

# City of Greater Geraldton Integrated Transport Strategy

**April 2015**



City of  
Greater Geraldton  
a vibrant future



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# 1 Foreword/ Executive Summary

The manner in which our transport infrastructure and systems develop into the future is critical in shaping our city, and creating access, mobility and opportunity. The transport infrastructure development has predominantly served private vehicles and this now needs to be better diversified to include good public transport and accessible walking and cycling networks.

Any transport strategies used for the region will be complex, as the City covers a very large and diverse geographic area. In addition, the City of Greater Geraldton is the hub of the Mid West region and is rapidly expanding with the population predictions forecasting a population of 100,000.

This strategy addresses transport responses to the strategies developed in the City of Greater Geraldton Strategic Community Plan 2013 – 2023. These include:

- To support and promote the City of Greater Geraldton to become a walking - and cycling-friendly city;
- To improve independence and connectedness for the transport-disadvantaged.
- A modern, integrated, appropriate and well-used public transport system;
- To support and improve the movement of freight to, through and within the City;
- To create the transport networks to support and enhance the City as a tourist destination;
- To create a road hierarchy that is capable of efficient vehicle movement while reducing the potential adverse effects of traffic flow; and
- Sufficient parking to be provided for residents and visitors.

For good reason, the Strategy includes the term ‘integrated’. This not only refers to the need to effectively integrate different modes of transport and land use, but the need to integrate the different roles and resources between spheres of government, non-government organisations and the private sector. This will include support from areas such as freight, recreation, tourism and environment as well as more recognised avenues of transport funding. Integrated planning provides the City with an in-depth understanding of its capacity to resource not only current projects but those planned for the future. Integrated planning also involves the holistic consideration of all transport modes such that proposed schemes are considered in terms of their impacts on all transport modes, rather than considering any one transport mode in isolation.

***The City of Greater Geraldton looks forward to building on our great assets and working with our strong and dynamic community towards a vibrant future.***

***City of Greater Geraldton Strategic Community Plan 2013 - 2023***

The City’s Asset Management Plans, Workforce Plan and Long Term Financial Plan (LTFP) ensure the management of assets and resources to enable current and forecasted future needs to be met and planned for, and adequate funding resourced to support the City’s progress towards achieving the community’s vision. Capital works planning will be undertaken to prioritise those projects which address high risks / safety issues and/or offer whole of community benefit. Those projects which are of medium and long term priorities are planned and included in the Capital Works Priority List, but the order of these is changeable subject to investigation. All inclusions in the Capital Works Priority

List will include consideration of total cost of ownership, life cycle costing, maintainability and financial sustainability.

The City of Greater Geraldton will continue to develop local transport systems such as the local roads network and walking/cycling environments, and will advocate for the City as a whole in areas such as public transport and freight networks. Balancing these modes and maintaining safety and amenity for the community is a challenge with limited funds. The City has developed a strategic approach to asset management and developed asset management plans based on the total life cycle of assets. The City is undertaking an extensive Asset Management Improvement Program over the next three years to better understand the conditions of existing assets and improve systems.

The City has collaborated with consultants Cardno from Perth, who have provided technical and consultation input, and helped to shape strategic direction.





Diagram 1: ITS Strategic Framework

## Abbreviations

Term	Description
DoP	Department of Planning
DoT	Department of Transport
MRWA	Main Roads Western Australia
URNUP	Utakarra Road Network Upgrade Project
RUK	Rangeway Utakarra Karloo
WAPC	Western Australian Planning Commission

## Glossary

Term	Description
<b>Active transport</b>	Non-motorised forms of transport involving physical activity, such as walking and cycling.
<b>Access Road</b>	The lowest order of road within the Main Roads WA (MRWA) Hierarchy. The Hierarchy describes such roads as roads that provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function. These roads are bicycle and pedestrian friendly.
<b>B- Double</b>	A freight vehicle combination consisting of a prime mover towing 2 trailers, with maximum dimensions of 27.5 metres in length; 2.7 metres in width; and 4.6 metres height
<b>Business Improvement District (BID)</b>	A defined area within which businesses pay an additional tax (or levy) in order to fund projects within the district's boundaries.
<b>Development Contribution Area (DCA)</b>	<p>An area covered by a legal arrangement between the Local Government and specified landowner(s) to share the costs involved with building new infrastructure for that area. WA State Planning Policy specifically states that "Development contributions should be levied from all developments within a development contribution area, based on their relative contribution to need".</p> <p>Land owners in the affected area are then required to contribute towards the cost of that infrastructure, but only once an application to develop/subdivide the land has been approved.</p>
<b>Development Contribution Plan (DCP)</b>	A Development Contribution Plan (DCP) is a legal arrangement between the City of Greater Geraldton and specified landowner(s) to share the costs involved with building new infrastructure within a Development Contribution Area (see above). The DCP also includes the methodology for determining the cost contribution of each owner, the priority and timing for the provision of the infrastructure and period during which it is to operate.
<b>District Distributor A</b>	A road order within the MRWA Hierarchy. The Hierarchy describes such roads as urban roads that carry traffic between industrial, commercial and residential areas and generally connect to Primary Distributors. Likely to be truck routes and provide only limited access to adjoining property. District Distributor A and B roads run between built up area land-use cells and generally not through them, forming a grid which would ideally space them about 1.5 kilometres apart.
<b>District Distributor B</b>	A road order within the MRWA Hierarchy. The Hierarchy describes such roads as performing a similar function to Type A District Distributors (see above) but with reduced capacity due to flow restrictions caused by frequent property accesses and roadside parking in many instances. Often older roads with a traffic demand in excess of that originally intended. District Distributor A and B roads run between built up area land-use cells and generally not through them, forming a grid which would ideally space them about 1.5 kilometres apart.
<b>Geraldton Strategic Land Use Model (GSTLUM)</b>	A strategic transport and land use model on the CUBE platform for the Greater Geraldton region.
<b>Gross Floor Area (GFA)</b>	The gross floor area of a building is measured from the inside of external walls or the centre of partition walls. This term includes all roofed areas, except for the area of any roof overhang, beyond the perimeter building walls

Term	Description
<b>Infrastructure (Transport)</b>	Fixed equipment (such as roads, railways and traffic lights) needed for transport services.
<b>Integrated</b>	Combined into a unified system taking into consideration all relationships. In terms of transport this means considering all transport modes, land use patterns and social, environmental and economic impacts.
<b>Liveable Neighbourhoods</b>	Liveable Neighbourhoods has been adopted by WAPC as operational policy for the design and approval of urban development. Liveable Neighbourhoods applies to structure planning and subdivision for greenfield sites and for the redevelopment of large brownfield and urban infill sites.
<b>Local Area Traffic Management (LATM)</b>	Schemes designed to improve the quality and safety of neighbourhood streets; generally traffic-calming devices which may include speed humps, speed tables, speed cushions, roundabouts, median islands, chicanes and bulb outs.
<b>Local Distributor (Rural)</b>	A road order within the MRWA Hierarchy. The Hierarchy describes such roads as roads that connect to other Rural Distributors and to Rural Access Roads. Not Regional Distributors, but which are designed for efficient movement of people and goods within regional areas.
<b>Local Distributor (Urban)</b>	A road order within the MRWA Hierarchy. The Hierarchy describes such roads as roads that carry traffic within a cell and link District Distributors or Regional Distributors at the boundary, to access roads. The route of Local Distributors should discourage through traffic so that the cell formed by the grid of District Distributors only carries traffic belonging to, or serving the area. These roads should accommodate buses, but discourage trucks.
<b>Local Planning Scheme (LPS)</b>	Local Planning Schemes outline how land is to be used and developed, classify areas for land use and include provisions to coordinate infrastructure and development in a locality.
<b>Non-arterial road/street</b>	The collector and local road or street system comprises all facilities not on one of the higher systems. They serve to provide direct access to abutting land and access to the higher order system along with a circulation function. (While this term does not exist in the MRWA Hierarchy, it would best correspond with Local Distributors and Access Roads).
<b>Primary Distributor</b>	A road order within the MRWA Hierarchy. The Hierarchy describes such roads as roads carrying major regional and inter-regional traffic movement; large volumes of generally fast-moving traffic. Some are strategic freight routes.
<b>Regional Distributor</b>	A road order within the MRWA Hierarchy. The Hierarchy describes such roads as rural roads, not Primary Distributors but roads that link significant destinations and are designed for efficient movement of people and goods within and beyond regional areas.
<b>Restricted Access Vehicles (RAVs)</b>	<p>A vehicle that is restricted to use only roads within the "Permit Network" corresponding to its class. The Permit Networks are RAV Networks 1 to 10; RAV Network 1 includes all Public Roads within the State of WA <i>except</i> for five designated exclusions (though some usage with conditions is permitted in some cases). RAV Networks 2 to 10 comprise the roads on which the corresponding classes of vehicles are permitted (subject to additional conditions in some cases).</p> <p>The largest vehicles permitted on RAV Network 1 are prime movers with semi-trailers, not exceeding 19 metres length, 4.6 metres height and 2.7 metres width.</p> <p>The largest vehicles permitted on RAV Network 2 are B-doubles up to 27.5 metres length, 2.7 metres width and 4.6 metres height; or a prime mover with semi-trailer plus pig trailer up to 27.5 metres length, 2.7 metres width and height as given by the Road Traffic (Vehicle Standards) Rules 2002. RAV Networks 3 to 10 permit progressively larger vehicles.</p>
<b>Sustainable development</b>	The Brundtland Commission, or World Commission on Environment and Development (1983 to 1987), gave a definition of sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
<b>Sustainable transport infrastructure</b>	Infrastructure associated with facilitating walking, cycling, public transport and other sustainable transport modes.
<b>Sustainable transport modes</b>	Transport modes that satisfy the definition of 'sustainable development' given above. Typically used to describe the modes of walking, cycling, public transport and private motor vehicles powered by renewable fuel sources (e.g. 'bio-diesel'; however the inclusion of such vehicles within the definition is disputed by some, in part due to the competition for land between food crops and bio-diesel crops).
<b>Toucan Crossing</b>	Toucan crossings have a "green bicycle" is displayed next to the "green man" and allow

Term	Description
	both cyclists and pedestrians to cross.
<b>Traffic-calming</b>	Traffic management techniques aimed at reducing the speed of traffic on local streets.
<b>Transit-oriented community (TOC)</b>	An area where it is intended the principles of transit oriented development will be applied at a broad hectare level.
<b>Trans-Priority assessment</b>	An approach that manages competing interests for limited road space by giving priority use of the road to different transport modes at particular times of the day.
<b>Transit oriented development (TOD)</b>	Mixed use residential and commercial areas, designed to maximise the efficient use of land through high levels of access to public transport. Transit-oriented development usually features higher intensity development, a strongly pedestrianised environment, a clear and interactive community focus, generous public spaces and high quality urban design.
<b>Transport system</b>	Infrastructure, services and equipment to provide for the movement of people and freight.
<b>Trip</b>	A one way journey by an individual using any mode of transport.
<b>Travel Plan</b>	A long-term management strategy for an occupier, or a site, that seeks to deliver more sustainable transport objectives through positive action and is articulated in a document that is regularly reviewed. Such plans usually include: an assessment of current travel options and usage; a survey of attitudes of the site's occupiers towards sustainable modes; tailored initiatives to encourage mode-switching to sustainable modes; mode-shift targets; a program of monitoring and review to assess progress towards targets.
<b>Urban development</b>	Establishment of new communities comprising residential, commercial and other built-up areas.
<b>Wombat crossing</b>	A Wombat crossing is a raised pedestrian crossing which gives legal priority for pedestrians.



