be upgraded to improve the interface between Hoppers Crossing Station and the Medical Precinct at Point Cook. Level crossing removal would occur as an essential part of this upgrade. (Refer Figures T1-2)

- **Light rail**

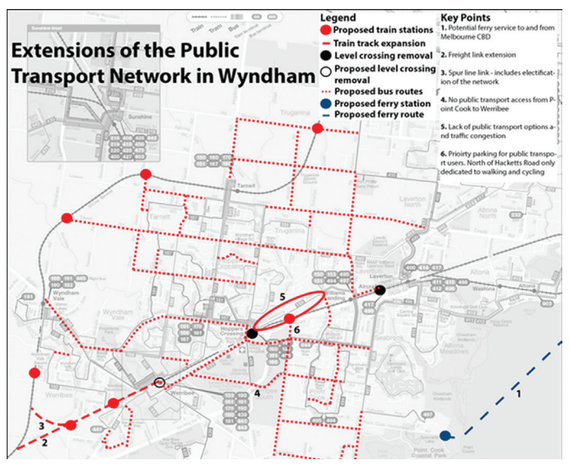
The expansion of the city with its northern growth fronts is progressively increasing the distance between the outer suburbs and the centre of the city. Derrimut Road is the main axial road running through the centre of the city. The role of Derrimut Road needs to be strengthened to prevent fragmentation between city elements and to reinforce connections, destinations and the overall structure of the city. Derrimut Road is a boulevard with sufficient width for a light rail connection linking Tarneit MTC, Hoppers Crossing, the proposed station where Derrimut Road intersects with the Metro line and Werribee East. The light rail corridor would link major elements along the boulevard including book-end activity centres, Pacific Werribee, Eagle Stadium as well as schools and businesses along the route. Light rail integrates well with pedestrian malls, urban parks, and adds symbolic value to the greater public realm and would revitalise the central north-south connection between Werribee East and Tarneit. Public transport stops would be located mid-block and be spaced approximately 800m apart. This would improve access to public transport and would support diversification and movement through the core of the city. (Refer Figure T1-3)



(Reference Figure for T1.1 - shows Rail System)



(Reference Figure for T1.2 - shows Map Showing the Location of the proposed Hopperscrossing Stations)



(Reference Figure for T1.2 - shows the possible extensions to the Public Transport network)

- **Level crossing removal**

The Victorian Government is removing dangerous and congested level crossings at Aviation Road and Werribee (Cherry Street and Werribee Streets). The benefits of level crossing removal include better connectivity, greater potential for economic and social development around stations, improved passenger experience and a potential for creating linear parks and piazza and/or plaza spaces for community interaction. Level crossing removal is also required at Hoppers Crossing to provide improved links between Hoppers Crossing and Point Cook medical precinct.

- **Smarter stations**

In the more efficient, sustainable smart cities of the future, railway stations are set to play a pivotal role. New stations are necessary on the metro line to provide more stops to the proposed urban centres of the city. There are opportunities to redevelop existing stations and build new ones to stimulate investment, locate social infrastructure and support employment incubators. The regional Rail Link stations situated in a suburban setting and transport interchanges of all kinds will be designed as a gateway to the city so travellers can gain a sense of arrival.

- **New and expanded bus services**

There are gaps in the public transport network which need to be addressed throughout the city. New routes and more frequent bus services are required for residents in Tarneit, Wyndham Vale, Truganina and Point Cook. These suburbs already have large numbers of people living in new estates that have poor or no access to public transport. Bus interchanges could be developed with a high level of pedestrian comfort, travel information and perceived safety.

- **Designing car parks in landscape**

The provision of car parking is a common element of the city's structure. Conventional car park designs are generally vehicle-focused, providing for efficient vehicle storage and movement within car parking areas. The current car park designs are characterised by open car parks with few landscape elements. Design guidelines are needed to ensure that an integrated approach is provided that gives priority to pedestrians, cyclists and public transport over motorised vehicles (specifically private cars). Car parks are often located in high profile locations; hence consideration should be given to a more biophilic enhancement of these spaces by taking the opportunity of increase tree canopy coverage. This will help to improve pedestrian comfort and assist in mitigating urban heat island effects. etc. (Refer Figure T1.4)

- **Urban rail and smart cities of the future**

'Smart Cities' look at opportunities to add technological enhancements to overcome what many see as the inherent inefficiencies of modern urban environments. The ultimate goal of cities is to support the aspirations of the people living in them. Technologies can assist in achieving a better quality of life. There is discussion about the impact of autonomous vehicles (AV) and cars. But if we focus on cars as a solution to our growing population problems, then a lot of the things that we love about our cities are going to get worse. One of the great things about autonomous technology is that it relies on superior data integration, which holds the potential to make our network more reliable – on time and efficient.

It is unlikely that AVs will lead to a demise in the role of urban transport rail-based transport. Rail has a fundamental inherent capacity for city building. Typically, most of the great cities of the world were designed before the age of the automobile, and their rail systems essentially guided their city's investment decisions and drove the success and growth of their communities. It would be difficult to build a great city without a rail-based system. Places such as Canberra that have traditionally relied on cars are starting to invest heavily in rail.

The benefits of rail as a city shaping framework contrasts with a car-based mobility system, which, regardless of whether or not it includes drivers, lends itself to a dispersed and mono-functional development pattern; it's intrinsically suburban as opposed to urban.

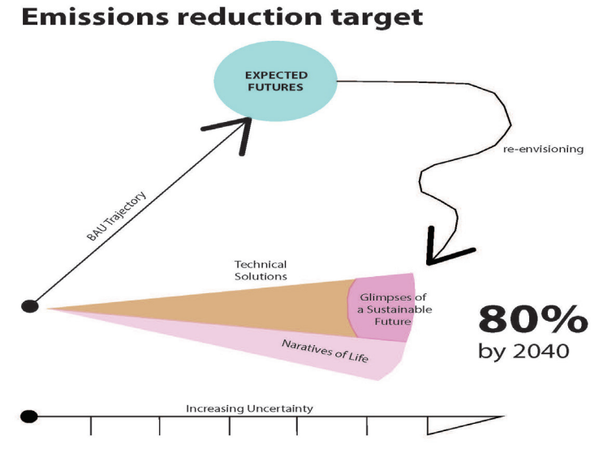
We cannot ignore the fact that our cities will continue to encompass many modes of transport with no single form necessarily dominant. Smart cities in the technological sense is very important as we need to take a less siloed approach to city planning, and ask ourselves how we can optimise rail as part of an integrated system with other modes of transport. Ultimately the aim is to reduce emissions with improvements to air quality. (Refer Figures T1.5)



(Reference Figure for T1.3 - shows Proposed Light Rail)



(Reference Figure for T1.4 - shows Concept for level crossing removal at Aviation Road; Aircraft Station)



(Reference Figure for T1.5 - shows Emission Reduction target for Urban Rail and Smart cities for the future)



(Reference Figure for T1.5 - shows Urban Rail and Smart cities for the future)



(Reference Figure for T1.5 - shows Urban Rail and Smart cities for the future)

Wyndhamcity
Melways

Legend

Legend

- Freeway
- Future OMR Corridor
- Future PSP Areas
- Rail Corridor
- Future Rail Connection
- Municipal Boundary
- Focal Area/Node

Numbered Corridors and Focal Areas:

1. Werribee City Centre
2. Werribee East
3. Werribee Plaza
4. Hoppers Crossing
5. Old Geelong Road
6. Williams Landing and surrounding areas

Scale

0 1 2 3 km

Overview Map

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THEME 2 - OUR CENTRAL STRENGTH: THE WERRIBEE SPINE

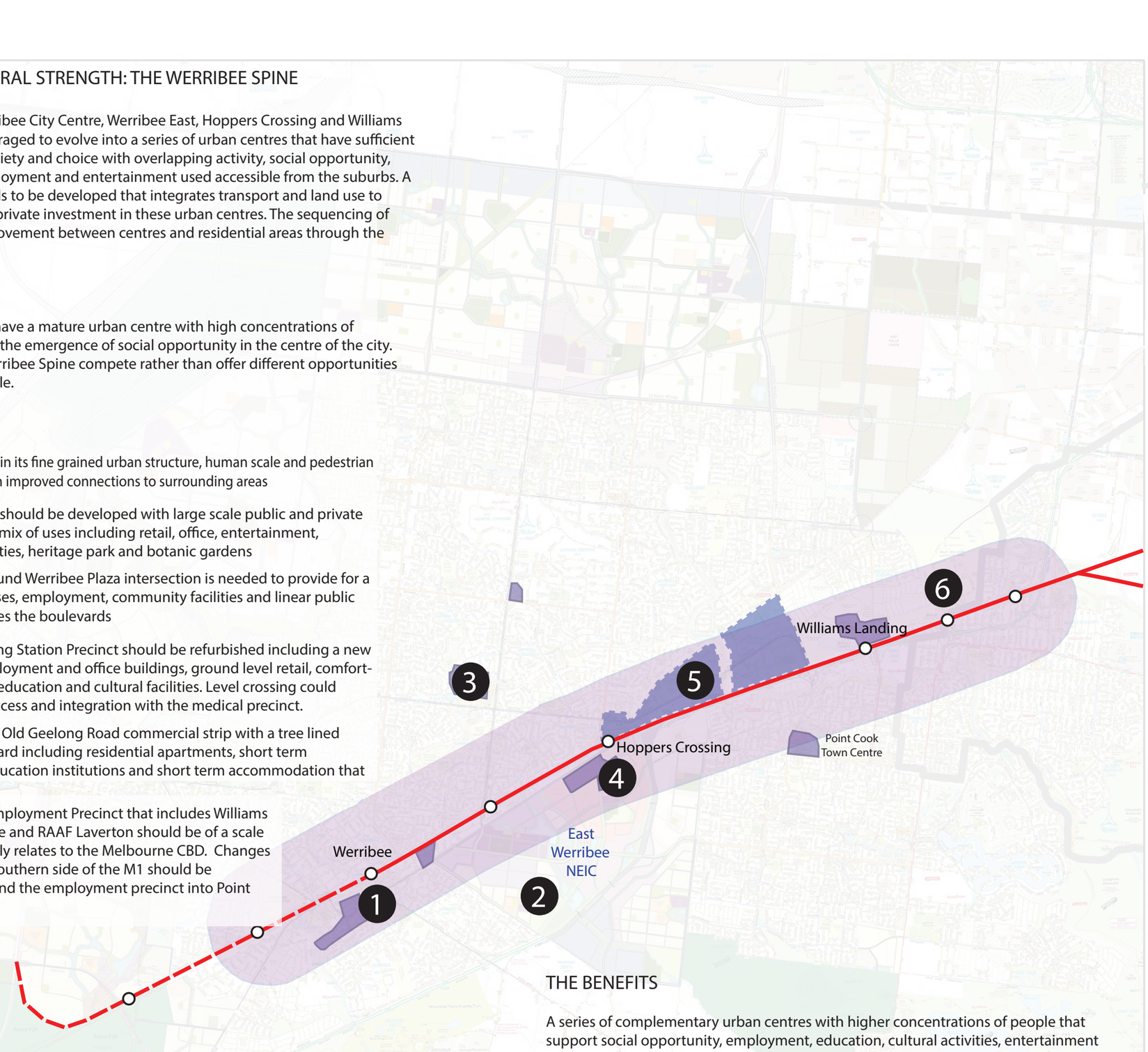
The Werribee Spine (Werribee City Centre, Werribee East, Hoppers Crossing and Williams Landing should be encouraged to evolve into a series of urban centres that have sufficient population to support variety and choice with overlapping activity, social opportunity, business, education, employment and entertainment used accessible from the suburbs. A planning framework needs to be developed that integrates transport and land use to support both public and private investment in these urban centres. The sequencing of spaces should connect movement between centres and residential areas through the centre of the city.

THE CHALLENGE

Wyndham City does not have a mature urban centre with high concentrations of population that supports the emergence of social opportunity in the centre of the city. The centres along the Werribee Spine compete rather than offer different opportunities and experiences as a whole.

What if?

1. Werribee should retain its fine grained urban structure, human scale and pedestrian friendly amenity with improved connections to surrounding areas
2. Werribee East NEIC should be developed with large scale public and private investments, and a mix of uses including retail, office, entertainment, residential, universities, heritage park and botanic gardens
3. Urban renewal around Werribee Plaza intersection is needed to provide for a mix of non-retail uses, employment, community facilities and linear public space that addresses the boulevards
4. The Hoppers Crossing Station Precinct should be refurbished including a new station square, employment and office buildings, ground level retail, comfortable transit spaces, education and cultural facilities. Level crossing could provide seamless access and integration with the medical precinct.
5. Revitalisation of the Old Geelong Road commercial strip with a tree lined multi modal boulevard including residential apartments, short term accommodation, education institutions and short term accommodation that frame the strip
6. Williams Landing Employment Precinct that includes Williams Landing, Masters site and RAAF Laverton should be of a scale and form that visually relates to the Melbourne CBD. Changes in land use on the Southern side of the M1 should be investigated to extend the employment precinct into Point Cook.



THE BENEFITS

A series of complementary urban centres with higher concentrations of people that support social opportunity, employment, education, cultural activities, entertainment and linkage to the adjacent suburbs. The sequencing of spaces will provide a seamless transition between places on both sides of the rail.

THEME 2 – OUR CENTRAL STRENGTH: THE WERRIBEE SPINE

The Werribee Metro rail runs through the centre of the city and provides a catalyst for urban renewal and through the removal of stations and level crossings to unite layers of activity on both sides of it. The main centres along Metro rail include the Werribee City Centre, Werribee East Employment Precinct, Hoppers Crossing and Williams Landing. This report refers to these related centres connected by rail as the Werribee Spine (Werribee is an Aboriginal word for spine). Transport and land use can combine to leverage significant development opportunities along the Werribee Spine. Some of the opportunities relate to the development of parcels of vacant land adjacent to the rail including vacant land and large land holdings at Werribee East and Williams Landing. Large sites could be developed with universities, research and technology industries. Existing urban areas could be restructured with more intense mixed-use developments. Each of the centres should complement one another and collectively contribute to the variety of land uses (including housing diversity options), while providing a range of urban character profiles and positive visual experiences as people move along the Spine. (Refer Figure T2.1)

1. Design objectives

- A network of complementary urban centres along the Werribee Spine
- A series of ordered and connected spaces linked by stations located along a spine of activity
- Higher populations with housing diversity including large format buildings
- Strategic location of community facilities that support and reflect the rich and diverse profile of Wyndham’s community
- A sequence of positive architectural visual experiences, which give legibility and landmark identity when viewed on approach from the Princes Freeway and along the North-South tree lined Boulevards of Tarneit Road, Derrimut Road and Morris Road
- Continuity of visual expression in quality landscape architecture and façade design from a human/pedestrian perspective, while living, working and playing along the spine
- Legibility and quality designed pedestrian/cycling commuter corridor along the spine as a significant unifying element

2. Opportunities

- **The role of urban centres**

The centres located along Metro rail need to work together to stimulate the emergence of an urban Werribee spine. The transformation is related to a series of complementary spaces and overlapping activities that support the emergence of social opportunity, business innovation, education, employment, accommodation and retail accessible from suburbs. The role of each of the centres is briefly described below. (Refer Figure T2.2)

- **Werribee City Centre**

Werribee is an established town centre, with a predominantly low-rise streetscape consisting of one to two-storey buildings and a fine-grained street layout. New buildings need to relate to a human scale and maintain public space amenities i.e. café culture and low valued uses.