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## 2 Introduction

### 2.1 Background

The City of Greater Geraldton is the service centre of Western Australia's Mid-West region and lies 420km north of Perth as shown in **Figure 1**. It is perched on a spectacular coastline to the west and a vast inland area stretching eastward to include the town of Mullewa (included within the City of Greater Geraldton since 2011 as shown in **Figure 2**.

Geraldton has a population of over 40,000 people and covers an area of 9,926 km<sup>2</sup>. The climate in Geraldton is classed as Mediterranean; with mild to warm weather in autumn and spring and hot dry summers with winds from the east in the morning and from the south/south west most afternoons; winters are mild and most rainfall is during June – September (average 350mm). The City of Greater Geraldton is the hub of the Mid West region and is rapidly expanding with the population predictions forecasting that it will grow to more than 100,000 people. It is a thriving and sustainable regional city and is fast becoming a significant centre known internationally for its liveability; science, mining and trade industries; food production; and renewable energy.

Transport networks are widespread and include Primary Distributor roads that extend significantly beyond Greater Geraldton and even beyond the Mid-west region. Some transport links in Geraldton have been constructed in an often ad-hoc manner, making it a difficult asset to manage and maintain. In addition, due to the extensive land area and low population density in much of the region, the rate base to pay for asset renewal is limited.

Given the vast distance within the region, the majority of transport trips are taken in private vehicles, which contributes to the car-dominated society and the limited use of public transport networks. However, the demand for active travel infrastructure including pathways and public transport has been growing in recent years.

There are also issues related to freight movements such as seasonal freight movements combined with relatively high base load freight movements which can be step-increased with resource sector operations. Balancing these modes and maintaining safety and amenity for the community is a challenge with limited funds.

These issues, among others, prompted the development of this Integrated Transport Strategy (ITS) which looks at all these competing needs.

### 2.2 Purpose

The purpose of the ITS is to provide a 'blueprint' for capital and operational prioritised investment into transport infrastructure. The City currently has transport assets valued in excess of half a billion dollars and very limited access to discretionary capital funds in the future. The City needs an ITS to guide expenditure on integrated transport assets on a priority basis and to clearly communicate these priorities to internal and external stakeholders.

### 2.3 Scope

Cardno (WA) Pty Ltd (Cardno) was commissioned by the City of Greater Geraldton (CGG) to produce an Integrated Transport Strategy (ITS) to assess and recommend transport infrastructure upgrades and associated transport strategy to support growth of Greater Geraldton up to a population of 100,000 people (expected in approximately 2074).

The scope of the ITS is as follows:

1. Develop a strategy that integrates all modes of transport;
2. Recognise the connection between transport and land use;
3. Prioritise projects that encourage active transport as a viable option for residents and visitors;
4. Enhance access and linkages to make the option of walking or cycling an attractive option;
5. Provide certainty and consistency in decision-making for internal and external stakeholders;
6. Protect and enhance transport corridors within the city;
7. Provide efficient and convenient public transport access for all able-bodied and mobility-impaired people;
8. Create a current and future road hierarchy system that is capable of efficient movement of goods and services and people while reducing the potential adverse effects of traffic flow and improving safety and amenity of vulnerable road users such as pedestrians and cyclists;
9. A holistic approach that considers all modes of transport for the future of the city;
10. Improve accessibility for residents to meet their daily needs.

This ITS has been written using guidance from the “*Guidelines for Preparation of Integrated Transport Plans*”, May 2012 (Western Australian Planning Commission), as well as by the specific requirements of CGG. It covers all different modes of transport, including:

1. Pedestrians;
2. Mobility Impaired;
3. Bicycles;
4. Public Transport;
5. Service Vehicles;
6. Goods Delivery; and
7. Private Vehicles.

The ITS considers all aspects of trip-making including the physical ability to get from one place to another together with the convenience and amenity of doing so, including the trip itself and the end-of-trip facilities at destinations, such as parking provision, cycle parking and lockers/showers etc. at workplaces. In line with this, the physical scope of the ITS is road/railway reserves, car parks and dual use paths.

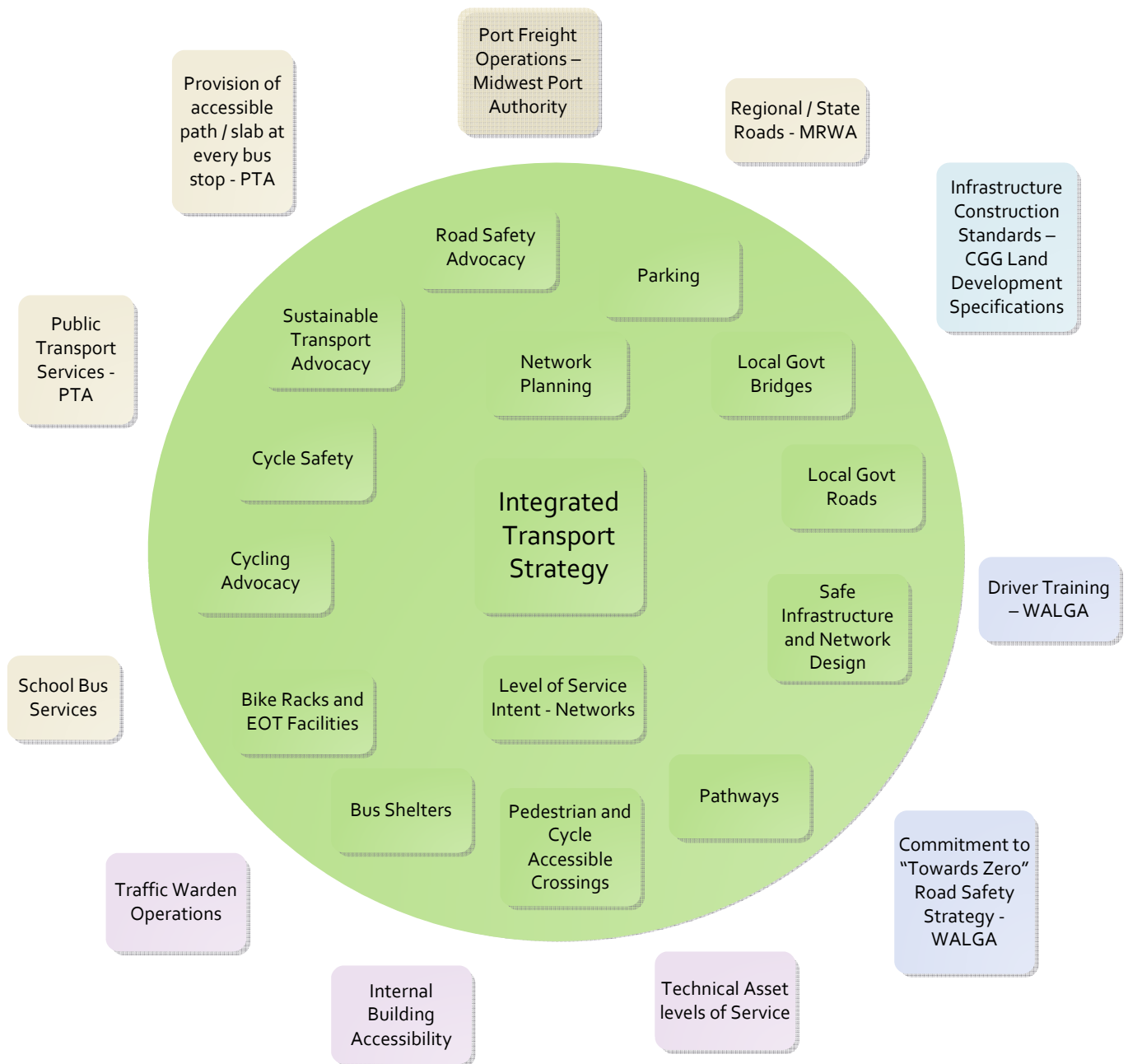
## **2.4 Limitations**

The ITS does not include infrastructure and transport networks within development sites such as loading/unloading, and access to the interior of buildings: these are the subject of other documents. The exception to this is aspects of a development site that influence the journeys to and from the site such as end-of-trip facilities as mentioned above.

The ITS recognises state government partnership in facilitating ITS initiatives, however, it does not seek to address strategic priorities of those agencies.

## 2.5 ITS Coverage

The green circle in **Diagram 2** below illustrates the elements the ITS provides guidance on. The ITS has limited influence on elements outside the circle. These external elements are either managed by other agencies and/or covered in other strategic documents.



**Diagram 2: Integrated Transport Strategy Coverage**



## 3 Strategy Development Process

This ITS has been prepared using a broad approach to draw information from six main sources:

1. Community and stakeholder consultation;
2. Review of current policy context;
3. Best-practice review;
4. Strategic Transport Modelling;
5. On-site observations; and
6. TransPriority Assessment.

These six sources are summarised briefly below.

### 3.1 Community and Stakeholder Consultation

The community, as well as various stakeholders, were consulted by an online survey as well as through meetings at the City's offices. This process is described more in **Section 4** and the results have been included in **Appendix A**.

### 3.2 Review of Current Policy Context

Various transport and planning policies of the City were reviewed in order to understand the current context and the adequacy of the current policy and guidance framework.

### 3.3 Best-Practice Review

A review of various other integrated transport strategies of other councils within Australia, as well as a technical document on integrated transport-planning has been undertaken as part of the preparation of this ITS.

The purpose of this is to enhance the ITS development by gaining ideas and guidance from these other documents.

### 3.4 Strategic Transport Modelling

A vital aspect of the development of the ITS is an understanding of the future patterns of traffic flow and resultant locations of congestion on the network. Such traffic volumes are affected by land-use development patterns as well as new road schemes.

The assessment of capacity of the transport infrastructure of Greater Geraldton, in view of three potential population growth scenarios and four assessment years, is based on a previous study undertaken by Cardno Ltd in November 2013, which used CUBE software to create the *Geraldton Strategic Transport & Land Use model (GSTLUM)*. The results of this model are a useful indicator of the future volume / capacity ratios (V/C ratios) on various links within Geraldton, taking account of population growth and also planned infrastructure improvements.

The model examined the years 2016, 2021, 2026 and 2031; and three growth scenarios, as follows:

- Minimum growth: 1.5% per annum
- Expected growth: 3.0% per annum
- Optimistic growth: 5.0% per annum.

This is discussed in more detail in the “*Deficiency Analysis Report, Geraldton Strategic Transport & Land Use model*” Version 6, November 2013, by Cardno.

### **3.5 On-site Observations**

In order to understand the transport networks and the associated issues more fully, in particular to complement the modelling data with a ‘real-world’ understanding, several site visits were undertaken around Geraldton and Mullewa. These included driving on the road networks, as well as using dual use paths.

Furthermore, all staff involved in the production of the ITS (both City and Cardno staff) were based in Geraldton for the duration of the project (approximately 4 months).

### **3.6 TransPriority Assessment**

The “TransPriority Assessment” is a methodology used by VicRoads in Victoria. Also known as “SmartRoads”, it is described by the VicRoads website as follows: “*SmartRoads is an approach that manages competing interests for limited road space by giving priority use of the road to different transport modes at particular times of the day.*”

The VicRoads site further adds that “*All road users will continue to have access to all roads. However, certain routes will be managed to work better for cars while others will be managed for public transport, cyclists and pedestrians.*”

Part of the TransPriority concept is that the road should cater to different transport modes depending on what time of the day it is (AM peak, High off-peak, PM peak and off peak). This is considered where practicable.

In summary, the approach in this ITS is to define the future hierarchy of each road by holistically considering the traffic demands in conjunction with the requirements of other modes.

## 4 Stakeholder and Community Consultations

Consultations with stakeholders and the community were a vital aspect of the development of this ITS. The consultations included re-iteration of previous consultations on transport-related issues, in order to stimulate discussion and feedback on these other consultations. Thus the consultation process not only enabled comment on the current transport issues affecting Geraldton, but also enabled comment on whether the previously expressed desires had been addressed.

### 4.1 Previously undertaken consultations – Transport

Prior to the development of the ITS, other public consultations on transport-related issues had been undertaken in Geraldton.

- Designing our City, Final Report; 21st Century Deliberation and Enquiry by Design. August 13, 14 and 15, 2011 at the Queen Elizabeth II Community Centre
- Sunset Beach Precinct Plan Workshop, 10 June 2013
- Rangeway Utakarra Karloo Precinct Planning Report, August to December 2012

### 4.2 The ITS Consultation

Consultations with stakeholders and the community were a vital aspect of the development of this ITS, the consultation included:

- Online Survey
- Advertising
- Stakeholder Meeting
- Community Meetings

The Community Consultation process has been summarised in **Appendix A**.

#### 4.2.1 Follow up to Consultations

The consultation responses have contributed to the development of the ITS, and where appropriate have been included in the list of transport options; generally, responses related to strategic issues have been accounted for in the ITS. Other requests/suggestions for improvements may be considered in other capital works priority list (CWPL) or renewal programs.

## 5 Policy and Strategic Context

### 5.1 Current Policies used for the ITS

One of the purposes of the ITS is to give greater certainty over future development decisions and this can be achieved partly by ensuring that various relevant policies and programs concur with the ITS. With this in mind, the following policies, strategies or other documents have been reviewed to understand the adequacy of the current policy and guidance framework.

1. Strategic Community Plan, 2013 to 2023
2. City Centre Transport Planning and Car Parking Strategy (December 2011; adopted by Council on 28 February 2012)
3. City Centre Car Parking Management Plan – Final, adopted by Council on 26 February 2013
4. Green Travel Plans – Local Planning Policy, Version 1
5. Beresford Foreshore Coastal Protection and Enhancement – Master Plan Report, Version 6 (Final), March 2012
6. Town Planning Scheme for the City of Greater Geraldton
7. Disability Access and Inclusion Plan 2013 - 2018
8. City of Geraldton-Greenough Local Bike Plan 2009
9. International Charter for Walking – Local Planning Policy 2011
10. “City Centre Planning Policy – A Design Initiative for the Geraldton City Centre”, Rev 6, 26.6.12
11. Geraldton North-South Transport Corridor (Position Statement). Local Planning Policy, Version 1. Adopted 26 February 2013, Final
12. Geraldton City Centre Vibrancy Strategy, August 2012
13. City of Greater Geraldton Commercial Activity Centres Strategy – Final, September 2013 (adopted as a local planning strategy)
14. City of Greater Geraldton Residential Development Strategy – Final, September 2013 (adopted as a local planning strategy)
15. “Land Use, Transport and Urban Form” – technical note on the “2029 and Beyond” project website
16. Rangeway Utakarra Karloo Precinct Planning Report, Draft, May 2013
17. National Road Safety Strategy 2011-2020 – Australian Transport Council
18. Western Australian Bicycle Network Plan 2014-31, WA Dept. of Transport
19. Western Australian Planning Commission (WAPC) Development Control Policy 1.6: “Planning to Support Transit Use and Transit Oriented Development”
20. Sunset Beach Precinct Plan



## 5.2 Residential Development Strategy for 100,000 (LPS)

**Figure 3** has been extracted from the “*City of Greater Geraldton Residential Development Strategy – Final*”, September 2013 (adopted as a local planning strategy). It illustrates the planned locations of residential development to accommodate an expected population growth to 80,000 to 100,000 people.

## 5.3 Commercial Activity Centres Strategy for 100,000 (LPS)

**Figure 4** has been extracted from the “*City of Greater Geraldton Commercial Activity Centres Strategy*”, 28th May 2013 (adopted as a Local Planning Strategy). The figure provides an overview of the activity centre network and hierarchy proposed within the Strategy for the Geraldton Urban Area for a population of 80,000 - 100,000.

## 5.4 Other Documents

1. Australian Transport Council 2011 National Road Safety Strategy 2011 -2020.
2. Regional Roads Group - Roads 2030 - Roads 2030 documents a strategic review of regionally significant Local Government roads and the development strategies for them.

## 6 Key Issues and Opportunities

This Section is a high-level overview of the key transport-related issues affecting Geraldton, as well as the key opportunities for improvements. More detailed issues and opportunities are covered in the various sections that deal specifically with particular transport priorities.

### 6.1 Key Issues

#### 6.1.1 Regional Area

Geraldton is the regional capital of the Mid-West region. As a regional city, Geraldton has a relative lack of population to make large-scale infrastructure projects viable. As a result, the types of improvement projects that will be viable in the immediate term are likely to be localised improvements, such as improvements to specific intersections or specific mid-block links.

In the longer term, as these improvements increase the liveability of Geraldton and thus facilitate population growth, more significant projects may become viable, including projects that require significant up-front investment prior to receiving financial return.

#### 6.1.2 Dispersed urban growth

This issue is related to Geraldton's regional location; land availability is such that urban growth can be expected to largely outwards rather than upwards in the immediate term. The Residential Development Strategy Map, as shown in **Figure 3** includes several Greenfield site developments (although some intensification of development in the CBD is likely also).

A key issue of such a dispersed growth pattern is that it creates more difficulty in providing financially viable public transport services due to the smaller market catchment. This is discussed more in **Section 10**.

#### 6.1.3 High car-dependence; Vulnerability to Fuel Costs

The current dependence on the private car as the means of transport can make many residents financially vulnerable to fluctuations in fuel costs. This is a further reason, besides the environmental benefits, for improving provision of non-car modes of transport.

#### 6.1.4 Service Levels

There is a gap between the services which the City currently provides and the service which the City can afford to provide. The significant growth in assets in recent years is due to two amalgamations (2007 and 2011) and asset handover from new developments (commercial and residential). As a result, the City now has to review the level of service provided by City infrastructure, e.g. car parking provision, dual use paths etc.

#### 6.1.5 Limited Funding/Affordability

Transport networks in Geraldton have been constructed in an often ad-hoc manner, making it a difficult asset to manage and maintain. In addition, due to the extensive land area and low population density in much of the region, the rate base to pay for asset investment and renewal is limited. Therefore access to funding is needed to ensure minimal rates revenue is used for transport infrastructure to achieve the most affordable outcome. Often this means large-scale improvements to transport networks are postponed until funding can be obtained.

### 6.1.6 Aged Infrastructure

City currently has a significant transport asset base much of which is approaching the end of its useful life. As a result, the City needs to focus on asset renewal as a priority. The ITS is intended to guide investment into “new” or growth / upgraded infrastructure needs.

## 6.2 Opportunities and other benefits

### 6.2.1 Maximising efficiencies

A key opportunity of the Integrated Transport Strategy is the more efficient provision of infrastructure and services as a result of the integrated approach. In the past, infrastructure and service provision was generally ad hoc; the ITS will guide provision in a far more co-ordinated manner, such that improvement schemes are considered in conjunction with each other and such that future schemes will also be considered in line with an overall strategy for the network.

One example of this is the filling in of gaps in the pedestrian and cycle route networks, such that small investments in additional path construction can create convenient long-distance paths.

### 6.2.2 Transparency

Internal and external stakeholders provided with clarity and certainty regarding future priorities.

### 6.2.3 Funding

The City's' first preference to fund ITS priorities is through full external funding and minimise the use of general rates revenue for these purposes. However, in many cases, funding needs to come from matched sources with City funds. The funding for the ITS schemes is likely to come from a range of sources, as outlined below. Funding should be sought for strategic priority infrastructure which fits with the proposed transport infrastructure capital priorities. The City will **not** be seeking opportunistic grants.

#### 6.2.3.1 Department of Transport

Funding from the Department of Transport (DoT) will comprise mainly Regional Bike Network Grants. The Regional Bike Network (RBN) Grants Program is a State Government funding initiative to provide financial assistance to regional local governments for planning and implementing cycling related projects. RBN grants are provided for projects that deliver the greatest benefit for the community and in particular, those that reduce barriers to additional people cycling to specific destinations.

#### 6.2.3.2 MRWA grants

Funding from Main Roads WA (MRWA) will comprise mainly Regional Roads Grants and Black Spot Funding for accident remedial measures. Approximately \$4.5M is available to the Midwest Gascoyne region however in the near future this figure is expected to reduce.

#### 6.2.3.3 Road Project Grants

Only projects on local roads which are included in Roads 2030 will be eligible for Road Project Grant funding under the State Road Funds to Local Government Agreement.

#### 6.2.3.4 Black Spot Funding

Black Spot Programs directly target improvements to the safety of roads with proven crash history or high-risk locations. Funding for the Program is mainly focused on cost-effective treatment of hazardous road locations.

**6.2.3.5 Lottery west Trails Grants**

Lottery west provides grants to local government, community groups and individuals for the improvements of community services. A Lottery west grant can be used for planning, developing and promoting trails and pathways.