- **Werribee Race Course**

Werribee Racecourse is located at the edge of the Werribee River a short distance from Chermside Park sports precinct and Werribee City Centre. Werribee Racecourse went through a major track transformation with five million dollars invested and its surrounds could be further developed like many racecourses in the metropolitan area.

- **East Werribee Employment Precinct**

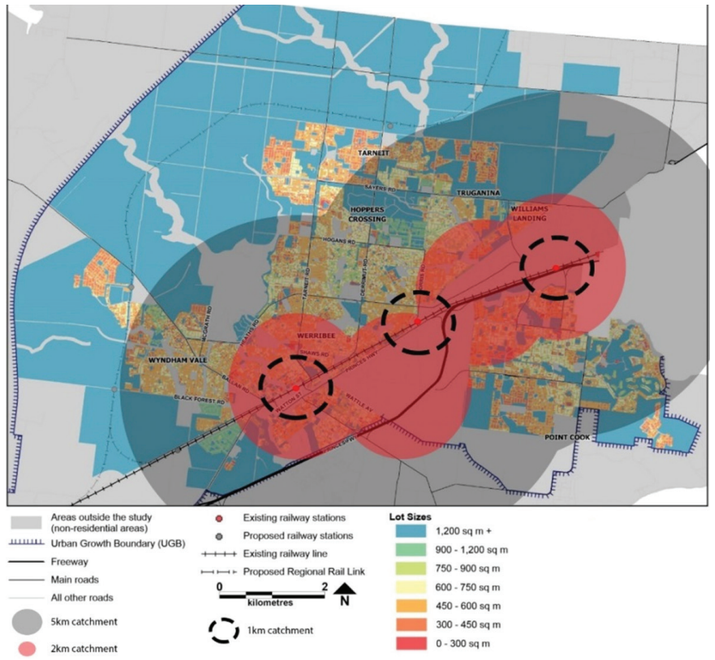
The vision for the precinct is for large scale private and public investments and a mix of uses including retail, office, entertainment and residential, a Heritage Park and botanic gardens.

- **Hoppers Crossing Station Precinct**

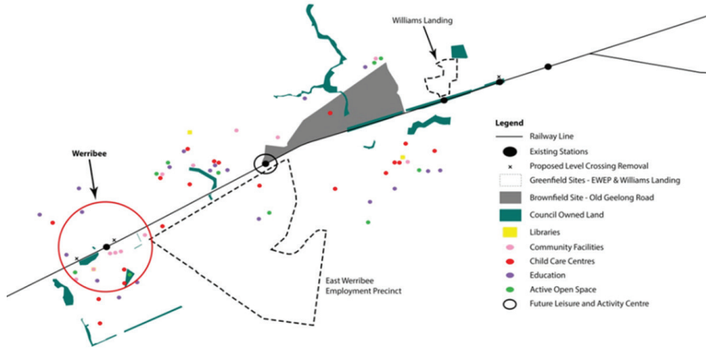
The precinct could be transformed with a new station square comprising transit space, retail, business innovation, education and cultural facilities. Level crossing removal would provide better access and integration of the medical precinct.

- **Old Geelong Road Commercial Strip**

Large lots along the strip provide an opportunity for urban revitalisation of this area of the city including residential apartments, hotels and short-term accommodation, linking public spaces and multi modal movements along the strip. (Refer Figures T2.3)



(Reference Figure for T2.1 - shows Illustrate the 2km (Red) and 5km (Grey) catchments of the central area of the city to the suburbs)



(Reference Figure for T2.2 - shows Urban Elements along the Werribee Spine)

- **Williams Landing**

The future development of Williams Landing needs to consider connections to the station and surrounding areas including the former Masters Site, RAAF land and Aviation. A main street connecting the station and the shopping centre would link these destinations with activity.

- **Wallace Avenue**

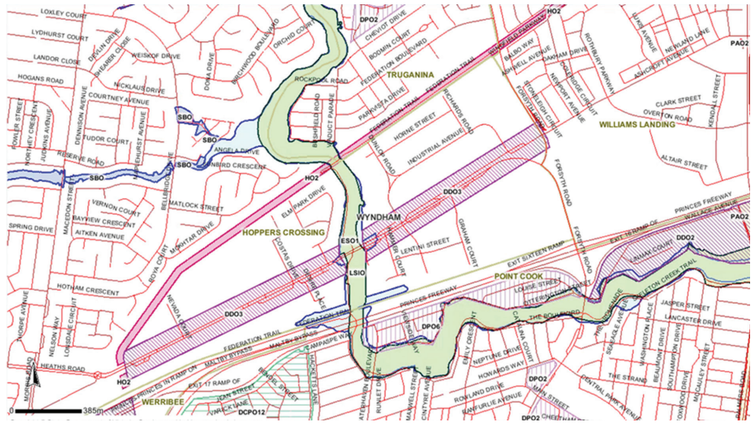
Wallace Avenue is an industrial area wedged between residential neighbourhoods in Point Cook and the Metro rail. Land use in the area should be allowed to diversify with a mixture warehouses, office accommodation, entertainment and recreation facilities. (Refer Figure T2.4)

- **Spatial sequencing along Metro rail**

The Metro rail is a major structural component of Wyndham. The rail creates a barrier to movement by dividing the north and south sides of the city. Linear connections along the rail are also fragmented. Metro rail could instead become a seam that unites activity at and between stations on both sides of the rail. A study should be commissioned to investigate how sequencing of spaces could improve connections along the rail corridor and to surrounding residential areas. (Refer Figures T2.5)



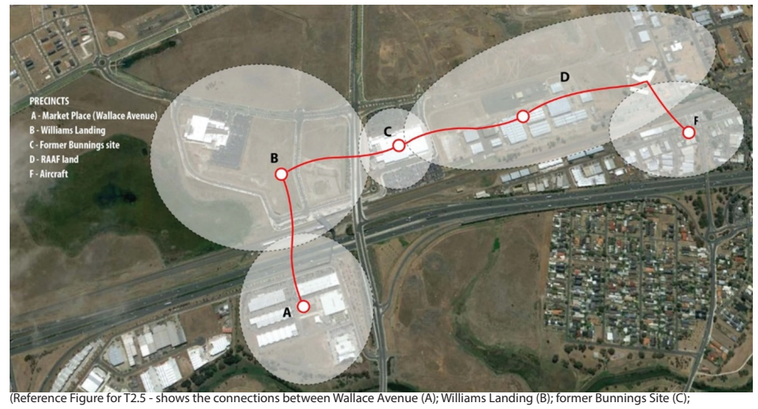
(Reference Figure for T2.3 - shows Old Geelong Road)



(Reference Figure for T2.3 - shows Old Geelong Road Commercial Strip opportunity and constraints)

Cafes and restaurants	A community hub and gallery	Event space
Childcare facilities	Exercise facilities	Reflective space
Co-working office facilities	Market space	Informal manipulative space
Small office facilities	Small scale sport facilities	Pedestrian friendly space
Spaces for meeting and relaxing	Seasonal retail shops	Active sport
Pop ups	Medium density residential	

(Reference Figure for T2.4 - shows Mix of uses suggested for the diversification of the Wallace Avenue Precinct)



(Reference Figure for T2.5 - shows the connections between Wallace Avenue (A); Williams Landing (B); former Bunnings Site (C); RAAFLaverton (D); and the Aviation Road shopping centre (F))



(Reference Figure for T2.6 - shows Anticipated Urban Elements along the Werribee Spine/

https://www.archiportale.com/news/2007/06/eventi/milano-nasce-l-area-porta-nuova_10034_32.html /Pelli Clarke Pelli Architects)

Wyndhamcity
Melways

Legend

Legend

- Freeway
- Future OMR Corridor
- Future PSP Areas
- Rail Corridor
- Future Rail Connection
- Municipal Boundary
- Focal Area/Node

Numbered Corridors and Focal Areas:

1. Tarneit

2. Central Axis - Derrimut Road Boulevard (Urban Context)

3. Medium density housing adressing Derrimut Road

4. Werribee Plaza (Urban Nodes)

5. Werribee East

5. Green Linkages (Werribee River and Skeleton Creek)

Scale

0 1 2 3 km

Overview Map



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THEME 3 - STRENGHTEN CITY STRUCTURE AND DERRIMUT ROAD AXIS

The visual and functional role of Derrimut Road Axis needs to be strengthened to maintain connections between the established suburbs and growth areas as the city expands at the edges. The Derrimut Axis should galvanise residential neighbourhoods with different modes of movement, medium density housing and a mix of use through the centre of the city.

THE CHALLENGE

The rapid expansion of the city is weakening connections between established suburbs and outer growth areas. The Derrimut Road Axis should be transformed into an urban armature of this city that connects Tarneit, MTC, Werribee East and Hoppers Crossing and adjacent suburbs with activity, public transport, employment, entertainment and social opportunity.

WHAT IF?

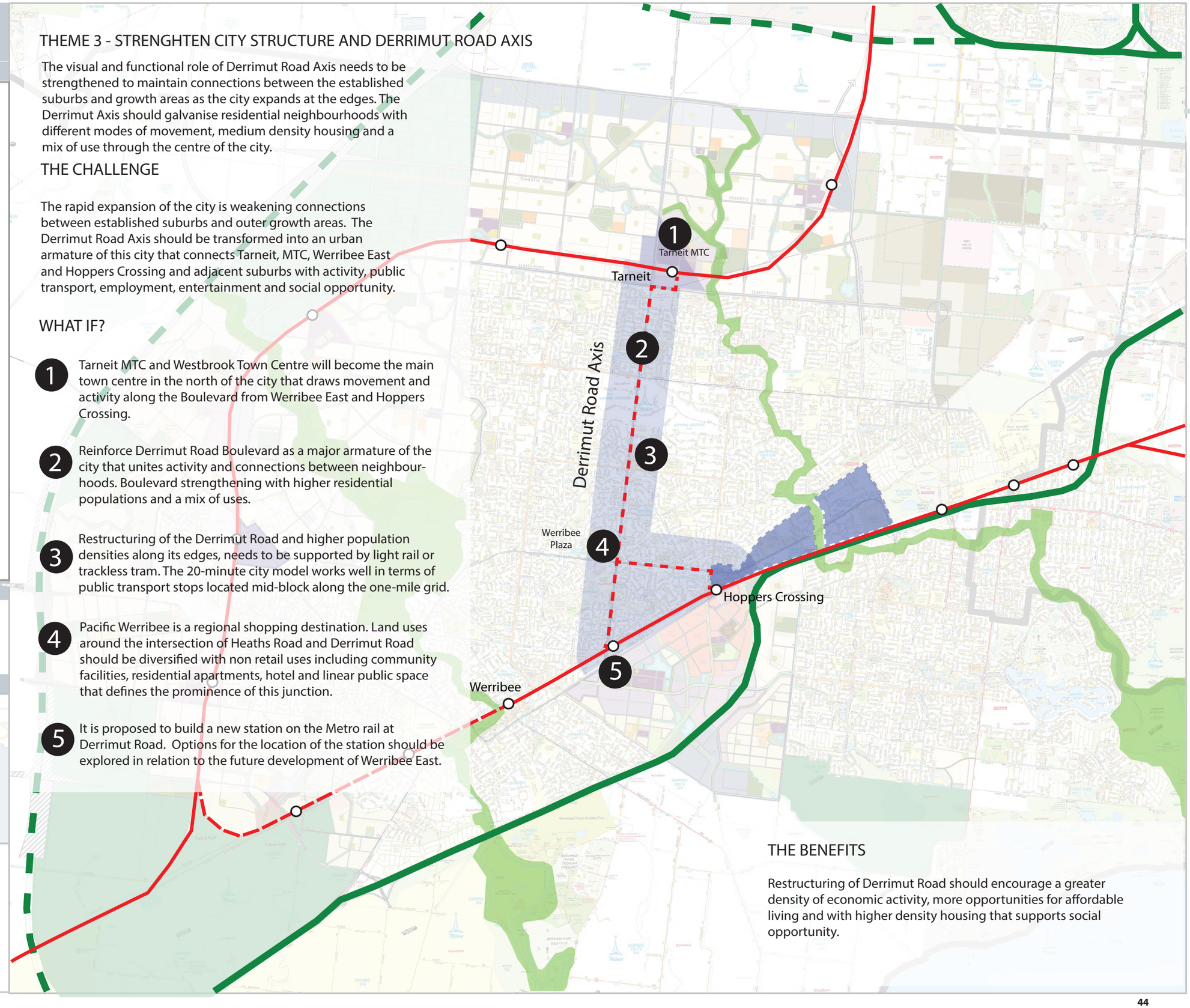
1. Tarneit MTC and Westbrook Town Centre will become the main town centre in the north of the city that draws movement and activity along the Boulevard from Werribee East and Hoppers Crossing.

2. Reinforce Derrimut Road Boulevard as a major armature of the city that unites activity and connections between neighbourhoods. Boulevard strengthening with higher residential populations and a mix of uses.

3. Restructuring of the Derrimut Road and higher population densities along its edges, needs to be supported by light rail or trackless tram. The 20-minute city model works well in terms of public transport stops located mid-block along the one-mile grid.

4. Pacific Werribee is a regional shopping destination. Land uses around the intersection of Heaths Road and Derrimut Road should be diversified with non retail uses including community facilities, residential apartments, hotel and linear public space that defines the prominence of this junction.

5. It is proposed to build a new station on the Metro rail at Derrimut Road. Options for the location of the station should be explored in relation to the future development of Werribee East.



THE BENEFITS

Restructuring of Derrimut Road should encourage a greater density of economic activity, more opportunities for affordable living and with higher density housing that supports social opportunity.

THEME 3 – STRENGTHEN CITY STRUCTURES AND AXIAL ROADS

Wyndham's arterial roads provide a structure for growth and development. They also form important arteries that connect the inner and outer suburbs. As the city expands it will be necessary to strengthen major axial boulevards that order development through the City. To combat dispersal Wyndham needs to attract urban growth to urban areas rather than edges. Restructuring of major boulevards is not only required to strengthen connections between inner and outer suburbs it also provides opportunities for the revitalisation of central parts of the City. Derrimut Road and Heaths Road transect the City and these axial boulevards have an important role in uniting different layers of activity across the City. A consistent approach is necessary to explore residential, commercial and retail settings through cross-section design. Some of the issues that should be considered include the investigation of spatial relationships between land uses, transportation modes, urban form, and place making elements. It should also provide a basis for future comparative analysis of urban development visions and development scenarios.