**6.2.3.6 Developer Contributions**

There is currently opportunity to collect contributions towards transport infrastructure from developers (City constructs in future) or; condition the construction be undertaken by developers. The City's preferred method for implementation of transport infrastructure improvements is for developers to construct simultaneously with their development works (or stage them appropriately).

The new City Planning Scheme includes provision for establishing a developer contributions scheme to apply in future across the City. The ITS outlines to a large extent the priority transport infrastructure that will be used in the development of the developer contributions scheme in the future.

## 7 Guiding Principles and Focus Areas

Throughout this ITS, the following Goal and guiding principles are adhered to and must continue to be applied to all transport infrastructure decisions in the City of Greater Geraldton. As part of the decision making process none of the objectives have been considered in isolation, instead they are all considered in every decision to get an integrated outcome for all users with every proposed amendment to current networks.

***Goal:*** *To provide a transport infrastructure network capable of supporting a Greater Geraldton population of up to 100,000 people prosperously, equitably and safely that promotes City vibrancy and retains the “Geraldton Feel”.*

**Table 1: Guiding Principles of the ITS**

Principle	Description
<b>‘City centre as a destination’</b>	Discourage traffic from using the city centre as a thoroughfare. The City will be open for business but vehicles using it as a thoroughfare only with no intention of stopping, doing business or making use of the City’s facilities will be actively discouraged.
<b>Improve Connectivity</b>	Remove legacy ‘staggers’ on high order local roads and pathways to provide an intuitive transport network that follows travel ‘desire lines’.
<b>Encourage sustainable modes of travel</b>	Increase the use of public transport, walking and cycling. Identifying routes where pedestrians and cyclists have priority is an important part of improving their safety and security, which can be a barrier to the use of these modes.
<b>Access &amp; Inclusion</b>	Access to services, education, employment, leisure for everybody, irrespective of location or type of dwelling, physical ability/impairment.
<b>Integration with Land-use Planning</b>	Land-use planning and development-conditions need to complement the recommended infrastructure proposals of this ITS to ensure sustainable travel can be maintained as Geraldton grows.
<b>Future-proofing</b>	New land development and infrastructure proposals must always consider the need to protect land for future implementation of integrated transport measures.
<b>Safety</b>	Safety of all road users is to be considered when proposing upgrade.

### 7.1 Key Areas of Focus

The goal and guiding principles are supported by seven (7) areas of focus. These areas of focus are:

- Pedestrians & Cyclists;
- Access & Inclusion;
- Public Transport;
- Tourism;
- Road Networks;
- Freight; and
- Parking.

### 7.2 Prioritising Vulnerable Users




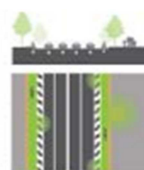


The approach to designing local streets recommended in the Ministerial Statement “*Walking, Riding and Access to Public Transport*” considers the purpose of the street as the primary

determinant in deciding the prioritisation of different user groups. Vulnerable road users (pedestrians / cyclists) are given higher priority than all other users in spaces that are designed for local access as shown in **Table 2** below.

The Ministerial Statement noted that:

- The National Road Safety Strategy 2011 -2020 recommends that, in metropolitan areas or regional centres, more speed limits of 40km/h or lower should be established. It recommends the development of new risk-based national speed limit guidelines for different road categories or functions.
- Building on the above examples, consideration could be given to an urban road type hierarchy clarifying that different road types are designed and operated to priorities different road users, depending on the purpose of the road, and the volume and speed of traffic.

**Table 2: Road User Prioritisation**

					
<b>Street or Road Type</b>	Shared zone with mixed traffic considered on a case by case basis	High Pedestrian activity areas	Most Roads	Urban arterial roads	Motorways and national highway network
<b>Vehicle Speed</b>	<20km/hr	15-40km/hr	40 – 60 km/hr	60-90 km/hr	90-110 km/hr
				Pedestrians and bicycles fully separated from vehicles	Pedestrians and bicycles fully separated from road environment
<b>Consider First</b>  	Pedestrians	Pedestrians	Pedestrians on dual use paths		
	Bicycles	Bicycle lane on road	Wide bicycle lane on road or shared path**		
	Public Transport	Public Transport	Public Transport	Public Transport	Freight Vehicles
	Service Vehicles	Service Vehicles	Service Vehicles	Freight and Goods	Public Transport
	Goods Delivery	Goods Delivery	Goods Delivery	Service Vehicles	Service Vehicles
	Private Vehicles	Private Vehicles	Private Vehicles	Private Vehicles	Private Vehicles
<b>Consider Last</b>					

\*\* Level of separation depends on traffic volume

Source: Australian Transport Council 2011, National Road Safety Strategy 2011–2020 (pg50). Information Compiled from multiple sources including Austroads 2010, Infrastructure / Speed Limit Relationship in Relation to Road Safety Outcomes and Austroads 2009, Guide to Traffic Management Part 4: Network Management.

## 8 Pedestrians & Cyclists

*Objective: Support and promote the City of Greater Geraldton to become a walking and cycling friendly city.*

### 8.1 Current Situation

The City of Greater Geraldton's landscape and varied flat to rolling hill terrain on rural local roads make it an attractive environment for commuter, recreational and sports cyclists. With over 200km of dual use paths and trails within the City, there are many options for cyclists and pedestrians. However development of the paths has not been strategic, so there are missing linkages which need to be managed and completed to improve connectivity, particularly within some of the older suburbs. Due to these older suburbs, many paths within the network are aging and require significant renewal works to be undertaken. There are opportunities to promote walking and cycling particularly for local trips in the key urban areas. The existing on-road bicycle network also has connectivity issues with missing links on priority routes and unexpected terminations. These need to be addressed and resolved through network upgrade projects.

### 8.2 Recommendations

The assessment of development applications and the scoping of City's capital works projects shall have a prioritised focus on pedestrian & cyclist infrastructure provision. Provisions such as; kerb ramps, pedestrian refuges, shared pathways, at-grade crossings, traffic calming, carriageway narrowing (lane widths), on-road bicycle lanes, green conflict pavement marking, on/off ramps at terminations and bicycle parking facilities are to be considered.

Find below in **Table 3** an outline of the different levels of commitment the City is able to provide in the long term plan to improve transport networks.

**Table 3: Definitions of Roles**

Role	Description
<b>Advocate</b>	Speaking on behalf of or in favour of a particular approach, scheme or design.
<b>Initiator / Facilitator</b>	Assist groups of differing opinions to understand their common objectives and assist them to plan to achieve them.
<b>Regulator</b>	An agency responsible for exercising autonomous authority over some area of human activity
<b>Owner</b>	Local government responsibility for transport assets belonging to them

**Table 4** below includes the outcomes and actions for improving walking and cycling within the City.



Table 4: Walking &amp; Cycling Outcomes and Actions

Walking and Cycling			
Strategies	Desired Outcome	Our Role	Our Action
	Increased walking and cycling around the City of Greater Geraldton	<ul style="list-style-type: none"> <li>Regulator</li> <li>Owner/ custodian</li> <li>Initiator / Facilitator</li> </ul>	Increase in both shared-use paths for recreational cyclists and on-road bike lanes for commuter cyclists.
			Pedestrian Facilities which connect complementary land uses together to create a mixed-use community within each Activity Centre
			Identifying routes on which pedestrians and cyclists would have priority and ensuring connectivity of these linkages
			Shared use paths on bus routes so that bus priority can be implemented without interfering with on-road cycle lanes
			Creation of End-of-Trip facilities including cycle racks or lockable bike sheds with showers and changing facilities.
			Enhance access and linkages to make the option of walking or cycling an attractive option.
			Connectivity of pathways throughout the City – linking suburbs and places of work, recreation and shopping.
	Incorporating active transport into all redevelopments and new developments.	<ul style="list-style-type: none"> <li>Regulator</li> <li>Initiator / Facilitator</li> </ul>	Prioritise land use planning and development designs that encourage active transport as a viable option for residents and visitors.
			Ensure the development of safe walking and cycling-friendly environments in new developments
			Encouraging informal recreation through well planned and developed public open spaces, cycle/walk paths and green streetscapes.
	Walking and cycling to school is increased	<ul style="list-style-type: none"> <li>Initiator / Facilitator</li> <li>Regulator</li> </ul>	Increasing the number of schools participating in TravelSmart
			Cycle training for school aged students to increase skills and improve safety when cycling to school
			Cycle education and pedestrian safety is provided by the City in the Sustainable Transport space through the Travel Smart program which is a State Government initiative. The City partners with the Government in this initiative.
			Applying for grant funding for the installation of bike and scooter racks at schools to increase cycling to school.
			Signage at crossing points to increase driver awareness and improve pedestrian and cyclist safety.

### 8.2.1 Priority Projects for Walking and Cycling

- Review speed limits and traffic management on:
  - Chapman Road
  - Chapman Valley Road between Hall Road and NWCH
- Pedestrian facilities on:
  - Mitchell Street / Chapman Road intersection
  - Cathedral Avenue: upgrade existing between Maitland & Sanford and; introduce mid-block facility between the Brand Hwy interchange & Shenton St.
- Improved clarity where cycle lane ends at roundabout, explore off-road paths at:
  - Chapman Road/Hosken Street roundabout
  - Chapman Road/Phelps Street roundabout
- Revitalisation of Chapman Road between Cathedral Ave and Forrest St to facilitate increased pedestrian and cyclist use.
- Upgrade existing shared paths and on-road bicycle lanes on; Durlacher Street, from Currell Way to Foreshore and; Cathedral Avenue, Brand Hwy interchange to Foreshore
- Investigate pedestrian crossing opportunities on:
  - Durlacher St mid-block between George Road and Waldeck St
  - Sanford Street at Cathedral Ave intersection (proposed roundabout)
  - Highbury Street/Durlacher Street intersection
  - George Road at the Durlacher Street intersection
  - Lester Avenue, mid-block between Cathedral Avenue and Fitzgerald Street East
  - Mid-block on Phelps Street between Chapman Road and NWCH
  - Rifle Range Road at Scott Road intersection (proposed roundabout)
  - Utakarra Road, from Rifle Range Road to Horwood Road. Numerous treatments proposed, refer URNUP project in this document and Rangeway/Utakarra/Karoo (RUK) Precinct Plan.
- Investigate secure end-of-trip cyclists' facility with showers and changing rooms in the CBD.
- Establish Chapman Road on-road cycle lanes north of Mabel Street.
- NWCH, on-road bicycle lane off-ramp and path extension, east side, opposite Fortyn Court.
- Waldeck Street, Durlacher Street to Brede Street, west side, shared path upgrade to Wishing Well (including Johnston Street refuge), incorporating Brede/Waldeck Street roundabout & intersection modifications and; drainage upgrade.