1. Design principles

- Strengthen axial connections across the City and activity centres
- Reinforce the visual and functional prominence of boulevards with consistent public transport: current arterial roads to be upgraded as tree lined boulevards include Morris Road, Derrimut Road, and Tarneit Road on the North South axis, and Heaths Road, Hogans Road, Sayers Road and Leakes Road on the East West axis
- Derrimut Road's public transport service to be upgraded with a North-South Light-rail connection between Tarneit Station on the Regional Rail line and a new station where Derrimut Road intersects with the Metro Line along the Werribee spine
- Opportunities exist for the proposed Light Rail to connect across to the Werribee East employment precinct and to continue onto Point Cook
- Heath's Road public transport connection to be upgraded with an East-West Light Rail linking Hoppers Crossing with Wyndham Vale Station
- Both the Derrimut Road and Heaths Road light rail links would facilitate higher residential densities and mixed-use opportunities along main axial boulevards, with increased building heights
- Increase the prominence of major junctions as places to stop on the journey
- Incorporate linear parkways and social opportunities along boulevards
- Strengthen the provision of community services and social opportunity at sites around Derrimut Road and Heaths road intersection with further co-location of community services
- Configuration of open space along intermittent creek corridors to counterpoint the grid pattern of development and enhance pedestrian connections within and between neighbourhoods.

2. Opportunities and proposals

- **Integration of natural features as part of the urban structure**

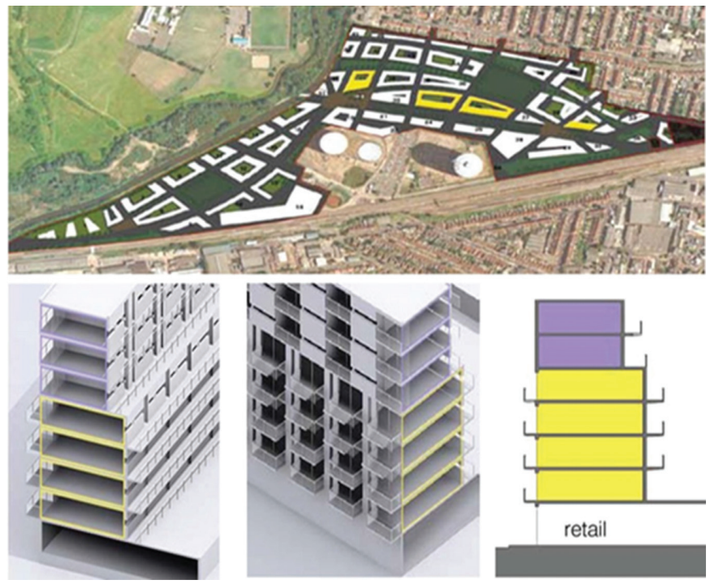
Wyndham has a relative flat landscape with numerous rivers, creeks, wetland and depressions that can be integrated into the urban structure. The natural elements will strengthen the urban structure and contribute local distinctiveness. The configuration of open space along the intermittent creek corridors counterpoints the grid pattern of development and enhances connections between neighbourhoods as an important pedestrian movement system. Linear space along these waterways can have a road frontage and buildings facing onto the space that will facilitate 'eyes on the street'.. Local open space integrates into the urban fabric and will be equitably distributed across neighbourhood precincts inviting access to all users.

- **Reinforce Derrimut Road as one of the major armatures of the city**

The axial role of Derrimut Road should strengthen central connections through the centre of the city between Tarneit and Werribee East. Conversion of Derrimut Road into diverse boulevards will promote transportation variety and a broader range of land uses and building types. Derrimut Road could have dedicated through lanes separated from slow-moving local access lanes by landscaped medians. The access lanes can provide bike lanes, as well as on street parking to support ground floor retail uses. With many opportunities for landscaping in the multiple medians, these boulevards also become attractive green settings for mixed-use buildings and medium-density housing. Residential densities fronting onto Derrimut Road and around intersections could then be increased with buildings between 4-6 storeys in height. A mix of uses and public spaces could occur around intersections to make these junctions local destinations. The proposed light rail and bus transport with mid-block stops would also help to break down the boulevard into walkable catchments between intersections along Derrimut Road. (Refer Figure T3.1)

- **Strengthen the visual and functional role of boulevards**

The width of arterial roads provides opportunities for diverse and complex urban spaces, allowing for more efficient land use and creating an environment where different elements can interact and exchange information. This generates the critical mass needed to develop social opportunities and economies in the central areas of the City. Redefining the roles of arterial roads offers an opportunity for greater residential densities facing onto main roads and the accommodation of commercial activity, linear public spaces, and sustainable green environments that benefit the surrounding communities. Boulevards designed to support their immediate contexts and desired future conditions create a pleasing aspect.



(Reference Figure for T3.1 - shows Medium Density Housing facing boulevards create a sense of enclosure and diversity)

Arterial roads are being designed with the primary goal of moving many vehicles at relatively high speeds, creating a daunting environment for pedestrians and cyclists. They divide neighbourhoods, reduce the quality of the public realm, and reduce the potential value of adjacent properties. Prioritising sustainable transit through street design increases the street's capacity to move more people and creates more space for additional activities. If arterial roads can safely and efficiently accommodate through and local traffic, they may also start to attract commercial and residential developments.

- **Grid streets**

Well-designed grid patterns of development in growth areas should be encouraged, as they minimise route complexity for both commuters and pedestrians, increase connectivity and ease of navigation, as well as choice of routes for pedestrians to travel and move through urban environments. This structure is also positive for retail stores and restaurants in that it potentially increases the number of corner lots. Urban adjustment needs to be applied in suburbs such as Hoppers Crossing, where convoluted and disconnected streets and areas provide limited access through and within the Radburn plan typology, applied to the area in the 1970s. This has resulted in poor connections to stations, shops and community facilities. The grid network should be adapted to respond to barriers such as rivers, rail and wetlands by providing a street frontage to these elements. (Refer Figures T3.2)

- **Leverage development along the rail corridor**

The rail corridors could positively influence land use and transport integration around the City's existing and proposed train stations to meet the community's aspiration for creating Places for People. Areas located within a three km radius of rail stations can be developed with increased densification. The release of residential land around train stations and activity centres in the rail corridor should be staged to encourage infill development and higher density residential options close to train stations. This would ensure that proportionately more people would be located near high quality transport infrastructure within a walkable catchment. These actions would also assist commute times and costs and reduce the reliance on car parking and secondary car ownership. Health benefits, increased community interaction and a more sustainable local economy would flow from this development approach.

- **Pedestrian friendly streets**

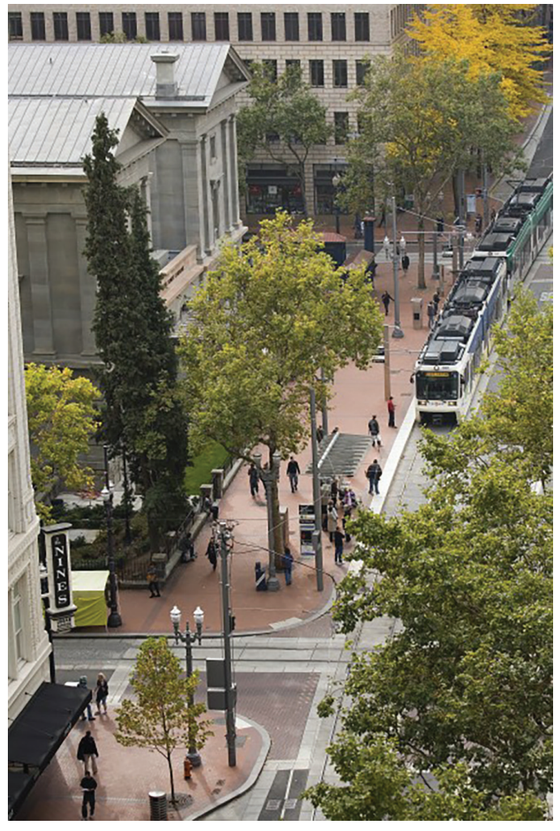
Neighbourhood structure is largely determined by streets. Grid streets intersecting at 90 degrees create neighbourhood structures that assist with a high level of legibility, permeability and movement. Subdivision in growth areas must connect new and existing neighbourhoods from the outset. This requires a more sequential approach to land release to ensure main roads are connected. A neighbourhood-planning framework is needed to set the overall framework of main collector streets prior to subdivision. There should be more walkable connections between neighbourhoods and direct links to stations, bus stops, local shops and community infrastructure. Pedestrian friendly streets should also have well designed traffic calming measures integrated into the streetscape to impede the speed of motor vehicles and create a positive visual association between cars and pedestrians.



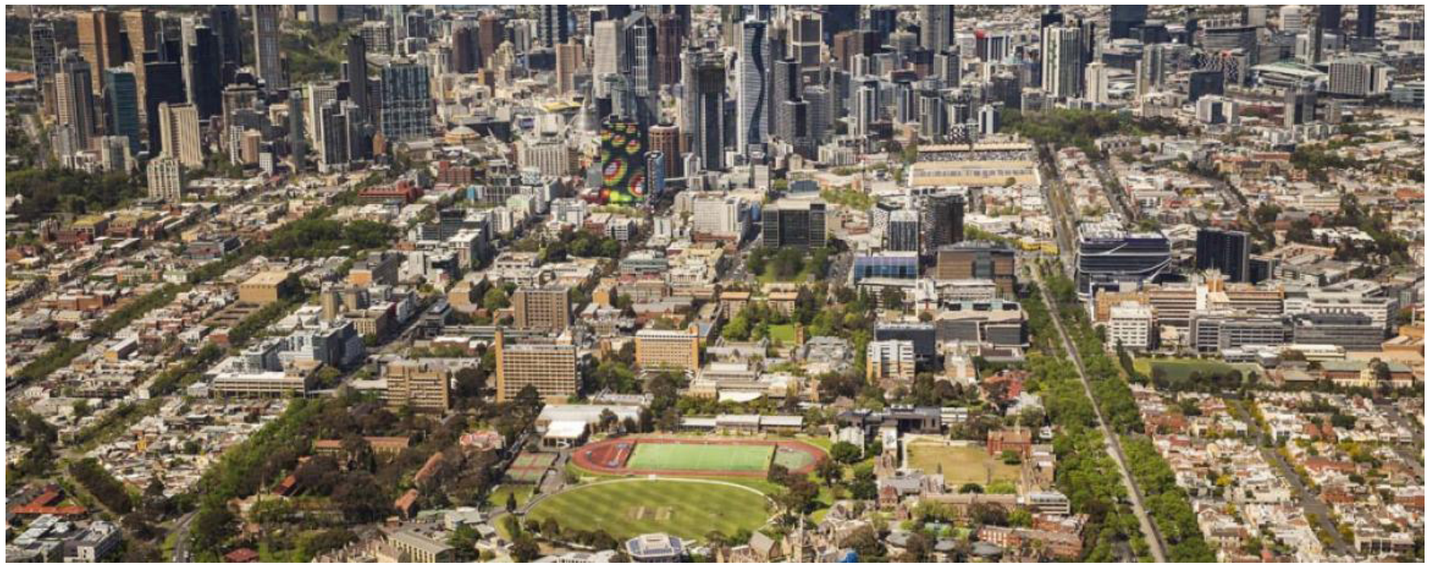
(Refer Image T3.2 - Existing Scenario)



(Refer Image T3.2 - Anticipated Future)



(Refer Image T3.3 - Anticipated Future/ https://www.pps.org/article/8-principles-streets-as-places)



(Refer Image T3.2 - Anticipated Future/ https://www.google.com.au/search?q=parkville+biomedical+precinct&hl=en-AU&source=lnms&tbm=isch&sa=X&ved=0ahUKEwj2u830svbeAhUI2o8KHSxoAAkQ_AUIECgD&biw=1920&bih=922#imgrc=RMzC-J0kQ_BZ4M:)



(Refer Image T3.2 - Anticipated Future/ https://www.google.com.au/search?q=parkville+biomedical+precinct&hl=en-AU&source=lnms&tbm=isch&sa=X&ved=0ahUKEwj2u830svbeAhUI2o8KHSxoAAkQ_AUIECgD&biw=1920&bih=922#imgrc=RMzC-J0kQ_BZ4M:)

Wyndhamcity
Melways

Legend

Legend

Rail Corridor

Proposed
Suburban Town Centres

Scale

0 1 2 3 km

Overview Map



wyndhamcity

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THEME 4 - SUBURBAN TOWN CENTRES

Town centres located along the Regional Rail Link should have their own unique identity and experience that evolves over time. Town centres should capture the benefits of higher populations that support local cultural diversity, commerce, community facilities and a public image.

Tarneit North Town Centre

Tarneit MTC

Truganina (future station)

Riverdale MTC

Tarneit West (future station)

Tarneit

Sayers Road (future station)

Manor Lakes MTC

Wyndham Vale

Black Forest Road LTC

Black Forest Road (future station)

THE CHALLENGE

Suburban town centres should not compete with the emergance of urban centres located along Metro rail. Standard large format centres with supermarkets surrounded by car parking should be avoided in favour of street based pedestrian orientated centres. Each centre should contain a mix of land uses, local retail activity, centrally located public space and community facilities, Not for Profit organisation, low valued uses and business.

WHAT IF?

The city should have a string of outer suburban town centres that provide access to the daily needs of local residents close to where they live. The land uses could include convenience shopping, employment, education, health and recreation and entertainment. Town centres should have civic space that can be used for events, community gatherings, play pace and reflective space.

- Town centres with a resilient urban structure that allows for changes in land use and evolution over-time.

- Central places with a human scale for cultural embellishment, events and unfolding activity.

- Residential centres with access to a mix of uses, local community facilities, services, shopping and social opportunity.

- Clearly defined public space with a genuine civic identity and feels like public space.

- Safe pedestrian friendly space that is comfortable, attractive and safe.

The benefits

Town centres will have a strong community identity, high levels of visitation and length of stay. The centres will provide a mix of uses, choice and variety including low valued uses. Retail will be supported by community, health, libaries and cultural acivities that become central attractions of the town centres. The street structure and layout will allow for changes in land use and ecourage pedestrian movement and circulation between desitinations.

THEME 4 – SUBURBAN TOWN CENTRES

Ideally a town centre is an enduring, walkable, and integrated open-air, multiuse development organised around a clearly identifiable and energised public realm, where people can gather and strengthen their community bonds. It is anchored by retail, dining, and leisure uses, and provides for an in-centre resident population through shop-top housing.

Town centres should include office, hospitality, civic, and cultural uses as well as low valued uses and not for profit organisations. Over time, town centres evolve into dense, compact, and diverse centres of a community, with strong connections to their surroundings. As suburbs age and take on many of the characteristics of cities, they need to evolve as cities with walkable environments, broadened housing choices offering mobility options, mixing land uses, selectively increasing densities, enhancing their civic and cultural presence, increasing diversity, and redeveloping obsolete and underused properties to provide more urban environments and amenities. Some of the matters that should be considered from the outset are listed below.

1. Design objectives

- Each activity centre to have its own unique identity and cultural experience
- Activity centres that support a diverse mix of high and low-valued land uses
- Activity centres with a high level of permeability and movement
- Centrally located community and cultural facilities and town squares
- Activation of built form frontages to main streets

2. Opportunities and proposals

- **A framework vision that doesn’t design out the future but allows for flexibility and change**

Town centres evolve over a long time, therefore the framework for growth needs to be approached in the context of a long-term vision. Adaptability, change and flexibility are needed to allow town centres to change organically. The principles that guide development and a staged approach, is needed to allow town centres to mature over time. Mix use zoning allows for density and uses to shift with the project. It is important that the street structure is able to respond to change and build on measures of success. (Refer Figure T4.1)

- Consideration of building design, block size and infrastructure location that support flexibility and change
- Large lots should be maintained to allow for adjustments in size, density, mix and location of uses that maintain the integrity of the town centre concept
- Large floor plans that allow for adaptive use of buildings, providing the basic requirements of retail, office and residential uses
- Basic concepts such as the public realm, human scale, street grids, and overall quality cannot be compromised
- A legible structure that doesn’t design out the future but allows the centre to expand and change over time
- The role of the community is particularly important because a successful town centre is the true heart of the community and its success depends on the community’s continued relationship with it.

- **A resilient structure that will evolve over time**

The fundamental design elements for town centres relate to connectivity, walkability, cycling, good circulation, parking and excellent public transport connections. It accommodates the automobile, work and leisure, entertainment and commercial and in-town centre residential uses. It is critical to develop a framework that elevates the pedestrian experience through great public spaces, well designed cycling amenity and bus and /or light rail stops which are coordinated with generous and visible pedestrian cross¬ings, parking and wayfinding. A well-designed structure includes several features.(Refer Figure T4.2)

- A grid that accommodates an urban block pattern that allow for flexi bility and change in land uses and which permit the public realm to evolve, change and grow over time.
- Fine grained pedestrian friendly streets that encourages street-based activity and movement connecting with sequenced public spaces, cultural and community facilities, parking and access to surrounding areas, with a restrained provision for on street parking that animates streets with slow moving vehicles.
- A street layout that relates to external and internal landmarks to assist with legibility and movement.
- A hierarchy of streets that relate to the land use, building heights, design of the streetscape and quality of landscape elements.
- A structure which is well connected with the proposed pedestrian/cycle network along the intermittent creek corridors.



(Reference Figure for T4.1 - shows Medium Vienna, Perimeter block buildings create outdoor rooms between buildings that can be enjoyed by the community, benefitting enterprising spirits)



(Reference Figure for T4.2 - shows Werribee Block structure)

- **Create a central place for the community**

Creating a memorable public realm that establishes the unique character and attractiveness of each centre and is a cornerstone of design. These elements include downtown streets, urban squares; plazas, walkways, civic buildings and parking. A well-designed public realm functions as an anchor, amenity, and defining element for a town centre. It has the following attributes:

- A central space that attracts people because of its location and connections which can offer the size and shape to accommodate programs and events
- A public realm that is integrated with complementary uses such as bookshops, libraries, cultural and community facilities and public buildings
- A human scale that is comfortable for pedestrians including outdoor rooms, and edge definition
- Response to good solar access in the winter which is sheltered from prevailing winds, tree lined shaded pedestrian walkways for summer and appropriate shelter to protect the amenities of public space during inclement weather
- Highly visible and easy to access public realm that is well connected to roads, transit and parking infrastructure, and the green pedestrian/cycle network along the intermittent creek corridors
- Clearly defined public space with a genuine lasting civic identity
- Public spaces that are comfortable, convenient and safe, with responsive public space lighting and possible oversight from in-town centre residents. (Refer Figure T4.3)

- **Capture the benefits of higher population densities**

The development of an appealing, vibrant town centre requires a well-designed mix of uses at a density high enough to achieve a critical mass of people on the street. A truly successful town centre will be the most densely developed and lively part of the community. Designing a dense town centre requires the introduction of pedestrian-friendly spaces. In contrast to the automobile's domination of conventional low-density development, higher density makes the human scale possible. The design of town centres must consider how higher density:

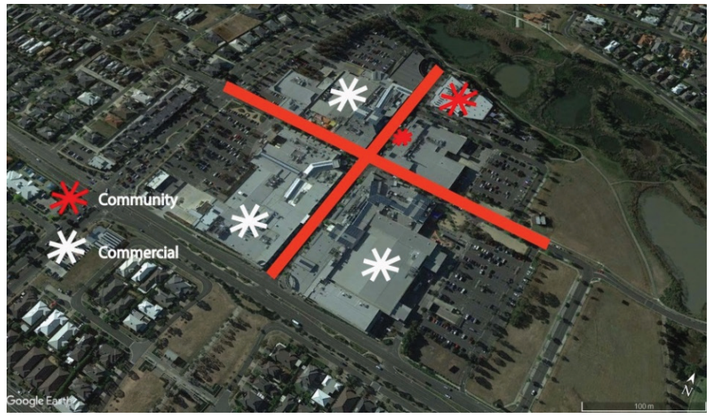
- helps create walkable neighbourhoods
- supports housing choice and affordability
- helps expand transportation choices
- supports community and health facilities
- helps improve security
- helps protect the environment.

- **Integrate multiple uses**

A mix of uses is one of the most important qualities of town centres. They should be a destination to work, live and shop. Some of the common elements in successful town centres include a mix of retail uses at regular intervals along high streets, with anchors such as civic buildings, hotels, supermarkets, urban parks, and car parks that draw movement around town centres. Large format shopping centres containing high valued uses have syphoned activity off streets and forced low valued, community uses and not for profit services out of centres. Anchored land uses should be located at strategic locations that support low valued use and community infrastructure in town centres.

The development of mixed-use town centres should consider the following.

- Ensure from the outset that there is a critical mass of retail uses supported by the population catchment
- Plan for the staged take up for different land uses i.e. land uses such as retail, office, residential, cultural facilities and not for profit services
- Locate cultural facilities and supermarkets that reinforce movement along main axial streets, especially shopping strips and destinations within walking distance.
- Create a synergy with retail use, including restaurants and hospitality uses
- Design for laneways to support low valued uses such as office accommodation, not for profit services and coffee shops
- Shared car parking, preferably in multi-level car parks, above ground floor or behind retail buildings facing the main street.
- Propagate the night-time economy with uses that are active and hold people in centres at different times of the day and night. (Refer Figure T4.4)



(Reference Figure for T4.3 - shows Point Cook is a structured and ordered around axial main streets)


(Reference Figure for T4.4- shows Laneway contribute to a fine urban grain; they also provide service access to buildings off main street)



(Reference Figure T4.5- Town Centre Example/ HongKong/ https://www.google.com/



(Reference Figure T4.6- Town Centre Example/ london oxford street shopping/ https://www.google.com)

Wyndhamcity
Melways

Legend

Legend

Rail Corridor

Future Rail / Trackless Tram

Suburban Town Squares

Urban / Station Squares

Scale

0 1 2 3 km

Overview Map



wyndhamcity

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THEME 5 - DESIGN FOR SUCCESSFUL TOWN SQUARES AND FRAMED SPACES

Wyndham will see the development of town centers, station precincts and refurbishment of new stations and with level crossing removal. Town centers and station squares should have people places and spaces that provide common ground for collective activity, communication and for meaningful shared experiences. These places should be designed as memorable public space that are functional, activated, attractive and safe.

THE CHALLENGE

To avoid central areas becoming negative, exclusionary, private, segregated, insular, scary or homogenised spaces that are poorly maintained and managed.

1 Suburban Town Centers

2 Urban Town Centers

Tarneit North Town Centre

Tarneit MTC

Riverdale MTC

Derrimut Road

Manor Lakes MTC

Werribee Plaza

Hoppers Crossing

Williams Landing

Black Forest Road LTC

Werribee

WHAT IF?

. The design of town squares should be integrated with public and private uses
. Town squares with outdoor rooms with a human scale and perspective
. Edges that create defined space with a clear purpose and function
. Town squares with Cultural content that appeals to different cultural groups and are a magnet for children
. Comfortable amenities in a safe convivial setting conducive to social interaction and access to information
. Designed for flexible uses during different seasons of the day and night
. Architecture that supports the rhythm of building facades and active built form frontages
. Clearly defined management responsibility for maintenance and programming the use of space.

THEME 5 - TOWN SQUARES AND FRAMED URBAN SPACES: SUCCESS FULL DESIGN

The principles contained in this policy have been underpinned by Matthew Carmona's paper, "Re-theorising Contemporary Public Space: a new narrative and a new normative" published in the Journal of Urbanism: International Research on Place making and Urban Sustainability, (Pages 373-405 published online \:06 May 2014Insert hyperlink). The purpose of these principles is to provide guidelines to assess the purpose, design and management of town squares in all of their different settings, physical forms and uses. There has been much discussion relating to town squares designed to make them a destination. The importance of community space in town centres that provide for community activities and experiences is highlighted in Wyndham 2040.

Urban squares typically take many forms including traditional squares, courtyards surrounded by buildings, garden squares characterised by a green grassed centre and forecourts that act as external pauses and transitions between the public realm of the street and the private or semi-private space of a key building. These are spaces that form focal points in the public space network, providing a forum for exchange, both social and economic, and a focus for civic pride and community expression. Their significance and intensity of meaning is typically expressed through "harder" intensively used landscaping. They tend to be formal and urban in nature in contrast to parks and open space, which are typically soft landscaped, larger and less intensively used.

Urban squares are typically but not always held in public ownership and designed to be easily accessible by all. Urban squares tend to be spaces with distinct edges. They may be a square defined on each side by buildings, a terrace with one open edge overlooking the city, open space or the ocean or any other configuration of space that can be perceived by its intended users as a distinct space that is safe, accessible and welcoming. Urban squares, if designed well, are thriving spaces that invite people to linger, interact and connect. They support the popularity of activity centres by providing a space for a wide range of formal and informal activities in the social and cultural lives of users of the centre.

Town squares are particularly important as local social meeting points and as tourist destinations. Forming such spaces is a key element of activity centre design. A strong sense of place and community is formed when activity centres are well designed, integrated and conveniently sited. Successful activity centres offer a wide range of private and public services including: commercial, retail, restaurants, libraries, cinemas, theatres, event spaces, health and wellbeing services, civic, education and spiritual facilities. The list is extensive and the variety and choice of services and amenity is dependent on the size of the town centre and its population catchment. The public environment is enriched and activated by private development that fronts streets, parks and squares.

- **THE KEY PROBLEMS**

The nature of contemporary public squares is associated with historic roles to provide venues for public discourse, encounter, collective experience and communication. The desire is to provide common ground for relation, social contact, entertainment, leisure or simply for having a good time.

(Refer Figure T5.1)

- **CONTEXT AND THE DOMINATE FUNCTION**

The functions of some squares can be categorised in more than one way and have overlapping purposes. In any case the dominant function needs to be identified from the outset so the design response and the use of space relates to it. Matthew Carmona (op.cit May 2014) categorised the dominant function of town squares, rather than their physical form.

(Refer Figure T5.2)

Issue	Description
Neglected space	Neglecting public space physically and in the face of market forces
Invaded space	sacrificing public space to the needs of the car, effectively allowing movement needs to usurp social ones
Exclusionary space	Allowing physical and physiological barriers to dominate public space design and management strategies
Privatised space	Allowing public space to be privatized, with knock-on impacts on political debate and social exclusion
Segregated space	Reflecting the desire of affluent groups of cultural groups to separate themselves from the community or simply the desire to be exclusive
Insular space	Failing to halt a more general retreat from public space into domestic and virtual realms
Invented space	Cordoning the spread of place-less-ness, formula driven entertainment space
Scary space	Where crime, or the fear of crime, are allowed to dominate the design management and perceptions of place
Homogenised space	Generally standardised approaches to the public built environment and the relentless forces of golbalisation, over regulation

(Reference Figure for T5.1- show Key problems)

Corporate space	Corporate space sits at the heart of large shopping centres or adjacent to major office buildings and are dominated by corporate functions that surround them
Domestic spaces	Domestic spaces are located at the heart of residential developments and are dominated by the residential functions that surround them
Civic spaces	Civic spaces have a key representational role and provide a setting for the civic type activities and functions located on them
Consumption space	Consumption space are dominated by the retail and catering functions both within and around them
Service space	Service spaces are left-over space that have been purposefully designed for, or more often appreciated by, service functions such as waste storage, bicycle parking and so forth
Transit spaces	Transit spaces act as threshold or external 'waiting rooms' for the transport infrastructure located on them
Undefined space	Undefined spaces have no dominant function, or often no obvious function at all.

[5] Matthew Carmona
Journal of Urbanism: International Research on Place making and Urban Sustainability
Re-theorising Contemporary Public Space: a new narrative and a new normative
Pages 373-405 Published Online \:06 May 2014

(Reference Figure for T5.2- show Context & Dominant Function)

THEME 5 - Continued.....
Town Squares and relation between them

Relation between the Town Squares-

Urban Spaces across the city create doorways to destinations citywide. Collectively the centres reinforce city structure with accessible local places to do business, live, shop and to freely interact with people, places and spaces.

Town squares are one of the community-oriented spaces in the city. In the Wyndham precinct, Werribee station square, Werribee Plaza, Hoppers crossing station precinct and Williams landing station area are the main squares situated in the close proximity. It has been observed that there is a huge scope of potential development of these squares, which can help to increase socio-economic opportunities for the Wyndham precinct.

Derrimut road and Heaths road act as the main circulation axis connecting all four town squares. The Derrimut road station is the potential future railway station located on the Werribee spine. As these Town squares are located strategically; developing or designing good public spaces would strengthen the structure.



3 - Williams Landing



2 - Werribee Plaza



1 - Werribee Station Precinct



4 - Hoppers Crossing Station Precinct

Legend

Version: 4th April 2017

- Town Squares
- Freeway
- Future OMR Corridor
- Connecting road network between the Town Squares
- Rail Corridor
- Future Rail Connection
- Future Railway stations
- Visual relationship between Town Squares

Scale

0 1 2 3 km

Overview Map

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- **CLARIFICATION OF THE ROLE OF MANAGEMENT**

Matthew Carmona (May 2014) suggests that the best places are ones that people return to time and time again. The only way to achieve this is through a management plan that understands and promotes ways of keeping the square safe and lively. For example, a good manager understands existing and potential users and gears events to both types of people. Good managers become so familiar with the patterns of how people use the square that waste receptacles get emptied at just the right time and refreshment stands are open when people most want them. Good managers create a feeling of comfort and safety in a square, fixing and maintaining it so that people feel assured that someone is in charge.

With shopping centres, there are an overwhelming number of privately owned and managed private-public spaces that have a corporate function. In more established areas of traditional cities there are spaces that have been privately owned but which have long been used as public spaces. Where urban spaces are in public ownership these spaces often rely on complementary private uses to activate the space. It is important at the outset to design spaces for the dominant function(s) that relate to the long-term management of these spaces. Turning to rights over and responsibility for public space, four types can be identified.