## 9 Access & Inclusion

*Objective: Improving independence and connectedness for the transport-disadvantaged.*

### 9.1 Current Situation

Like many regional locations the percentage of persons with a disability is slightly higher than that of capital cities and it is estimated at around 21% of the current population in the City of Greater Geraldton (CGG, 2014).

Currently, people in this category are some of the most vulnerable users of the transport networks and are generally under-catered for. In some areas of the City the network is disjointed or substandard and is not adequately providing connectivity to services.

An important element of social equity is to ensure all people have access to a transport network of an appropriate standard. Limited transport options contribute significantly to social exclusion by restricting access to activities that enhance people's lives, such as work, learning, health care, food shopping and leisure activities. Those who merit specific consideration, and can be defined as being transport-disadvantaged, include people:

- With physical and some mental disabilities;
- Who are frail, often older-aged, people including those using gophers for transport;
- Without a car, distant from suitable public transport and without social support. This may include young people and;
- Lacking confidence in social settings, e.g. People unable to understand or communicate effectively in English.

Requirements for the mobility-impaired are covered by the *City of Greater Geraldton Disability and Access Inclusion Plan 2013 to 2018* (DAIP).

### 9.2 Recommendations

The City is committed to facilitating the inclusion of people with disability through developing and improving its access to services, facilities, programs and events. The whole community benefits from better designed communal spaces and adopting the principles of universal access design. The City's commitment is to administer best practice design principles through the Disability Access and Inclusion Plan to continually develop accessibility infrastructure to a high standard.

The City intends to improve transport within the City Centre, between and within activity centres. In addition priority must be given to connecting residential assisted-living facilities with services and medical care throughout the LGA. All new shared pathways shall be designed and constructed to cater for the mobility-impaired in full compliance with AS1428.

All future transport infrastructure projects shall prioritise Access & Inclusion as part of design and construction. If there are physical barriers or is cost-prohibitive, a safe alternate route will be provided for users.

The City has commenced development of a specific priority list of disability access and inclusion projects with the DAIP Committee, including Foreshore beach access ramp. The City will continue to work with the Committee in planning, designing and implementing these priorities.

**Table 6** below includes the outcomes and actions for improving access and inclusion.

**Table 5: Definitions of Roles**

Role	Description
<b>Advocate</b>	Speaking on behalf of or in favour of a particular approach, scheme or design.
<b>Initiator / Facilitator</b>	Assist groups of differing opinions to understand their common objectives and assist them to plan to achieve them.
<b>Regulator</b>	An agency responsible for exercising autonomous authority over some area of human activity
<b>Owner</b>	Local government responsibility for transport assets belonging to them

**Table 6: Access & Inclusion Outcomes and Actions**

Access & Inclusion			
Strategies	Desired Outcome	Our Role	Our Action
	Transport networks that equally cover all areas of the City	<ul style="list-style-type: none"> <li>Initiator/ Facilitator</li> <li>Owner</li> </ul>	Review demand and needs (with particular regard to City-wide access and equity), determine gaps, and develop a prioritized action plan for new / improvements to infrastructure
	Well-planned communities that cater for the needs of the transport disadvantaged	<ul style="list-style-type: none"> <li>Initiator/ Facilitator</li> </ul>	Ensure new infrastructure improves connectivity to services particularly in lower socioeconomic areas.
		<ul style="list-style-type: none"> <li>Regulator</li> </ul>	Ensure greenfield and infill urban planning caters for groups of people more likely to be transport-disadvantaged by providing residential opportunities near service centres and public transport.
	Public Transport networks which cover all areas of the City	<ul style="list-style-type: none"> <li>Advocate</li> </ul>	Provide efficient and convenient public transport access for all able bodied and mobility impaired people in Partnership with PTA
Strategies	Community Transport	<ul style="list-style-type: none"> <li>Initiator/ Facilitator</li> <li>Advocate</li> </ul>	Explore various opportunities to facilitate a regular bus service to Mullewa. In addition look into a community transport option for Geraldton in Partnership with community group or Not For Profit.

## 10 Public Transport

*Objective: A modern, integrated, targeted and well-used public transport system.*

### 10.1 Current Situation

Currently, Passenger Transport within Greater Geraldton comprises buses and taxis. The public bus services are run by independent bus operators and managed by the Public Transport Authority (PTA). There have been no passenger rail services since the closure of the passenger lines in 1975.

There is scope for increased public transport provision; however there is also a need to encourage more use of current services. Existing bus services are very under-used, except for school journeys. This is largely due to the current service level available to car commuting being relatively high. The community consultation responses showed that 94% of respondents travelled to work by car either as sole occupant or with passengers as part of their daily commute. The City is experiencing natural growth in demand for public transport and this level of growth will be crucial for increasing services.

Public Transport in the City of Greater Geraldton has several issues including:

- Low frequencies of public transport services particularly in outlying areas
- Perceived lack of safety around bus shelters, particularly after business hours and after dark
- Lack of access to public transport increases social exclusion
- Many of the bus services into the Geraldton City Centre do not arrive at times conducive for normal work starts and finishes (including late night shopping) and often take a circuitous route to get there.
- Not all bus stops have shelters

It is important to note also the following with regard to the demarcation of responsibilities related to public transport schemes:

- Bus services are the responsibility of the Public Transport Authority of Western Australia (PTA);
- CGG will advocate for improved coverage and frequency of bus services;
- CGG will provide the infrastructure, as required, to support such services.

Therefore this Section covers not only options for additional public transport but also options for improving the quality of such services in partnership with the public transport providers (PTA).

### 10.2 Recommendations

There is clearly scope for increased usage of buses and the Public Transport Authority (PTA) is currently reviewing routes and frequencies of bus services. CGG will liaise with the PTA regarding improvements to bus service provision, and the following options should be considered:

- Improved coverage to areas such as the outer eastern suburbs of Geraldton and the rural areas of Greenough and Mullewa, where there is currently no public transport at all.

- Continued consideration of public transport into future development proposals, taking account of the above threshold walking distances to public transport facilities. High-density residential development and other high-density activities to be close to transit facilities
- Advocate for improved frequency of existing routes (and over longer periods across each day, which could improve usage for commuting as people could rely on the journey home when working late).
- Linking to pedestrian routes and cycle routes. Bus stops should be sited to provide easy access to the off-road pedestrian paths (mews and arcade links between streets).
- To integrate with cycling, high usage bus stops to be provided with cycle racks, so that people who are less confident cyclists can make journeys that are partly by cycle and partly by bus.
- Integration of different bus services as well as integration with other public transport modes if and when such modes are implemented. This is important to ensure convenience and ease of use.
- Refuge islands and/or kerb extensions near bus stops would enable safe crossing of bus routes. Kerb extensions also form a type of bus priority measure as they enable a bus to stop to pick up passengers then re-start without having to enter and exit the traffic flow; they can therefore be preferable to indented bus bays.

### 10.3 Bus Shelters

The City is responsible for “discretionary infrastructure” at bus stops, such as bus shelters and bins. The PTA is responsible for the stop infrastructure itself such as the slab, signage and access & mobility requirements.

The City will not provide a shelter or seat at every bus stop, only those identified as priority will have these installed. The City will also continue to review, replace and upgrade existing shelters where appropriate. Rural school bus stops will generally not be provided with a bus shelter due to fluctuating demand.

### 10.4 BRT and Park and Ride

#### 10.4.1 BRT

The concept of a future north-south Bus Rapid Transit (BRT) corridor has been considered in the previous planning scheme. The route of the scheme that has been considered is (from north to south): the full length of Chapman Road; Cathedral Avenue southbound to Brand Highway; Brand Highway southbound to Cape Burney.

It is highly unlikely the BRT will begin to show any feasibility until the City reaches a population of at least 100,000. Further, its' feasibility will be dependent on the performance of the rest of the transport network and other factors at that time, such as parking, congestion, uptake level of cycling and cost of private motoring. At this stage, further consideration of BRT is deferred.

#### 10.4.2 Park and Ride

The above recommendations to discourage and reduce car trips into the City Centre needs to be complemented by viable alternatives to the car. Another measure that could curtail car trips are Park and Ride Facilities. These enable drivers to stop before entering the City Centre, park their cars in a secure location and take the bus for the remainder of the journey, thus reducing the number of vehicles entering the City Centre. This initiative is not currently feasible and requires

further investigation into the conditions required for implementation, in particular integration with PTA bus services. **Table 8** below includes the outcomes and actions for improving public transport.

**Table 7: Definitions of Roles**

Role	Description
<b>Advocate</b>	Speaking on behalf of or in favour of a particular approach, scheme or design.
<b>Initiator / Facilitator</b>	Assist groups of differing opinions to understand their common objectives and assist them to plan to achieve them.
<b>Regulator</b>	An agency responsible for exercising autonomous authority over some area of human activity
<b>Owner</b>	Local government responsibility for transport assets belonging to them

**Table 8: Public Transport Outcomes and Actions**

Public Transport			
	Desired Outcome	Our Role	Our Action
Strategies	A responsive and targeted Public Transport service that equitably covers needs across the City	<ul style="list-style-type: none"> <li>Advocate</li> <li>Initiator / Facilitator</li> <li>Regulator</li> </ul>	Future-proofing: new infrastructure proposals must always protect land for future implementation of measures such as bus services, i.e. new or altered designs must not “design out” buses by geometry that restricts their access
			Ensuring new bus routes include all suburbs regardless of socio-economic status.
			Advocating for contributory funding for bus shelters from PTA.
	Provide efficient and convenient public transport access for all residents irrespective of ability.	<ul style="list-style-type: none"> <li>Advocate</li> <li>Initiator / Facilitator</li> <li>Regulator</li> </ul>	Liaise with PTA to rationalise current bus routes and times to best serve all members of the community, especially those areas with marginalised populations.
			Improve accessibility for residents to meet their daily needs
			Investigate the option of a staggered bus routes to service outer areas in better timeframes Investigate Bus Rapid Transit as a long term option for servicing commuter transport.

#### 10.4.3 Priority Projects for Public Transport

- Upgrade to City Centre bus terminus.
- Investigate upgrade to Mullewa bus station.
- Continue to seek opportunities to establish a feasible daily bus service between Geraldton and Mullewa.



## 11 Freight

*Objective: To support and improve the movement of freight to, through and within the City of Greater Geraldton.*

### 11.1 Current Situation

Freight movement within and to/from/through Geraldton comprises road, rail and sea freight. The Geraldton Port handles approximately 10 to 15 million tonnes of freight per annum, with its main cargoes being iron ores, grains, fuels, metals, mineral sands, talc, garnet and fertilisers (source: Geraldton Port Authority website).

Sea freight through the port is also facilitated by road and rail freight through Geraldton. There is a rail link to/from the port, and the port is also served by road links that are designated for Restricted Access Vehicles (RAVs), i.e. John Willcock Link which in turn links to the Brand Highway, North-West Coastal Highway (NWCH) and the Geraldton Mt Magnet Road. Other RAV routes exist in the City's rural area also. This network of RAV links enables freight movement between the port and a wide area north, east and south of Geraldton, as well as to/from businesses within Greater Geraldton itself. (refer Main Roads Website for RAV Network).