- Purely public
- Public private
- Private

- **Design Principle 1 – A vision related to the purpose of the square**

All spaces in cities communicate messages – functional, symbolic or persuasive (Stanley Tankel, Classification of Open Space 1963). Historically, squares were the centres of communities, and they helped shape the identity of entire cities. The image of squares is traditionally tied to access and movement, civic and community activities and physical elements that have special significance to local communities. The form, layout, edges, paths and objects in space as well as contemporary uses gives town squares a central civic purpose, community spirit and identity. The space should be designed to provide a setting for authentic, truthful, fanciful and spectacular events to unfold for all members of the community, children and adults alike such as. events, music concerts, public meetings and a formal space to welcome visitors to a place.
(Refer Figure T5.3)



(Reference Figure for T5.3- shows A popular square in Copenhagen, Denmark)

- **Principle 2 - Sense of enclosure and human scale**

The two and three dimensions of town squares should be outdoor rooms with a human scale that does not overwhelm public activity. A sense of enclosed space is created when buildings or other physical forms such as walls and natural elements, such as trees, give a three-dimensional aspect to the space. The pattern of building heights should frame the square and contribute to the rhythm of the enclosure. The preferred heights of buildings in an urban context should not be more than four times higher than the width of the street. If further height is required then the preference is to introduce progressive set-backs in order to maintain suitable daylight amenity into the space. Activated laneways, which provide an important secondary movement system and gathering space to an urban centre, are exempt from these ratios. In a suburban context the sense of enclosure should have a two storey (6.5m) maximum building height with the option of an additional storey not exceeding 9.5m in buildings that do not exceed a ratio of 3:1. Corner sites, where the "main street" meets an arterial road, need to be designed with a hierarchy of building heights that anchor the "main street" to the intersecting road at the scale relating to the boulevard. (Refer Figure T5.4)



(Reference Figure for T5.4- shows Sense of Enclosure and Human scale)

Principle 3 – Size and shape

The main design elements consist of size and shape, central features, edge definition, surface articulation and the profile of surrounding buildings. The size and shape of town squares relates to the social functions and population for which the square is designed, a human scale and the height and layout of the surrounding buildings and streets. Based on research of European town squares, the sizes could fall within the range shown in the table below. Building heights around town squares are not to exceed a preferred ratio of 4:1 or an upper limit of 6:1 in urban areas depending on the degree of enclosure. (Refer Figure T5.5)

Type of space	Dimensions	Suggested application
Large squares & plazas	57m by 135m	Upper size limit. A large community space could be considered for events
Medium size	30m – 35m	Generally, people can recognise each other from a distance of 30-35 meters (Gehl, *Life Between Buildings* 1987)
Intimate squares & plazas	15m by 21m	Small intimate squares

(Reference Figure for T5.5)

- **Principle 4- Edge definition and activation**

One of the fundamental principles of good urban design and place making is that the buildings within a development are arranged to create well defined spaces, each with a clear purpose and function. The edges could be a building, street, a wall, fence or landscaped features, such as a line of trees or a change in ground levels. Buildings that provide a continuous edge to a town square could have shops opening onto it that activate the edge and provide casual observation opportunities onto activities in the square. The edge provides chances for surface articulation, displays, public art and performance. Edges that face a street should have at least 30% visual penetration into the space. (Refer Image T5.6)

- **Principle 5 – Attraction as a destination**

Town squares must have a variety of smaller "places" within it to appeal to various people. These can include outdoor cafés, fountains, sculpture or a band-shell for performances. These attractions don't need to be big to make the square a success. In fact, some of the best civic squares have numerous small attractions such as a vendor cart or playground that draw people throughout the day. Public art can be a great magnet for children and people of all ages. (Refer Image T5.7)

- **Principle 6 - Pedestrian comfort and amenities**

Great town squares feature amenities that make it comfortable for people to use. A bench or waste receptacle in just the right location can make a big difference to how people choose to use a place. Quality lighting can strengthen a square's identity, while highlighting specific activities, entrances or pathways. Whether temporary or permanent, a good amenity will help establish a convivial setting for social interaction. Some amenities to consider include shelter, shade, drinking water, public seating, animation and access to data and wayfinding. (Refer Figure T5.8)

- **Principle 7- Flexible design and seasonal use**

The design of town squares encourages different uses during different seasons and times. To respond to these natural fluctuations, flexibility needs to be built in. Skating rinks, outdoor cafés, markets, horticulture displays, art and sculpture help adapt our use of the space from one season to the next. Instead of permanent fixed props and furniture, consider temporary, retractable and adaptable items such as on-site storage for movable chairs, tables, umbrellas and games so they can be used at a moment's notice.
It is also important to provide power connections and lighting for staged events and pop ups. (Refer Figure T5.9)



(Reference Figure for T5.6- shows Edge Defination and Activation)



(Reference Figure for T5.6- shows Edge Defination and Activation)

- **Principle 8 – Access and movement**

To be successful, a square needs to be easy to get to. The best squares are always easily accessible by foot: Surrounding streets are narrow, crosswalks are well marked, lights are timed for pedestrians, not vehicles; traffic moves slowly and transit stops are located nearby. A square surrounded by lanes of fast-moving traffic will be cut off from pedestrians and deprived it of its most essential element, people. Ideally town squares should have two street frontages or connections. Internal shopping malls and arcades should be designed to funnel people into squares as a prominent destination in town centres. Town squares should be designed as landmark features that can assist people with orientation, movement and in forming a mental map of the layout of town centres as a whole. (Refer Figure T5.10)

- **Principle 9 - Surface articulation**

All good urban design depends on the integration of architecture and landscape architecture. The layout is unified by the rhythm of building facades, paving patterns, defined areas, seating areas and a total expression of architectural and landscaping elements. Squares can be extensions of streets and buildings where the surface treatments communicate the function and symbolic purpose of the space. The design should aim to fuse indoor and outdoor movement but clearly distinguish between public and private space. (Refer Figure T5.11)

- **Principle 10 - Eyes to public space**

Public spaces are central to the dynamics of city life: they are meeting spaces, and the perceptions that people have of them are directly related to how they use them. If town squares are accessible, attractive and safe, they can inspire a range of uses and activities. In contrast, when public spaces are abandoned or neglected, they can cease to be places where people feel safe. One of the main characteristics of a thriving urban square is that people feel safe and secure. The more people using town squares the safer they feel. In this way their "eyes on the street" provide informal surveillance of the urban environment, contributing to an atmosphere of safety. Overlooking from surrounding buildings contributes to perceptions of safety in public space.(Refer Figure T5.12)

- **MEASURING THE SUCCESS OF TOWN SQUARES**

The users of town squares can be everyday users, visitors and customers, passers-by, people wanting leisure and relaxation and those who attend events and programs. (Refer Figure T5.13)



(Reference Figure for T5.7- shows Attraction as a Destination)



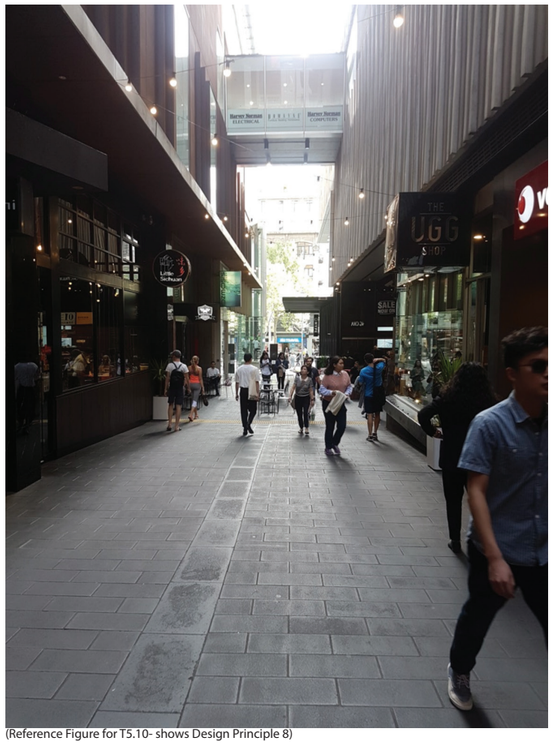
(Reference Figure for T5.8- shows Pedestrian Comfort & Amenities)



(Reference Figure for T5.9- shows Pop up space with visual animation at Federation square)



(Reference Figure for T5.11- shows The strand Townsville)



(Reference Figure for T5.10- shows Design Principle 8)

No.	Questions that need to be answered	Measures to be applied
1	**Has the vision and purpose of the space been articulated at inception?**	The physical design needs to relate to the purpose of the space
2	**Has the management, use and programming of the space been clarified?**	Regardless of ownership what type of space is being provided and who can use it.
3	**Has the shape and size of the space been determined and how does this relate to the use of the square?**	Geometry, layout, centre, edges, paths
4	**Has the 2 & 3-dimesnioal relationships determined the degree of openness / enclosure?**	Urban or suburban context
5	**Are the edges activated?**	The type of land use, number of pedestrians, level of animation, surface articulation and defensible space
6	**Does the town square provide pedestrian comfort, shelter and amenities?**	Provision of amenities and the length o time people 'linger'.
7	**What physical, social, economic or environmental attractions are provided to encourage use the space?**	The different reasons people visit the place
8	**Can the space be used all year round?**	Level of use at different times of the day and night
9	**Is the square located where people are likely to go?**	Is the square located and designed as an integral part of the movement network
10	**Is there a perception that the space is safe**	Level of activation, visual penetration into the space, lighting and overlooking.

(Reference Figure for T5.13)



(Reference Figure for T5.12- shows Design Principle 10 at Point Cook)

Wyndhamcity
Melways

Legend

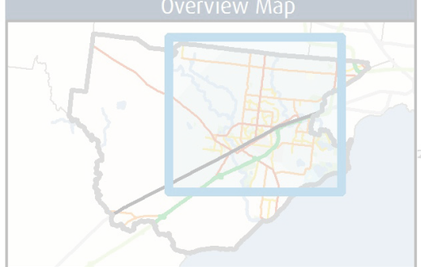
Legend

- The Urban Spine
- Rail Corridor
- Future Rail Connection
- Regional Rail Link Area
- Future Tram / Bus Route
- Proposed Subarban Town Centres
- Revitalised Urban Town Centres

Scale

0 1 2 3 km

Overview Map



wyndhamcity

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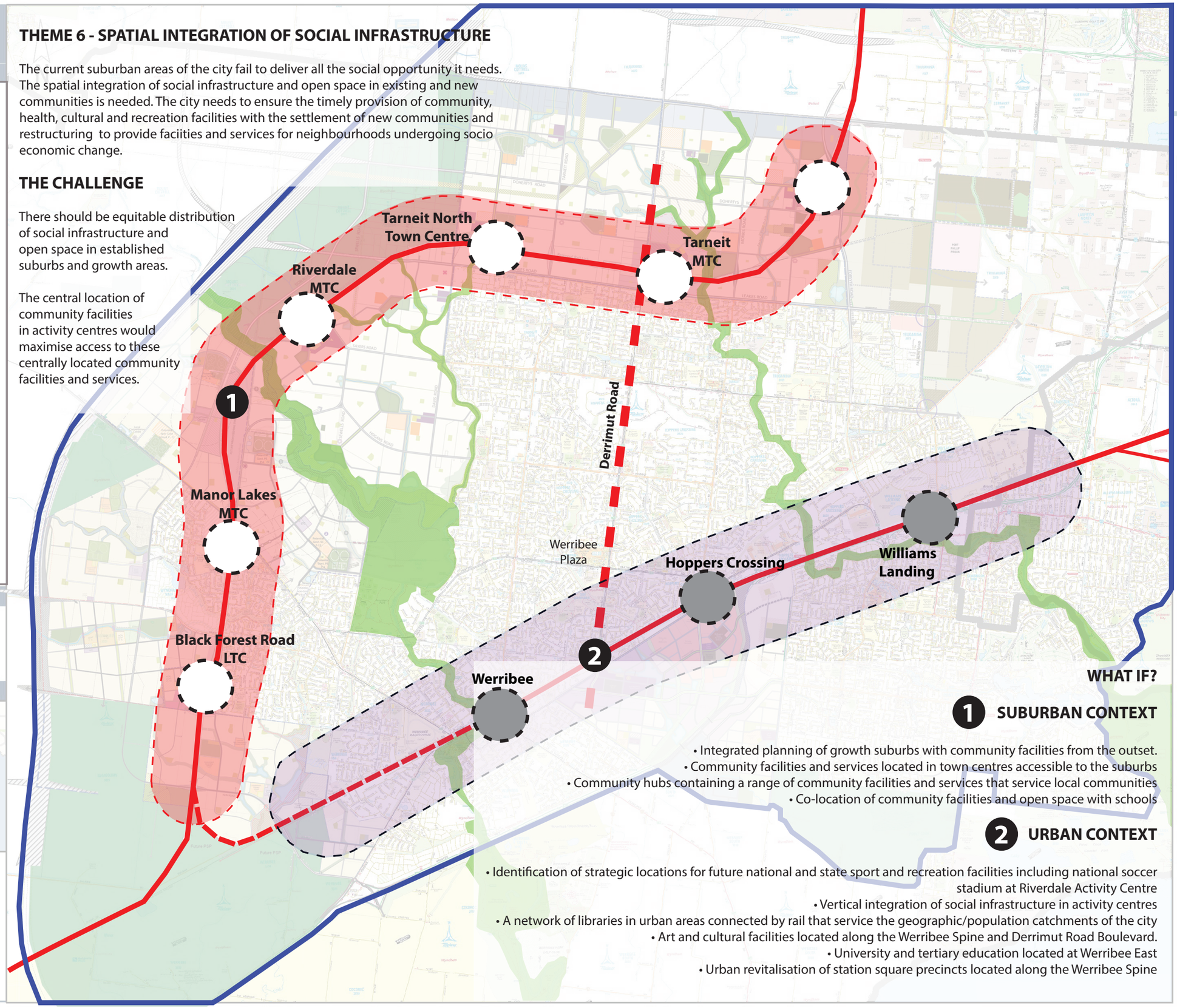
THEME 6 - SPATIAL INTEGRATION OF SOCIAL INFRASTRUCTURE

The current suburban areas of the city fail to deliver all the social opportunity it needs. The spatial integration of social infrastructure and open space in existing and new communities is needed. The city needs to ensure the timely provision of community, health, cultural and recreation facilities with the settlement of new communities and restructuring to provide faciities and services for neighbourhoods undergoing socio economic change.

THE CHALLENGE

There should be equitable distribution of social infrastructure and open space in established suburbs and growth areas.

The central location of community facilities in activity centres would maximise access to these centrally located community facilities and services.



WHAT IF?

1 SUBURBAN CONTEXT

- Integrated planning of growth suburbs with community facilities from the outset.
- Community facilities and services located in town centres accessible to the suburbs
- Community hubs containing a range of community facilities and services that service local communities
- Co-location of community facilities and open space with schools

2 URBAN CONTEXT

- Identification of strategic locations for future national and state sport and recreation facilities including national soccer stadium at Riverdale Activity Centre
- Vertical integration of social infrastructure in activity centres
- A network of libraries in urban areas connected by rail that service the geographic/population catchments of the city
- Art and cultural facilities located along the Werribee Spine and Derrimut Road Boulevard.
- University and tertiary education located at Werribee East
- Urban revitalisation of station square precincts located along the Werribee Spine

THEME 6 – SPATIAL INTEGRATION OF SOCIAL INFRASTRUTURE IN URBAN CENTRES

The current suburban structure in Wyndham fails to deliver all the social opportunities expected from a city. Some established and new suburbs experience poor access to social infrastructure and open space. The provision of social infrastructure is a priority for growth areas, and the method of provision needs to be carefully reconsidered. Standard patterns of suburban development are resulting in big houses on small lots that limit the evolution of suburbs through infill development and diversification of land use. Neighbourhoods should be designed to have a variety of lot sizes, responsive local open spaces, accessible community facilities within walking distance of houses, and natural areas integrated into the suburban fabric to bring nature into public view. Spatial inequity is primarily due to the uneven distribution of community facilities, the lag between settlement and establishment of community facilities and socio-economic change in established suburbs. The spatial integration of social infrastructure can be used to assist with integration between new and existing communities that provides a focal point for community activity and social engagement.

1. Design objectives

- Strengthen links between housing and social infrastructure, open space and employment land
- Spatial integration of social infrastructure with more flexible models of delivery
- Housing diversity and choice that provides lifestyle opportunities
- A variety of local open spaces that encourages participation in healthy lifestyles
- Natural areas integrated into a suburban fabric to bring nature into full public view.

- **What is social infrastructure?**

Social infrastructure includes a wide range of services and facilities that meet community needs for education, health, social support, recreation, cultural expression, social interaction and community development. It also includes civil infrastructure such as stations, bridges and paths. The requirements for social infrastructure also relates to future population, employment and housing projections. The city needs to create smarter, more sustainable infrastructure for generations to come. This is the purpose of urban design thinking - to build better communities. SGS economics defined social infrastructure as the interdependent mix of facilities, places and spaces, programs, services and networks that maintain and improve the standard of living and quality of life for the community. (Refer Figures T6.1)

2. Opportunities and proposals

- **Local integration of community facilities**

Each neighbourhood precinct will have a comparable level of social infrastructure provision. Community facilities should be multi-use and accessible within 400m – 500m of residential neighbourhoods, activity centres and within a five-minute walk of a transport stop. The location of community facilities on boulevards and major junctions would maximise access to these facilities. Well-used community facilities tend to be in places such as town centres where they are readily accessible and close to public transport connections. Ideally community facilities are best located with walkable, mixed use activities, transport interchanges, plazas and retail. It is desirable that key government services such as community health and social services should be in train station precincts. Highly visible locations with an inviting public realm should encourage access to digital interfaces, social interaction, community activity and play. (Refer Figure T6.2)

- **Develop community hubs**

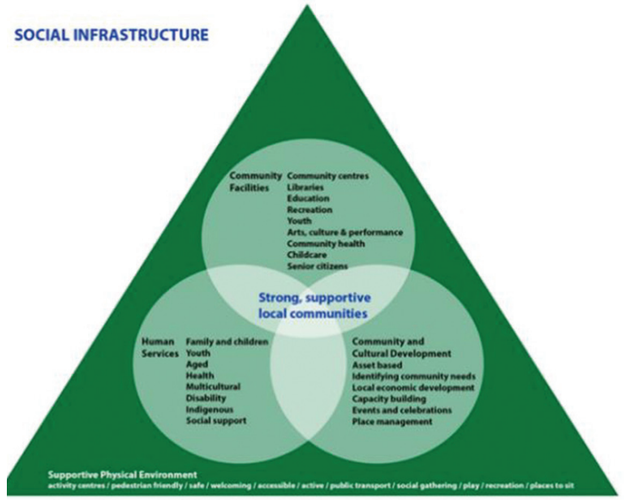
Locating social infrastructure within community hubs helps meet social needs by encouraging compatible uses and increasing activity and flexibility within geographic areas. This provides opportunities for efficient social infrastructure provision, centred on well-serviced communities. Co-location of social infrastructure in community hubs can increase the level of service integration and encourage greater resident utilisation and participation.

- **Co-location of community facilities**

Co-location involves bringing community services together in a single location. It is intended to enhance both co-ordination among services and convenience for clients who can access multiple services from a single point. Co-location can also relate to the relationship between community facilities and other compatible uses such as open space. Co-location of facilities should maximise the use of shared car parking.

- **Vertical integration of social infrastructure**

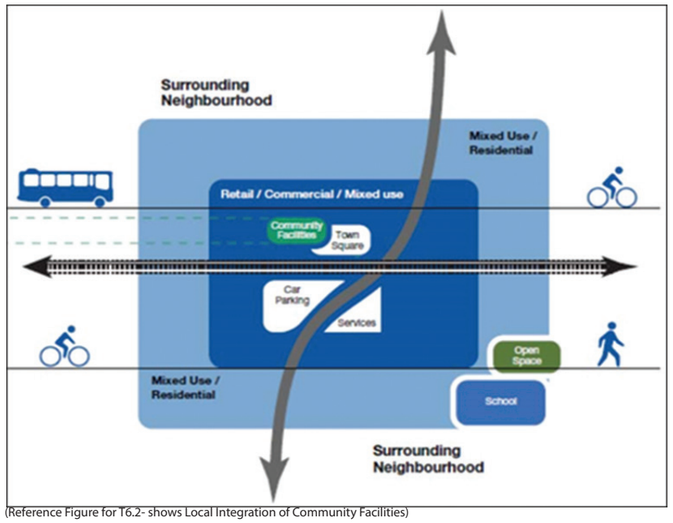
Vertical integration of community facility space with residential, retail and other uses is suited to the urban growth context. The conception of community facilities as positive, active and vibrant community hubs positions them well to act as the active ground floor use of a mixed-use building. The mixed-use building model offers the opportunity for residential and other uses to be used to help subsidise or support the capital and/or operational costs of the facility. (Refer Figure T6.3)



(Reference Figure for T6.1- shows Social Infrastructure)

Hard infrastructure	Soft infrastructure
Health facilities and centres	Sports grounds
Education facilities (universities, TAFE & schools)	Access to data and internet
Police stations	Real time information
Fire brigade and emergency services	Programmed space
Arts and cultural facilities	Services
Exhibition and convention centres	Community and cultural development
Indoor recreation stadiums & aquatic centres	Formal and informal recreation
Libraries	Regional open space, fire brigade and emergency services, fire brigade and emergency services

(Reference Figure for T6.1- shows Types of Social Infrastructure)



(Reference Figure for T6.2- shows Local Integration of Community Facilities)

- **Integration with master planning**

For social infrastructure to be most effective, it needs to be in a good physical environment and an urban setting that itself encourages social interaction, health, wellbeing and accessibility. It needs to work for a diverse range of groups that make up any community. Community facilities should become integrated components of mixed-use developments in centres that are accessible by public transport using technology that connects people with knowledge and information. Community facilities should be in highly visible locations, providing focal points that attract people and have inviting civic qualities. Land acquisition may be necessary to enable the delivery of community facilities in town centres.

- **A network of libraries**

Wyndham has an expanding library service. However, there is a gap in the library network in the Hoppers Crossing and Williams Landing areas. This corner of the city has few community facilities in comparison to some other areas of the city. A new public library located at Williams Landing would provide a much-needed piece of social infrastructure to this impoverished part of the city and assist with strengthening social infrastructure located in central parts of the city along the Werribee Spine. New public libraries need to re-conceptualise their design, brand and functions as one of the strategies of culture-led urban regeneration. At the same time they have actively contributed to urban development by changing the image and identity of urban places, contributing to urban diversity and addressing social and economic problems. Libraries should be involved with people, technology and quality of life.

Martín Gómezin his book, Making Cities Stronger, emphasises that public libraries contribute to place based economic development strategies in the following ways.

- Public library facilities are versatile, attractive components in a wide variety of developments – downtown, residential, mixed-use, com¬mercial, and joint-use service sites.
- Public libraries in mixed-use and residential developments contribute to safety and quality of life.
- Long term tenancy of public libraries reduces some of the financial risk associated with building mixed-used developments.
- Public libraries attract foot traffic and can serve as the anchor tenant function in commercial areas without directly competing with local businesses.

- **Major sports and recreation facilities**

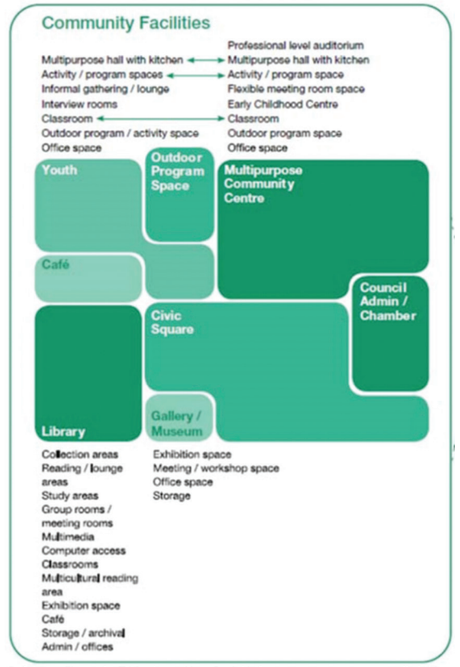
Wyndham has few top sports venues, none of which have the capacity to attract elite events organised by traditional sports including cricket, football and soccer. A multi-million dollar 15,000-seat stadium has been earmarked for Tarneit as part of basing a new A-League football team in Wyndham. A major sports facility, for example, an AFL standard football ground should be considered as part of the East Werribee Employment Precinct. Increasingly, football stadiums are regarded as architectural icons within the urban landscape and can have a massive impact on their surrounding communities and infrastructure.(Refer Image T7.4)

- **Location of local open space**

The open space network could enhance neighbourhood structure and provide well located, appropriately sized and connected spaces to meet the communities' recreation needs. Open space should be located within 500m metres of houses, being approximately a 10-minute walk and with no need to cross major barriers, including major roads and railways, to reach the open space. Established suburbs restructuring may make it necessary to acquire local open space.

- **Arts and cultural facilities**

Werribee is in an ideal location for arts and cultural facilities and entertainment and café uses that would complement the Wyndham Cultural Centre and café culture that is taking hold. The Werribee City Centre is a traditional street-based, high amenity, mixed-used multi-owner centre. The finer grain traditional structure of Werribee contributes to its historical character and human scale and contributes to its appeal as a destination.



(Reference Figure for T6.3- shows How Social infrastructure can conceptually be integrated into the Urban fabric)

Wyndham	Greater Geelong	City of Hobart
Werribee Mansion	Geelong Waterfront	Mount Nelson Lookout
Werribee Zoo	Adventure Park	Parliament House
RAAF Bases (Laverton and Point Cook)	Kardinia Park (Simonds Stadium)	The Domain (Queens Domain)
Pacific Werribee	Great Ocean Road/Surf Coast Highway	Royal Tasmanian Botanical Gardens
National Equestrian Centre	Geelong Botanic Gardens	Blundstone Arena
Werribee Racecourse	Deakin University (Waterfront and Waurn Ponds Campus)	Battery Point Sculpture Trail
Victoria State Rose Garden	Geelong Racecourse and Showgrounds Reserve	Franklin Square
East Werribee Employment Precinct		North Hobart Oval
Victoria University		Salamanca Market
Melbourne University (VET)		Constitution Dock
Seeds of Change		St Davids Park
The Guardians		University of Tasmania (Sandy Bay Campus)
Untitled Fountain		Cascades Brewery
Chirnside Park		

(Reference Figure for T6.4- shows Variety of Sports & Cultural facilities across different Municipalities in Australia)

City of Port Phillip	City of Monash
Albert Park	Monash University
St Kilda, Station & Princes Piers	Huntingdale Golf Club
Luna Park Melbourne	Clayton Community Centre
St Kilda Botanical Gardens	Monash Gallery of Art (MGA)
St Kilda Esplanade	Ripples and Journeys (Public Art)
Port Melbourne Foreshore	Melody (Public Art)
ADNATE Bunjil's Children 2014 (Public Art)	Mary Street Laneways, Clayton (Street Art)
Melbourne Grand Prix Circuit/event	Sankat Mochan Samiti Temple
Melbourne Sports & Aquatic Centre	
Catani Gardens	
Palaise Theatre	
South Melbourne Market	
Foreshore Promenade	

(Reference Figure for T6.4- shows Variety of Sports & Cultural facilities across different Municipalities in Australia)



(Reference Figure for T6.5- shows Selandra Integrated Community Centre)



(Reference Figure for T6.3- shows Education Facility, Hardiman research building, National University of Irelan, Galway; Pavillion set in Parkland)



(Reference Figure for T6.3- shows Education Facility, Seattle central library, Seattle, Washington / https://media2.fdncms.com/stranger/imager/u/original/24494042/seattle_central_library_seattle_washington_-_20060418.jpg)

Wyndhamcity
Melways

Legend

Legend

Rail Corridor

Future Green Framework

Urban Growth Boundary

Scale

0 1 2 3 km

Overview Map



wyndhamcity

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THEME 7 - GREEN CITY FRAMEWORK

The city has green city framework consisting of waterways & linear open space, boulevards and parks. These green elements provide a structure for urban development brings nature into the city and provides linkage for everyday activities and movement. The open space network provides connections between neighbourhoods and across the urban grid and provides opportunities for active and passive recreation. The boulevards used every day by many people potentially contributes to the green image and identity associated with the city.

THE CHALLENGE

The city has an expansive undeveloped open space network and this is a major natural asset that needs to be integrated into the urban fabric. The open space network is severed in many places by rail and roads that create the disconnection between suburbs, residential neighbourhoods, and train stations. .

WHAT IF?

1. Reinforcing green-ways and links across the city

   Protection of biodiversity and natural assets in the Werribee River Catchment and port Phillip Bay.
2. Linear park like space located along the Derrimut Road axis
3. Tree lined boulevards forming parkways along the 1-mile grid
4. Greening along the Regional Rail Corridor
5. Continuation of the Bay Trail around Port Phillip Bay

Regional Railway Link

Skeleton Creek

Werribee River

Metro Rail

Extension to the Bay Trail

THEME 7 – A GREEN CITY FRAMEWORK

The city is characterised by open suburbs with rivers, seasonal creeks, swales and seasonal flood prone low land cutting across the urban grid that isolate or define neighbourhood precincts across the city. Currently, buildings tend to ignore or turn their backs to open space because of the lack of social opportunity and ability to access and use these spaces. The broader open space networks are like 'green capillaries' that provide a connected green city framework. The public space offers green edges to residential neighbourhoods that are distinctive to the open character of the city. This openness with views to the sky is magnified by the two-dimensional nature of the suburbs. The built form and the amount of open space differentiate the suburban areas of the city from urban areas that have a three-dimensional relationship with higher buildings and hard urban space. The open space framework has a fourth dimension, that is, time for connections between the open space network and social opportunity to develop in the next development sequence. In this regard building and lot frontages to open space provide opportunities to integrate social opportunities into local neighbourhoods and improve linkages, leisure and recreation opportunities along the edges with improved casual surveillance and safety of open spaces penetrating through the suburbs.