As well as the freight movements to/from Geraldton including the port, the RAV network carries freight movements through Geraldton between locations elsewhere in the state. The combination of the Brand Highway and NWCH provides a link between destinations as far apart as Perth and Port Hedland, so the movement of freight *through* Geraldton is an important element of the road freight task.

### 11.2 RAV (Restricted Access Vehicle) Access Roads

The current Permit approved RAV roads are shown in the MRWA mapping of RAV routes map, which also includes local Government roads. <https://gis.mainroads.wa.gov.au/rav2012/>. Main Roads WA has jurisdiction over the approval of RAV routes, in consultation with local authorities.

This network will provide adequate capacity into the future and changes to these designations by default will not be supported by the City.

There is no intention to alter the City's current RAV network. Proposed upgrades to roads on the RAV network that only directly benefit industry and not the broader community, will not be funded by the City. The City may however support the proposal in-principle, on the condition that initial investment and construction is undertaken by other parties. In this case, the City would accept the donated assets providing they were constructed to City specifications. The costs to the community for ongoing maintenance and renewal will far exceed that of initial construction.

Should issues in the existing RAV network emerge, particularly regarding public safety, the City will take appropriate action through Main Roads WA to address it. It should be noted the City currently has no legal delegation to make changes to the RAV network. Official decisions are ultimately made by MRWA.

The restricted access vehicle roads are shown in **Figure 8**.

### 11.3 Lot Access

There have been instances in Geraldton where direct RAV access from higher-order roads into industrial lots has been permitted. This is not ideal in terms of safety and efficient traffic flow.

Roads that are local distributor or higher in the MRWA Hierarchy Classification (especially, but not only, RAV routes) will **not be** permitted with direct access to properties. This is largely due to the volume/speed of freight movements on higher-order roads and their inability to readily react to a stopping or manoeuvring vehicle entering an allotment. Local distributors and higher will join Access Roads which then in-turn provide the property access within the development.

Parts of Arthur Road and Deepdale Road are 53.5-metre permitted access roads which have been approved by MRWA and the City for many years.

Direct residential access to properties in Wonthealla from Flores Road has been identified as a concern. Flores Road is currently a 36.5m road train route. The City will take appropriate action to reduce risk and improve public safety in this area.

The City will ensure that road trains do not directly access allotments from Local Distributor or higher roads in new development. Direct access to industrial lots shall only be from Industrial Access Roads within the development.

Currently, there exists RAV Network 10 direct access to lots on Deepdale Road for CBH and Patience Bulk Haulage at the northern end and Mitchell Logistics at the southern end. This RAV classification will be maintained and direct access permitted.

## 11.4 Rail Freight Growth

In the absence of the Oakajee Port, there will be continued pressure on the existing port and rail network to meet the growth demands of industry. There will be proposals made to the City to increase rail cartage by lengthening trains which will have an effect on level crossing service levels to the community, e.g. Marine Terrace /John Willcock. The City will not permit any reduction in the current level of service on the local road network. Increased cartage proposals will need to address any negative impact on local road service levels and community amenity.

## 11.5 Costs of Road Wear

The impact of RAVs on local road pavements is significantly greater than that of passenger vehicle traffic and this has cost implications for the City by reducing service lives of pavements.

In the past, the City's ability to recover actual costs of road wear has been limited due to agreements being made with operators by third parties and the City then needing to make claims. This has not always yielded the best outcome and is also administratively onerous.

The City has legislative powers to directly impose charges for the marginal costs of road wear, i.e. those costs relating to consumption of the road asset beyond what it was reasonably designed for. The City will develop a charging mechanism to ensure that the community does not pay for more than its own consumption of the asset.

Pavements are designed for a certain percentage of commercial vehicles; to deliver a target service life (nominally 20 years) based on reasonable traffic expectations. When this percentage unexpectedly and substantially increases, e.g. due to a new or expanded mining operation, the service life of the road is consequently reduced, bringing forward asset renewal expenditure in advance of when it was planned in the City's' Long Term Financial Plan.

The proposed charges would not apply to seasonal grain haulage, as this is expected and planned for by the City. Rather, it applies to unexpected and sustained *step increases* in heavy haulage freight movement, e.g. freight associated with mining activity. Charges would apply to the parent resource company, not to sub-contractors. Any new development, generating permanent RAV volumes on the local road network may not have charges imposed but instead be required to carry out initial upgrades to the local road network.

Research into the marginal costs of road wear has been undertaken by WALGA through ARRB and the results should be available to local governments in 2015.

## 11.6 Recommendations

**Table 10** below lists the recommended outcomes and actions related to freight, including some areas for further investigation and liaison with stakeholders.

**Table 9: Definitions of Roles**

Role	Description
<b>Advocate</b>	Speaking on behalf of or in favour of a particular approach, scheme or design.
<b>Initiator / Facilitator</b>	Assist groups of differing opinions to understand their common objectives and assist them to plan to achieve them.
<b>Regulator</b>	An agency responsible for exercising autonomous authority over some area of human activity
<b>Owner</b>	Local government responsibility for transport assets belonging to them

**Table 10: Freight Outcomes and Actions**

Freight			
Strategies	Desired Outcome	Our Role	Our Action
	A road network that is efficiently managed and maintained.	<ul style="list-style-type: none"> <li>Owner/custodian</li> <li>Advocate</li> </ul>	Investigate the current users and their impact on the road network with particular regard to economic and population growth
	A freight network that is able to meet the demand and potential of a growing and evolving regional economy	<ul style="list-style-type: none"> <li>Advocate</li> </ul>	Investigate the adequacy of the freight network to serve the region's economic potential and develop a strategy to address any gaps.  To be done in conjunction with the Geraldton Port Authority, State and Federal agencies, the freight industry and business communities.
	Safer and more efficient roads	<ul style="list-style-type: none"> <li>Owner/custodian</li> </ul>	Limit direct property access only to high-order City roads (Local Distributor and above) to benefit vulnerable road users and improve traffic flow. Additional details regarding access to be considered in all new developments.
	Improved financial position for the City	<ul style="list-style-type: none"> <li>Owner/custodian</li> </ul>	Investigate the more effective recovery of the costs of road wear by freight vehicles. Develop a policy to support the recovery of costs from freight road users.
	Better management of additional freight movements as development growth occurs	<ul style="list-style-type: none"> <li>Owner/custodian</li> </ul>	Take further account of the impacts of freight vehicles in the Development Application and Approval process

**11.6.1 Priority Projects for Freight**

- Advocate strongly for the future North-South Highway (particularly the northern section between the Geraldton Mt-Magnet Road and NWCH. This would enable the removal of the RAV designation from other local roads such as Edward Rd and Flores Rd. The City has a Policy Statement on the North-South Highway as being the Citys' highest ranked state priority project. The road corridor is under the jurisdiction of MRWA.
- Edwards Road will be granted partial approval for RAV Network 10 (53.5m) access at its southern extent to service the future industrial development, due to its immediate proximity to Geraldton-Mt Magnet Road.
- The use of Rudds Gully Road and Goulds Road as a RAV by-pass route of the southern suburbs remains supported, however the City reserves the right to review its position on this matter when it deems appropriate.
- Allanooka Springs & Walkaway/Nangetty Roads will not be approved for any resource haulage operations in their current state as they are unsuitable for passing.
- Peters Road will be supported as the primary access for the Ambania / Tenindewa agricultural area. The existing 27.5m road train access is deemed adequate.
- The City will actively take steps to eliminate Arthur Road becoming an alternative route for heavy vehicles that should travel on Geraldton-Walkaway Road (MRWA). Arthur Road is a rural road and not suitable for high volumes of freight vehicles.
- Develop a user-pays charging mechanism and policy for the marginal costs of road wear to be applied to sustained heavy haulage operators (excluding grain cartage) to ensure that the community does not pay for more than its own consumption of road assets.

## 12 Road Networks

*Objective: Create a road hierarchy system that is capable of efficient vehicle movement while reducing the potential adverse effects of traffic flow and increasing pedestrian / cyclist safety.*

This section deals with overall changes to the status and function of the City of Greater Geraldton's roads. One objective of this ITS is to identify critical transport corridors through a multi-modal road hierarchy 'TransPriority' assessment of existing and future need and, through this methodology, propose works to protect and enhance the function of these corridors for supported transport modes. Sections of the ITS deal with improvements to specific transport modes, such as walking, cycling, public transport, freight, but these all need to be considered in the light of the hierarchy of the roads concerned; in this way, the road hierarchy is therefore an over-arching theme that guides other proposals. **Figure 10** illustrates the current road network within the City of Greater Geraldton.

The local road network is maintained by the City of Greater Geraldton and the arterial road network by Main Roads. Managing road assets for future transport growth requires careful planning to ensure the network is suitable for these varied users.

It is important to note that all options for changes to roads, intersections and other infrastructure will need to be further assessed as appropriate, for example through road safety audits and detailed design.

Roads represent approximately 60% of the City's total asset current replacement costs and road investment needs to be more proactive to conserve limited budget to provide an agreed level of service to community.

### 12.1 Road Hierarchies

Main Roads WA (MRWA) applies a hierarchy classification system to all roads within the State, whether the responsibility of local government or State government. There is also an alternative classification system of road functions in "*Liveable Neighbourhoods*" (WAPC, January 2009, Update 02) which applies to new developments. The City's Local Planning Strategy (LPS) also assigns a Road Hierarchy to current and future road networks. **Table 11** provides the correlation between all hierarchies.

Table 11: Correlation between Road Hierarchies

Liveable Neighbourhoods	MRWA	LPS
Primary distributor	Primary distributor	Primary distributor
Integrator arterial A	District distributor A	District distributor
Integrator arterial B	District distributor B	District distributor
Neighbourhood connector A	Local distributor *	Local distributor
Neighbourhood connector B		
N/A	Industrial Access Road	N/A
Access street A	Access street*	N/A
Access street B		
Access street C		
Access street D		
Access place		
Access laneway	Rear laneway	N/A
Small town centre street		

*Note: Refer to the Land Development Specifications and Liveable Neighbourhoods for general Cross Section specifications.*

*\*Rural Roads within the City fall under these hierarchies*

Several future road schemes have been accounted for in the GSTLUM as these potentially affect future traffic flows. The information has been taken from the Cardno GSTLUM report and is summarised in **Appendix C**.

### 12.1.1 Changes to Road Hierarchies

This revised hierarchy has been created in consultation with the CGG's Department of Sustainable Communities and takes account of the description of the MRWA hierarchy designations as given by MRWA. It is also largely based on a hierarchy formulated in the new City of Greater Geraldton Local Planning Strategy (LPS), which is informed by a transport planning report produced by Donald Veal Consultants in April 2014. Note that changes to the hierarchy in Mullewa or the rural areas are not considered necessary.

The changes compared with the existing hierarchy can be summarised in **Table 12** below:

**Table 12: Changes to Road Hierarchy**

Road	Current Hierarchy	Future Hierarchy
Cathedral Avenue	District Distributor A	Local Distributor
Durlacher Street	Local Distributor (except short sections of local Access Road)	District (Chapman - Waldeck) / Local Distributor (remainder)
Lester Avenue	District Distributor B	Local Distributor
Chapman Valley Road	Regional Distributor	District Distributor
Webber Road	Access road	District Distributor**
Eastward Road	Local Distributor	District Distributor
Flores Road	Local Distributor	District Distributor
Phelps Street	Local Distributor	District Distributor
Edward Road	Local Distributor north of Geraldton Mt Magnet Road; Primary Distributor south of Geraldton Mt Magnet Road	District Distributor
Eighth Street	Local Distributor west of Flores Road; then access road	District Distributor west of proposed inner bypass; Local Distributor to the east**
Place Road	District Distributor B west of Stow Street; access road further east	District Distributor**
Abraham Street	Local Distributor; and access road south of Assen Street	District Distributor
Ackland Road	Access road	District Distributor**
Scott Road	Local Distributor east of Rifle Range Road; Access road to the west	Local Distributor
Assen Street	Local Distributor	Access road
Keane Drive	Local Distributor	Access road
Goulds Road	Local Distributor	District Distributor

**\*\*Note:** proposed upgrades of roads from Access Road to any higher order must take into account the potential safety concerns caused by direct property accesses on these roads. Roads that are local distributor or higher generally should not permit direct access to any properties, for safety reasons. This is partly due to the higher numbers of freight vehicles on higher-order roads (among other reasons also). Therefore, if these upgrades are undertaken, it will be important to consider what safety remedial measures may be required to address the discrepancy between the higher-order classification and the presence of direct lot accesses.

## 12.2 New Development Road Construction

New developments that include the construction of additional road, dual use path infrastructure should adhere to the guiding principles outlined in the Introduction, which are as follows:



- Encouragement towards sustainable modes of travel;
- Future-proofing;
- Direct Connectivity;
- Safety;
- Equity of Access; and
- Integration with Land-use Planning.

## 12.3 Road Safety

The issue of safety, including specific consideration of the safety of particular user groups, including cyclists, pedestrians needs to be considered in any new proposal. This is a complex area that needs to be considered on a case-by-case basis, through the appropriate procedures such as road safety audits.

In general, the City intends to improve existing four way crossroads that currently operate under stop control to be upgraded to roundabouts or other controlled intersection. Safety is the prime consideration in the design of new transport infrastructure in the City. The ITS is not intended as a road safety study; however it does outline some matters that require addressing.

### 12.3.1 National Road Safety Strategy 2011-2020

The ITS endorses the contents of the strategy and its recommendations are adopted as recommendations of this ITS.

### 12.3.2 Accident Data

Accident data has been obtained from Main Roads WA in the form of the “*Intersection Crash Ranking by Frequency Report*” for the local authority area of Greater Geraldton. This report gives the top 20 intersections in terms of frequency of accidents, within Greater Geraldton, excluding intersections consisting solely of State Government roads, over the 5-year period from 1 January 2009 to 31 December 2013.

The full results are enclosed in **Appendix D**

The data have been reviewed to understand further two important issues:

- The casualty numbers;
- The types of accidents, in terms of movements of vehicles, e.g. right-angle, side-swipe etc.

#### 12.3.2.1 Ranking by Casualty Numbers

The data from MRWA were presented in the form of the top 20 intersections by frequency of accidents; the details of each of these were then reviewed to determine ranking of intersections by casualty numbers. Several intersections had the same casualty numbers so the rank order range was reduced from 20 to 6.

The ranking by casualty, of the top 20 intersections by accident frequency, is shown in **Table 13** below.

Table 13: Ranking of Intersections by 5-year Casualty Numbers

Rank Order	Intersections	Casualties at intersection
1	<b>North West Coastal Highway</b> / Place Road	9
2	<b>North West Coastal Highway</b> / Hosken Street; Chapman Road / Cathedral Ave	4
3	Cathedral Ave / Maitland Street; Place Road / Central Road	3
4	<b>North West Coastal Highway</b> / Eastward Road; <b>North West Coastal Highway</b> / Phelps Street; Cathedral Avenue / Sanford Street; <b>North West Coastal Highway</b> / Utakarra Road; Chapman Road / Forrest Street; Flores Road / Place Road; <b>North West Coastal Highway</b> / Mark Street; <b>Brand Highway</b> / Ackland Road	2
5	Chapman Road / Durlacher Street; Chapman Road / Bayly Street; Utakarra Road / Blencowe Street; <b>Brand Highway</b> / Broadhead Avenue	1
6	Place Road / Flores Road; Brede Street / Waldeck Street; Chapman Road / Bosley Street / Chapman Valley Road	0

The intersections are described by the roads in the order that they are recorded in the MRWA data, e.g. accidents at “North West Coastal Highway / Place Road” are those for which “Street 1” was North West Coastal Highway and “Street 2” was Place Road.

Note: Main Roads WA Roads shown in **bold**.

### 12.3.2.2 Accident Types

**Table 14** below lists for each intersection the accident types that occurred 5 times or more over the 5-year period from the MRWA data. In this context, “accident type” refers to the movement of the vehicles involved. Comments are included where appropriate.

Table 14: Common Accident Types

Intersection	Accident Types occurring at least 5 times in 5 years	Comments
<b>North West Coastal Highway</b> / Place Road	Rear End – 14; Right Thru – 14	Likely cause of Right-Thru is gap-seeking right-turners; consider red arrow light.
<b>North West Coastal Highway</b> / Eastward Road	Rear End – 14; Right Angle – 5; Right Thru – 5	Likely cause of Right-Thru is gap-seeking right-turners; consider red arrow light. Right Angle: consider longer intergreen period and/or better enforcement (traffic signal cameras.)
Chapman Road / Durlacher Street	Rear End – 11; Right Angle – 5	Right Angle: consider longer intergreen period and/or better enforcement (traffic signal cameras.)
<b>North West Coastal Highway</b> / Phelps Street	Rear End – 11.	
<b>North West Coastal Highway</b> / Hosken Street	Rear End – 5; Right Angle – 9	
Cathedral Ave / Maitland Street	Right Angle – 12	Circulatory lane markings may enforce the deflection of traffic using the roundabout

Intersection	Accident Types occurring at least 5 times in 5 years	Comments
Cathedral Avenue / Sanford Street	Right Angle – 7	Formal control at this intersection is required urgently
Chapman Road / Bayly Street	Rear End – 5	
<b>North West Coastal Highway</b> / Utakarra Road	Rear End – 9; Right Angle – 5	Right Angle accidents here may be a result of sight distance and speed
Utakarra Road / Blencowe Street	Rear End – 5	Upgrade to a roundabout will address this
Brede Street / Waldeck Street	Right Angle – 12	Circulatory lane markings may enforce the deflection of traffic using the roundabout
Chapman Road / Forrest Street	Rear End – 6	
Flores Road / Place Road	Rear End – 6; Right Angle – 6	This intersection has been recently improved; it can be expected that future accident data will show a reduction
Place Road / Central Road	Right Angle – 6	
Chapman Road / Cathedral Ave	Right Angle – 5	Poor sight distance for turners on Chapman - Lester
<b>Brand Highway</b> / Broadhead Avenue	No accident type occurred on more than 5 occasions	
Place Road / Flores Road	Rear End – 5; Right Angle – 5	This intersection has undergone major improvement in recent years; it can be expected that future accident data will show a reduction.
Chapman Road / Bosley Street / Chapman Valley Road	Right Angle – 8	Circulatory lane markings may enforce the deflection of traffic using the roundabout
<b>North West Coastal Highway</b> / Mark Street	Right Angle – 9	Right-turners into NWCH have to cross 2 lanes of traffic to reach the opposite carriageway; consider islands to enable a staggered right turn
<b>Brand Highway</b> / Ackland Road	Right Angle – 7	Right-turners into Brand Highway have to cross 2 lanes of traffic to reach the opposite carriageway; upgrade to traffic signals required as Ackland is a District Distributer and primary access to Mt Tarcoola and North Wandina. Also a direct link to Abraham Street via bridge crossing of Geraldton Mt Magnet Road.

*Note: Main Roads WA Roads shown in **bold**.*

## 12.4 Impact of Coastal Processes

Some roads within the City are at risk of impact from coastal processes, e.g. Whitehill Road, Drummonds Cove. Specific strategy is required along the City's coastline to determine what roads will be defended and what roads will be sacrificed. This is a complex and sensitive topic however it is not affordable for the City to protect its entire coastline.

The City has recently applied for grant funds from DoT to undertake coastal inundation studies at Point Moore and Drummonds Cove. The results of these studies will inform specific City strategies on the vulnerable roads.

The City is currently in detailed design phase for coastal protection of the Beresford Foreshore. This will safeguard Chapman Road for future generations.

## 12.5 Bridges

The City has a number of bridges that it is responsible for. Only two new bridges are anticipated within the scope of the ITS:

- Abraham Street bridge over Southern Transport Corridor (2015)
- Place Road bridge over the Chapman River (future, subject to development)

The City is also responsible for Maley Bridge at Greenough. This is a heritage listed bridge and a tourist attraction. Unfortunately, the bridge is being abused by high speed and heavy vehicles exceeding the load limit. A detailed planning study has been undertaken and the City is looking for alternatives to reduce the community's exposure to risk.

## 12.6 State Road Network (MRWA)

The City works closely with MRWA as the state network interfaces with the local road network in Geraldton and Mullewa. State controlled roads are: Brand Highway, North West Coastal Highway, John Willcock Link, Southern Transport Corridor, Geraldton Mt Magnet Road and; Edward Road (south of Geraldton Mt-Magnet Road).

MRWA is responsible for several proposed major upgrade projects within the City.

- NWCH Upgrade, Utakarra Road to Green Street
- North-South Highway, Brand Highway to NWCH via Webberton Road
- Outer Bypass via Moonyoonooka Narra-Tarra Road.