1. Design objectives

- Improve conditions of living, work and recreation for residents living near linear open space
- Develop relevant green network, suitable for economic and social activities, that would stimulate the expansion of business, trade, tourism, increase investments flow
- Develop Green areas as an overriding component of city structure that increase the quality and diversity of residential areas
- Increase attraction of the city environment including the ecological sustainability, stability and biodiversity of city environment that becomes the defining green qualities of the suburbs
- Improve linkage between neighbourhoods, destinations and access to open space for leisure, recreation and emergency services

2. Opportunities and proposals

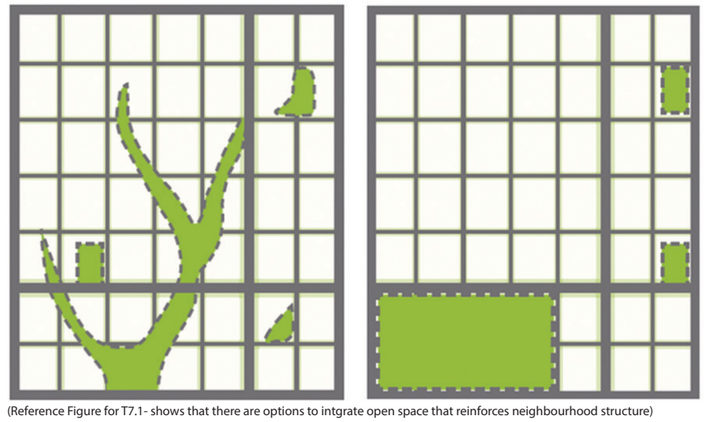
- **Green city structure**

The essential objectives of a green city structure are to make public transport an acceptable alternative to private car commuting and to combine the provision of a pedestrian and cycleway system of 'Green Ways' with an expanded and enhanced open space system. A green structure joins existing natural and planted areas, as well as planned ones into a network of green areas. The City's greenways provide a network of linear spaces conceived, planned and managed for multiple purposes, including recreation and biodiversity conservation.

- **Equitable distribution of open space**

The City has many undeveloped open spaces in existing and new suburbs and a shortage of high-quality urban spaces in town centres. Open space should integrate into the urban fabric and be equitably distributed across neighbourhood precincts providing access to a variety of recreation opportunities. The open space network should enhance neighbourhood structure. The City should have high-quality and well-designed parks and gardens. The design and development of open space needs to be brought forward or accelerated to meet the needs of new communities settling in Wyndham. The City should have a genuine public image that allows all spaces to communicate their function and symbolic importance at the centre of community life. Some of the key matters to be considered with the provision of open space are listed below.(Refer Figure T7.1)

- A network of continuous regional paths and trails including open space links along the coast, Federation Trail and the Bay Trail.
- Ensuring there are sufficient amounts of local open space in established suburbs such as Hoppers Crossing
- Providing a variety of open spaces that provide access to a range of local leisure and recreation opportunities
- Redistributing regional open space in growth areas to provide access to accessible local open spaces within 500 meters of residential houses
- Centrally locating civic spaces in town centres filled with genuine civic content, which provides a focus for community engagement, gatherings and events ,for example, town squares, plazas and other hard urban spaces.
- Creating seamless open space links between residential neighbourhoods, stations and town centres with active transport connectivity
- Locating open space that assists with neighbourhood structure, legibility and movement
- Protecting biodiversity and integrates nature features within locally distinctive neighbourhoods in open spaces
- Building high quality parks and gardens that are inclusive, memorable, stimulating and safe.



(Reference Figure for T7.1- shows that there are options to intgrate open space that reinforces neighbourhood structure)



(Reference Figure for T7.2- shows Key urban elements of Albury including the urban grid that is strengthened by open space, how the grid has been adapted to respond to the environmental feaures.)

- **Recognition of the aesthetic and cultural role of greenways**

Greenways have an aesthetic and cultural role that is compatible with the sustainable use of the green space. Supporting objectives include the development of commercial and service 'Nodes' at major transportation interchanges, increasing housing densities, encouraging new community uses and adopting more flexible guidelines for industrial uses in residential areas. These areas could include botanic gardens, sports fields, community gardens, urban forests and paths.

- **A water sensitive city**

The rivers, creeks and waterways establish a network of green open spaces and corridors to serve as an integral element of the city's drainage infrastructure and floodway for flood conveyance during rare storm events. Greenways running through the city should be used more extensively to advance a water sensitive urban design. Greater use of encumbered land for a variety of purposes should be considered, including the nexus between water storage and irrigation and the delivery of ecological landscapes resilient to climate change.

- **Buildings and space**

All the City's open space should have a road frontage with buildings facing onto the space. This could involve the construction of new roads and car parking and potentially the introduction of medium density housing along linear open spaces of the city. Different types of spaces could be built along open space corridors that link different recreational experiences as they move through the city.

- **Emergency access**

Rural Wyndham is a fire prone area. With a rapidly growing population that fringes vast areas of grassland, our residents face a significant risk of grassfires and bushfires. Other risks include structural fires, industrial accidents, transport accidents and in some areas, floods. The use of linear open space to create better emergency access to suburbs is a paramount consideration. This would enable residents to evacuate in the event of a major fire event and smoke, especially with strong prevailing north westerly winds.



(Reference Figure for T7.3- shows Fitzroy Gradens as an example)

(Reference Figure for T7.4- shows In marne-la-vallée, a new town 20 kilometers outside of paris)



(Reference Figure for T7.5- shows Capetown, South Africa)

Wyndhamcity
Melways

Legend

Legend

Rail Corridor

Future Rail Connection

500m

Scale

0 1 2 3 km

Overview Map

wyndhamcity

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THEME 8 - SPATIAL SEQUENCING AND WALKABILITY

Spatial sequencing and pedestrian freindly connections The Werribee Spine and Derrimut Road is necessary to encourage people to safely walk to public transport and destinations along these major ramatures of the city.

THE CHALLENGES

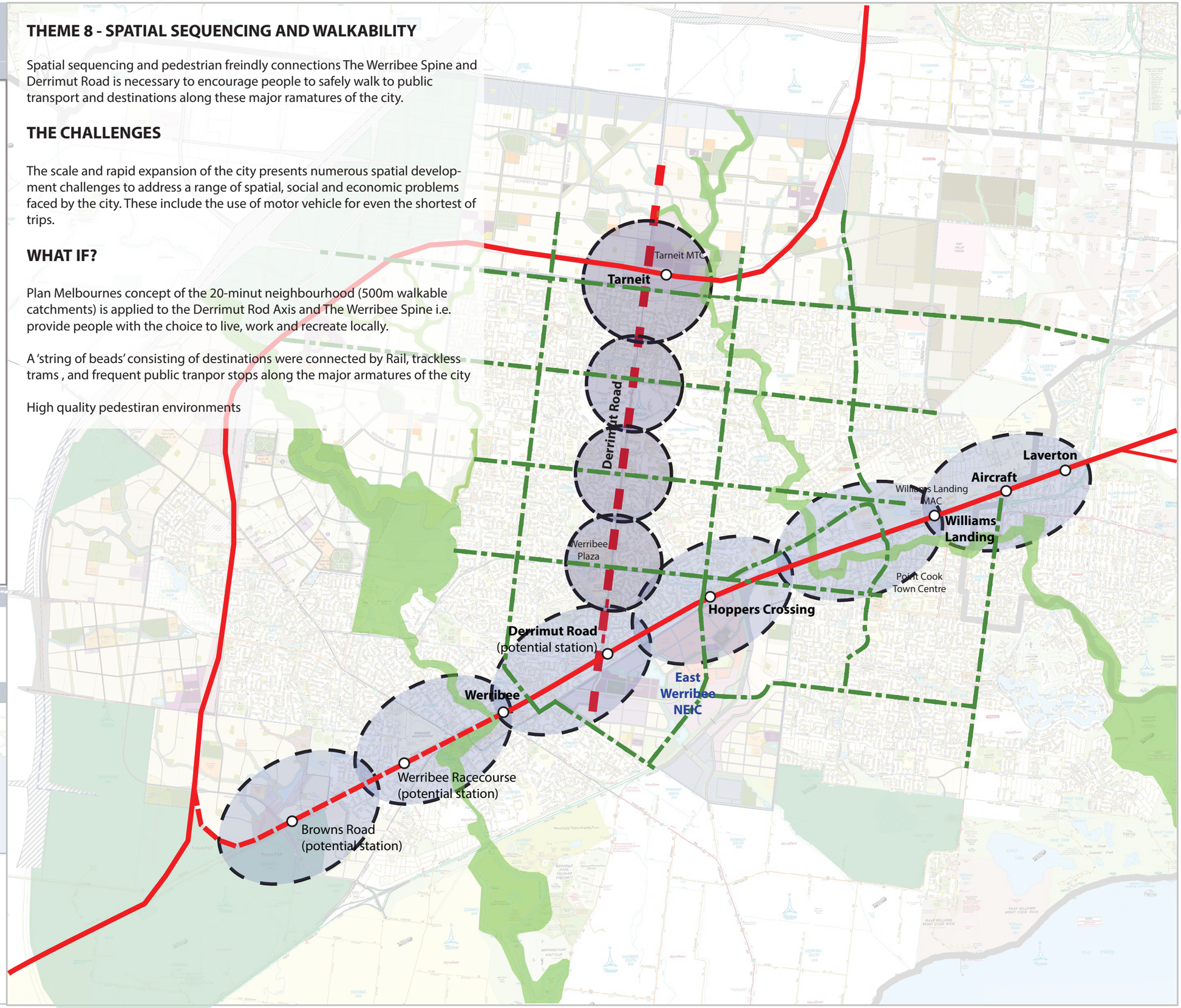
The scale and rapid expansion of the city presents numerous spatial development challenges to address a range of spatial, social and economic problems faced by the city. These include the use of motor vehicle for even the shortest of trips.

WHAT IF?

Plan Melbournes concept of the 20-minut neighbourhood (500m walkable catchments) is applied to the Derrimut Rod Axis and The Werribee Spine i.e. provide people with the choice to live, work and recreate locally.

A 'string of beads' consisting of destinations were connected by Rail, trackless trams , and frequent public tranpor stops along the major armatures of the city

High quality pedestiran environments



PART 2 - "WHAT IF?"

THEME 8 - SPATIAL SEQUENCING, LINKING AND WALKABILITY

The scale and rapid expansion of the city presents numerous development challenges to address a range of spatial, social and economic urban problems faced by the city. Spatial sequencing and walkability along the main armatures of the city supported by transit routes, public transport facilities, mixed land use and a concentration of people is needed to create a "string of beads" linking movement. The Werribee Spine and Derrimut Road Boulevard should support the principles of urban integration, intensification and containment of urban sprawl.

1. Design objectives

To create:

- Positive spaces along the major armatures of the city
- Design synergies and a unifying character and green elements
- Legible and connected spatial layout linking sequential movement.

2. Opportunities and proposals

City armatures and the applied 20- minute neighbourhood concept

Plan Melbourne's concept of the 20-minute neighbourhood (500m walkable catchment) is applied to the main armatures of the city. It is proposed that The Werribee Spine and Derrimut Road will provide people who choose to live locally with the ability to meet most of their everyday needs including access to shops, childcare and schools, parks, doctors and public transport, within a 20-minute walk, cycle or public transport journey from their home.

The segments of these major armatures provide corridors of activity that offer high quality public realm and open space. They need to:

- Be safe, accessible and well connected for pedestrians and cyclists during the day and at night
- Provide services and destinations that support local living, and optimise access to quality public transport that connects people to jobs and higher-order services
- Deliver housing and/or population at densities that make local services and transport viable, and facilitate thriving local economies.

- **Public transport modes that support high concentrations of land use**

Major public transport modes such as rail and trackless trams would support high concentrations of land use, linkage between nodes and sub nodes, intense human interaction, availability of services and the intensification of development and public investment in open space. Restructuring could include higher density development and public space located around major intersections such as the Werribee Plaza Precinct. (Refer Figure T8.1)

- **Overlapping social opportunities and employment**

The intent is to encourage a range of opportunities along the main armatures of the city that result in the highest intensity levels of economic activity and mixed use. This includes the location of community facilities, not for profits and private recreation facilities along the urban armatures of the city. A wide variety of social opportunities will be interwoven with high density residential activity and opportunities for numerous social and community activities that promote social interaction on the street.

- **Night time economy**

The night time economy could be encouraged to form along major public transport routes. The night time economy is mostly made up of restaurants, specialist grocery stores, small bars, theatres and hotels. The key themes of the night time economy relate to safe and vibrant frontages to boulevards and open space, small business opportunities, later trading businesses and a distinct experience through creative spaces which support events, niche activities, live entertainment, promenading and recreation. The night time economy should celebrate cultural diversity and provide spaces for events and activations.

- **Edge continuity, activation and eyes on the street**

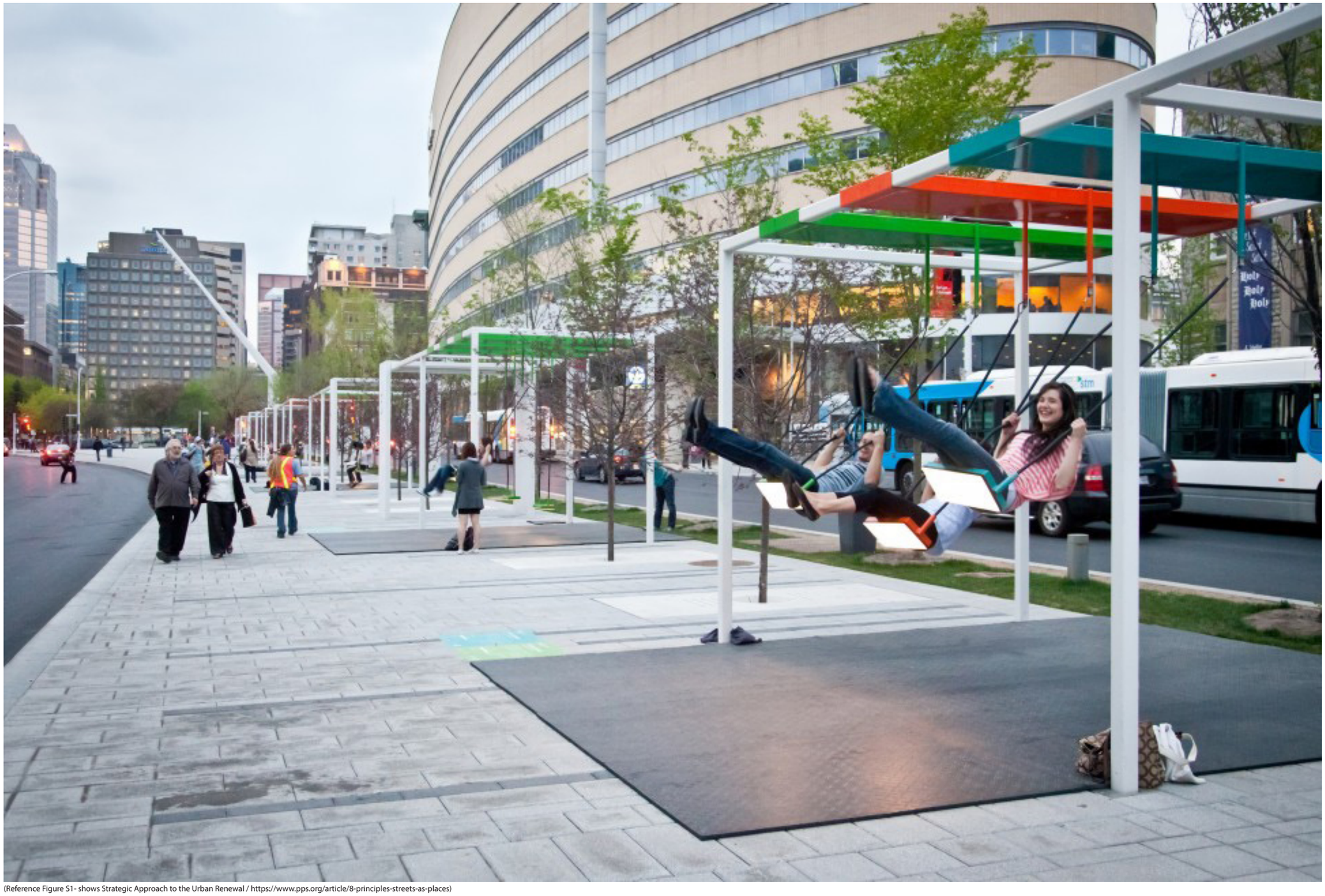
Well designed and maintained urban environments and a high standard designed street lighting strategy are essential for activation and improved safety along high streets, rail and public transport interchanges. The design of streetscapes along the main armatures of the city should maximise visibility and observation of the public environment, provide safe movement, good connections and access and maximise activity in public space. Public space should be clearly defined, and its management should ensure that it is attractive and well used. (Refer Figure T8.2)



(Reference Figure for T8.1- shows Overlapping of Social communities and Environment/ https://www.pps.org/article/8-principles-streets-as-places)



(Reference Figure for T8.2- shows Edge continuity, Activation and Eyes on the street / https://www.pps.org/article/8-principles-streets-as-places)



(Reference Figure S1- shows Strategic Approach to the Urban Renewal / https://www.pps.org/article/8-principles-streets-as-places)

A STRATEGIC APPROACH TO URBAN RENEWAL

Successful urban renewal and greenfield development requires a multifaceted strategic approach incorporating both local and regional contexts, developed through multi-sector and multi-agency partner¬-ships. Urban renewal within an existing community should share the development of both vision and planning from an early stage in order to encourage ownership within the community. Renewal projects without a direct incumbent community (a redevelopment of industrial lands, for example) should heavily invest in information-sharing to raise aware-ness and acceptance of the process across the wider urban community. Engagement should continue in the development of a vision, the setting of objectives, preparation and evaluation of options, and detailed plan-ning for a preferred option. (Refer Figure S1)

1. Design objectives

- Set a strategic planning framework to improve parts of the city that need to be repaired or strengthened
- Improve the visual and functional arrangement of the city and its urban structure
- Focus urban renewal in central areas of the city that can accom¬mo-date higher populations and a diversity of land uses
- Integrate land use and transport to stimulate growth and invest¬-ment around stations and in town centres
- Direct growth and development in urban areas that maximise the use of existing infrastructure and services
- Restructure selected urban areas of the city in need of social oppor-tunity.

2. Opportunities and proposals

- **Werribee Spine Framework Plan**

A high-level overarching framework is needed to guide the transfor-mation of the Werribee Spine into a series of complementary spaces that support the emergence of social opportunity, business innovation, education, employment, accommodation and retail in the central areas of the city. The urban elements in the corridor are strung out and the relationships between the city elements are fragmented. The future ur-ban growth along the Werribee Spine would have linking elements and experiences. The related centres and stations should not be viewed in isolation but part of a potentially diverse network of related urban areas. The sequence of precincts in the corridor should be ordered to relate to another and be connected through serial vision (permeability and movement). The ordering of space and the introduction of landmarks would support wayfinding and active transport choices.

- **Hoppers Crossing Structure plan**

Hoppers Crossing station and the areas around the station should be upgraded to improve the interface between Hoppers Crossing Station and the Medical Precinct in Point Cook. Level crossing removal should occur as an essential part of this upgrade. The precinct has untapped capacity for growth and diversification. The contextual elements of the precinct include the Hoppers Crossing train station, local shops and supermarket, public space, large format commercial activity, Werribee Hospital, the Medical Precinct, and car parks.

The redevelopment of Hoppers Crossing Station, level crossing removal, and restructuring space around the station would provide opportunities to connect visitors to the commercial strip, short term accommodation, community services, retail and businesses centrally located in the city. The benefits of level crossing removal include:

- Greater potential for multi-scale economic and social development related to increased activity around stations:
- Rail achieving a prominent position in the urban fabric
- Significantly increased ground-level pedestrian and cycling connectivity
- Creation of linear parks and connected quiet streets for safer walking and cycling
- Improved passenger experience, views and wayfinding.



- **Derrimut Boulevard Structure Plan**

Derrimut should be established with clear organisational geometries, movement and land uses that allow it to link elements at the macro scale. Tarneit Central, Pacific Werribee, Hoppers Crossing Station and potentially Werribee East to the south, will reinforce the prominence of Derrimut Road as the main north south axial roads in the city. Derrimut Road should be transformed to give shape to the boulevard and intersections in order to strengthen directional guidance to movement between Tarneit Central, Hoppers Crossing station and the Werribee Spine. The Avenue should pro-vide multiple modes of transportation and connectivity to the surrounding suburbs. It could also be flanked by medium density housing facing the boulevards and provided a sense of enclosure to major intersections. A structure plan for Derrimut Boulevard should be completed to ensure a consistent approach to its design. Some of the matters to be considered are listed below.

- Summarise the road's development history and assessment of its cur-rent physical conditions
- Understand the spatial relationships between land uses, transportation modes, urban form, and place making elements
- Investigate the feasibility of a light rail connections between Tarneit Town Centre and Hoppers Crossing including mid-block transport stops

- Asses potential for medium to high density housing and civic uses facing onto the boulevard.
- Investigate opportunities for the amalgamation of lots and larger mixed-use buildings that would frame major intersections.
- Identify strengths and challenges and options for development including principles to guide the short, medium and long-term restructuring of the boulevard
- Establish measures of success including use of public transport, levels of non-retail use and access to non-retail uses such as community and recreation facilities.

- **Review of Werribee Town Centre Planning Framework**

Werribee is the oldest centre in the city and in time will assume increasing prominence as a destination. The role of Werribee Town Centre is not as a place full of large format buildings. It is aligned with niche retail, convenience shopping, café culture, leisure and entertainment, professional services, Werribee Market, and commuter and recreational uses that take advantage of the train station and river walk.

The review of the planning framework should ensure the following matters are considered in an integrated way.

- The role of the town centre considered in terms of its relationships with Werribee East, Hoppers Crossing, Williams Landing and the wider Werribee Plaza Precinct.
- The fine urban grain and human scale of the old town is retained with new development which relates to the existing urban fabric.
- The impact of proposed buildings heights on surrounding residential and public open space amenities is further considered i.e. build¬ings on the northern side of Watton Street do not overshadow the amenities of the southern footpath of Watton Street at the winter solstice.
- Opportunities and constraints related to level crossing removal in Werribee Street and Cherry Street and the redevelopment of Werribee Station are assessed.

- **Old Geelong Road Commercial Strip Revitalisation**

Land uses in the Old Geelong Road Commercial area are changing and the image of the strip is tired and dilapidated. The commercial area defined by the Commercial Zone offers substantial opportunities for development of large format building between the rail and the commercial strip. Some of the strategic advantages relate to land area, lot size, proximity to rail and the commercial strip and opportunities to improve traffic circulation including level crossing removal. The area has some limitations including flooding from Skeleton creek.

The commercial strip could be restructured, changing it from a car-oriented precinct to one which addresses multi modal transportation relating to new land uses such as residential apartments, hotels, short-term accommodation, bars and night clubs, and public spaces fronting onto a revitalised commercial strip. A new station should be considered for location on Hackett's Road with bridge connections linking Point Cook and Hoppers Crossing with the Federation Trail.

- **Werribee plaza precinct structure plan**

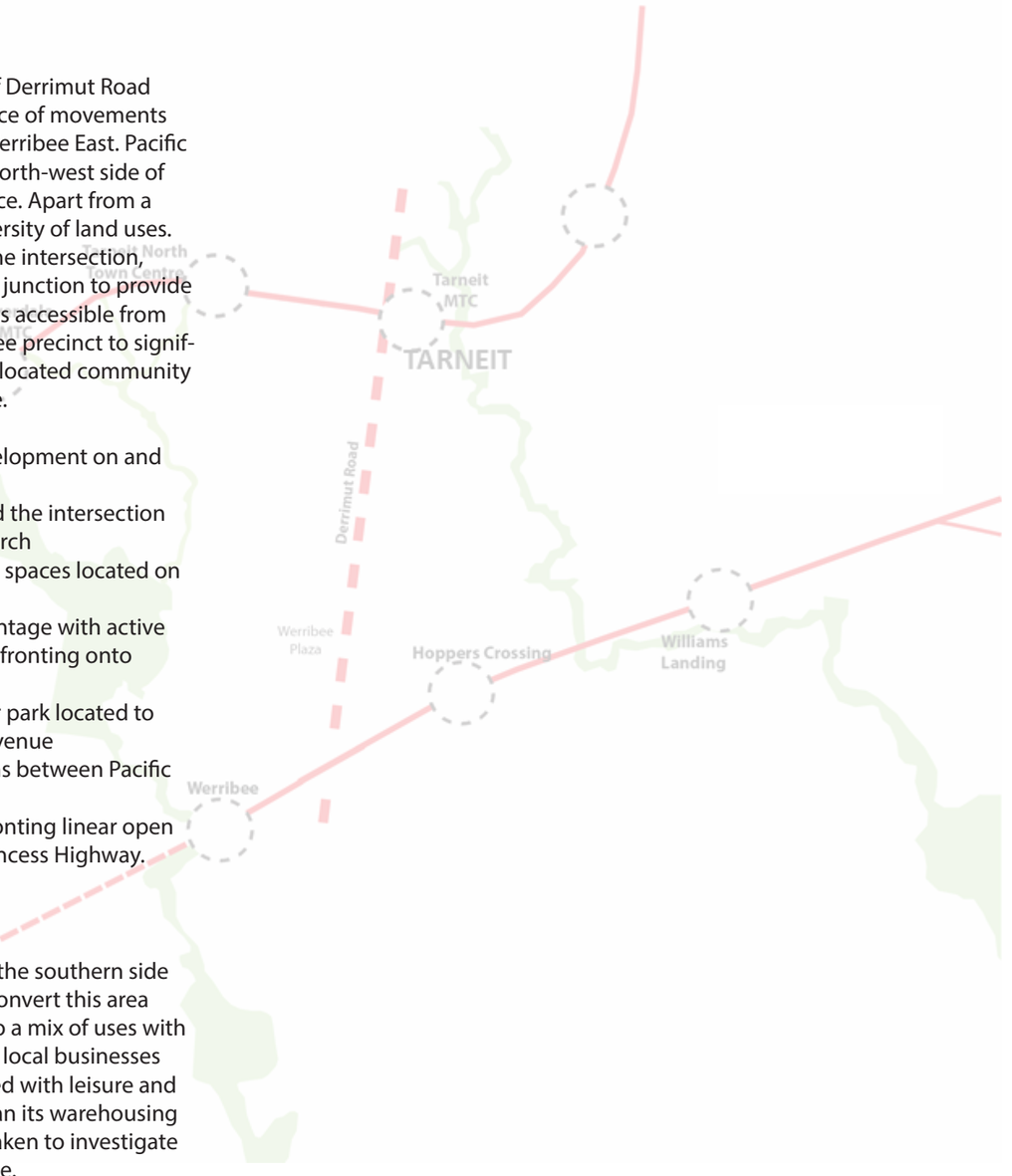
Werribee Plaza precinct is located on the intersection of Derrimut Road and Heaths Road and this junction relates to a confluence of movements to destinations such as Hoppers Crossing Station and Werribee East. Pacific Werribee is a regional shopping centre located on the north-west side of Derrimut Road, exceeding 100,000m2 of retail floor space. Apart from a library, Pacific Werribee has little social content and diversity of land uses. In the context of the broader precinct located around the intersection, there are opportunities to restructure space around the junction to provide more non-retail uses including local community facilities accessible from Hoppers Crossing. Potential exists for the Pacific Werribee precinct to significantly increase its non-retail commercial, office and co-located community functions in association with growth in retail floor space.

The exact size and nature of non-retail commercial development on and adjacent to the site needs to be determined.

- Consider restructuring buildings and spaces around the intersection including the site now occupied by the Baptist Church
- Investigate the design, role and use of minor public spaces located on the north east and southwest sides of Heaths Road
- Investigate restructuring of the Pacific Werribee frontage with active build form frontages and people places and spaces fronting onto Derrimut Road
- Investigate alternative access to the rear surface car park located to the North West from Ryan Close or from Johnson Avenue
- Investigate opportunities to strengthen connections between Pacific Werribee and Hoppers Lane
- Investigate the feasibility of a new collector road fronting linear open space that would connect Heaths Road and the Princess Highway.

- **Wallace Avenue Mix Use Zone**

Wallace Avenue, located within the rail corridor and on the southern side of Williams Landing station, presents opportunities to convert this area into mixed-use precinct. Wallace Avenue is evolving into a mix of uses with a hotel, offices, ten pin bowling alleys, coffee shops and local businesses taking hold. The future of this precinct is more associated with leisure and entertainment and relates more to Williams Landing than its warehousing and industrial uses. A planning study should be undertaken to investigate the most appropriate zoning suitable for Wallace Avenue.



- **Werribee East**

The East Werribee National Employment and Innovation Cluster proposes providing development opportunities for large-scale public and private investments, including: an employment, education and research precinct, retail, office and entertainment and a series of other uses such as a Heritage Park and botanic gardens. Some of the opportunities are listed below.

- Sneydes Road Freeway interchange at East Werribee
- Victoria University's Inter-Professional Health Clinic
- Werribee Mercy Hospital expansion
- St Vincent's Private Hospital Werribee
- Melbourne University expansion
- Notre Dame University Clinical School
- Wyndham Private Medical Centre
- Dairy Innovation Australia expansion
- Wyndham Clinic Private Hospital

THE NEXT STEPS...

A CATALYST FOR CHANGE

A CATALYST FOR CHANGE

Local government is a catalyst for change. It has a direct role in improving the local physical infrastructure of local communities and influencing all levels of government in allocating funding to provide appropriate social infrastructure and servicing that support population growth and socio-economic changes. Wyndham urban design should adopt the positive aspects of traditional, post-modern and contemporary design on a case-by-case basis to repair, restructure and guide new growth on the fringe of the city. This includes:

- Restructuring
- Retrofitting
- Urban renewal
- Local area plans and
- Site acquisition.

COLLABORATION AND PARTNERSHIPS

An essential part of the process requires multidisciplinary teamwork at all levels of government, exposure to community groups and users at the social level. Consideration has been given to tools and experts in fields outside of pure design, such as, law, finance, sociology, ecology and social psychology including human perception and scale of the city. The principal purpose of this urban design analysis understands the principles of urban open space and the way in which these should be used to govern the communal spatial structure.

A PLACE-BASED APPROACH

A place-based approach is used to understand the relationships between land use, built form, cultural, environment and economic perspectives. A place-based approach is needed to design challenges in the areas of transport, activity, social infrastructure, industry and the natural elements of the city. These urban elements are analysed with a view to identifying gaps, breaks in continuity and barriers to diversity and choice. The aim is to repair element and places in the city to improve health and safety, social inclusion, quality urban places, economic growth and innovation and service delivery.