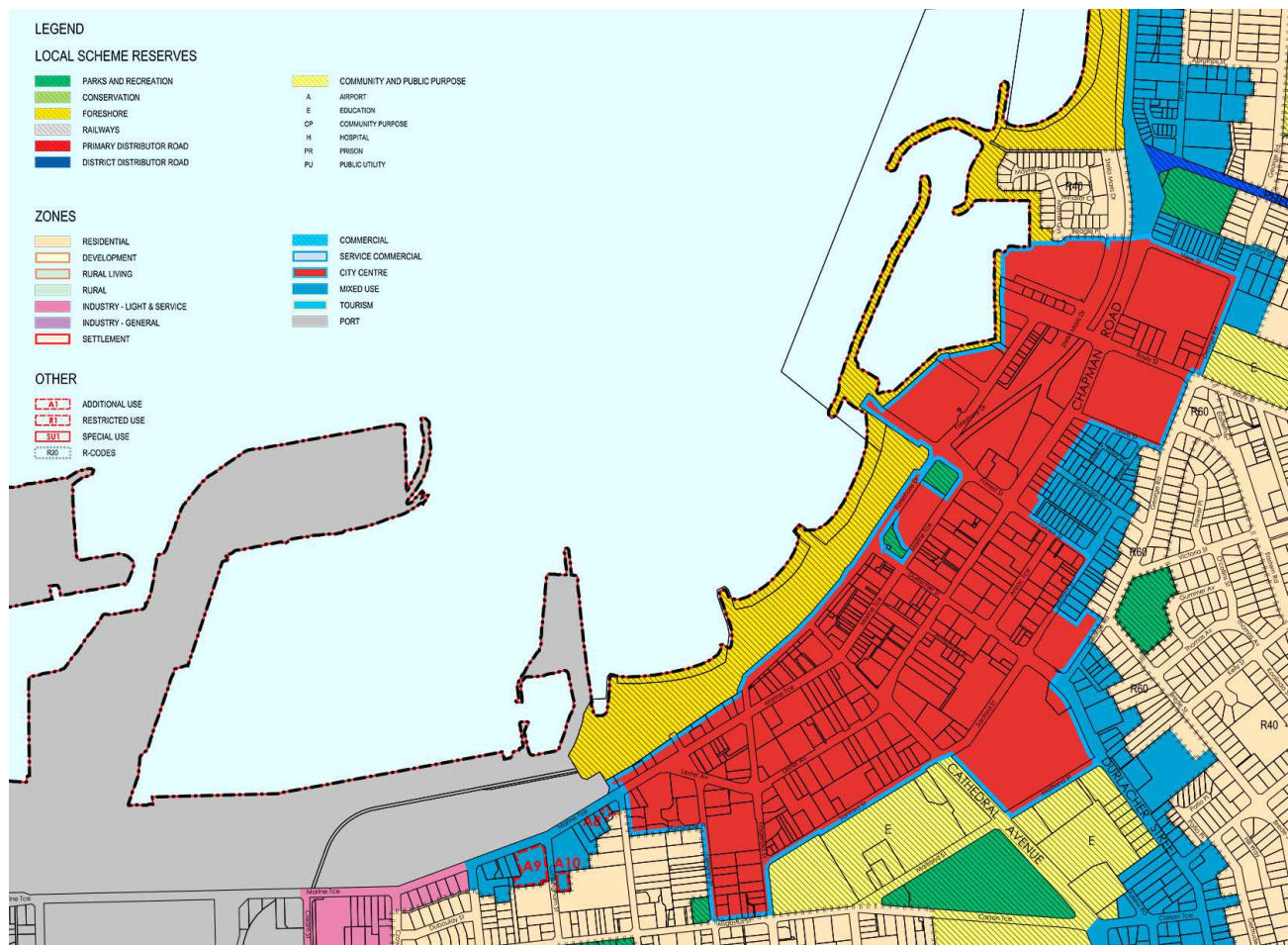
MRWAs' current highest priority at the time of printing was the Outer Bypass. This route services over dimensioned vehicles, thereby removing them from Brand and North West Coastal Highways.

Whilst this has significant benefit to the community, the City has a Council-endorsed policy statement that the North-South Highway, particularly north of the Southern Transport Corridor, is the City's highest priority for Main Roads to implement. The City's planning in the Utakarra and Webberton areas has been around the provision of the North-South highway and consequently there are a number of land parcels that have limited accessibility.

MRWA also has jurisdiction over regulatory signage, regulatory line marking, traffic signals and heavy vehicle operations. The City will continue to work with MRWA in the best interests of the community.

## 12.7 Road Link Intent – City Centre

For the purposes of this ITS, the City Centre is shown in **Diagram 3** below.



**Diagram 3: Geraldton City Centre**

Diagram 3 taken from Draft Adopted Local Planning Scheme 1 City of Greater Geraldton 2015

**There are two overarching considerations for roads within the City Centre:**

1. ***The City Centre itself is intended to be a destination, not a thoroughfare, so through-traffic should divert around the City Centre using higher-order roads;***
2. ***Access to the destination of the City Centre should be, as much as possible, by modes of transport other than cars; priorities are pedestrians and cyclists first, vehicles last.***

The priority is to provide access to the City Centre for those people doing business in the City Centre. Heavy traffic through the City Centre does not enhance the vibrancy of this area.

To achieve the overarching priorities, the following must occur:

- Promote alternative through-traffic routes around the City Centre;
- Promote non-car transport modes through infrastructure provision and upgrades;
- Improve safety for pedestrians and cyclists.

### 12.7.1 Cathedral Avenue

Cathedral Avenue is a primary route into the City Centre.

Future changes to Cathedral Ave to include:

- Downgrading of Cathedral Avenue to Local Distributor.



- Encouraging tourist traffic to divert off Brand Highway to Broadhead Avenue on John Willcock Link is helped by the presence of a Bel-Air Caravan Park. Tourism traffic benefits from this route also because of several scenic attractions such as Back Beach, Separation Point, Greys Beach and Pages Beach. This route will also travel past the new Visitors Centre.
- Intersection modifications, particularly at the Sanford Street intersection. The new configuration of this intersection is likely to be a roundabout, subject to further assessment. This is a high priority project. Pedestrians would also benefit from this upgrade.
- Refuge islands or kerb extensions near bus stops to facilitate safe crossing.
- Review signal timings at crossings to favour pedestrians.
- Address missing links in the on-road cycling network.

### 12.7.2 Chapman Road

The City Centre portion of Chapman Road runs from the intersection with Phelps Street to Cathedral Ave. For convenience, this section covers the full extent of Chapman Road.

The current hierarchy classification of Chapman Road is Local Distributor, between Cathedral Avenue and Phelps Street; and District Distributor north of Phelps Street.

Changes to Chapman Road include:

- Refuge islands or kerb extensions (particularly near bus stops and mid-block) to enable safe crossing of Chapman Road.
- Roundabouts at intersections such as Mark Street, Dean Street and Mabel Street, to slow traffic and improve safety of right turns and U-turns.
- Plan the transition to urban cross section from Sunset Beach to Drummonds Cove through the future Glenfield Activity Centre, incorporating on and off road cycle lanes.
- Progressive speed limit reductions where appropriate to 50km/h and traffic management.
- Streetscape measures to improve vibrancy and promote sustainable modes of transport which may include appropriate lane markings and on-road cycle lanes on Chapman Road between Forrest Street and Cathedral Ave. Urban revitalisation projects such as proposed have been successfully implemented across the country. Examples follow.



**Picture 1: Prospect Rd (formerly a 4 lane road) – Adelaide (source: [adelaidenow.com.au](http://adelaidenow.com.au))**



**Picture 2: Peel Street, Tamworth (was previously a 4 lane road) – source Google Streetview**





Picture 3: Burnett Street Buderim – source M Atkinson



Picture 4: Burnett St Traffic flows – source Google Earth



### **12.7.3 Durlacher Street**

Durlacher Street is another primary access to the City Centre. In the vicinity of Maitland Street, it carries in the order of 13,000 vehicles per day. There is limited opportunity or desire to widen Durlacher Street, however several intersections require upgrade.

### **12.7.4 Fitzgerald Street East**

Fitzgerald Street East runs from John Willcock Link north to the Marine Terrace/Foreshore Drive intersection in the City Centre. It is currently an Urban Local Distributor and it is recommended that it remain as such. It is a secondary access to the City Centre and no future upgrades are proposed.

### **12.7.5 Marine Terrace**

Marine Terrace is unlikely to require significant changes; however, there may be some benefit to considering re-allocation of the land used by on-street parking spaces to create wider pedestrian dual use paths, dependent on parking demand. Other potential uses of such re-allocated land could be “parklets” (small extensions of the footpath to provide amenities and green space). Parklets are typically the size of several parking spaces and extend out to the width of the adjacent parking space and may include seating, visual amenity (e.g. art) and cycle parking. Two such facilities have been implemented in recent years in Marine Terrace.

### **12.7.6 Sanford Street**

Sanford Street runs from Snowdon Street in the north, south-west to Fitzgerald Street East, crossing Durlacher Street and Cathedral Avenue.

The City may have to consider making Sanford Street from Durlacher to Forrest one way to manage traffic volumes in the future when volumes dictate. North of Durlacher carries approx. 3,000 vehicles per day; between Durlacher and Cathedral carries in the order of 9,000 vehicles per day. Ideally, Sanford north traffic volumes could be directed onto Anzac Terrace, which is currently under-utilised but is likely to require upgrade at the Anzac/Durlacher intersection. This possible future downgrading of Sanford Street may need to include parking or on road cycle lanes.

### **12.7.7 Lester Ave**

There are no planned changes to Lester Avenue in future other than addressing accidents at the Cathedral Avenue intersection.

### **12.7.8 Foreshore Drive**

There was previously an appetite to “two-way” Foreshore Drive between Durlacher Street and Cathedral Avenue, which currently has lost favour. The City has developed a conceptual plan of the two-waying, however this will not be progressed in the near to medium future. This initiative essentially only delivers amenity benefits by increasing accessibility along the extent of the Foreshore.

The speed environment of Foreshore Drive is to be maintained at a low level in the order of 40-50km/hr. Any future work on Foreshore Drive is to reinforce the low speed environment given it is a high pedestrian and vulnerable community area. The function of the road is not to carry through traffic, but for tourism/scenic purposes and recreational trips that terminate there as a destination. As Foreshore Drive is the centrepiece of the City and a destination in itself, no future road capacity issues are anticipated in the future.

### 12.7.9 Bayly Street

Traffic volumes on the Bayly/Ainsworth Street inbound route to the City Centre will need to be monitored into the future. They may reach a threshold that is unacceptable to continue the link as the road cross section will become insufficient. The upper limit should be no more than 10,000 vehicles/day. The City is to explore the feasibility of a potential eastern extension to NWCH to provide more direct connection to City Centre. Any concept would need to address access issues with adjacent residential properties.

## 12.8 City Centre Intersection Improvements

In addition to City Centre roads, improvements to intersections within the City Centre have been identified as needing action.

### 12.8.1 Durlacher / Chapman

Upgrades to this intersection are not anticipated in the short term, and would require power to be underground for the best outcome. Longer term this intersection would form the centre of the Chapman Road Streetscape. Currently there are delays to pedestrians at this intersection and any improvements would be designed around improving pedestrian and cyclist provisions.

Should Chapman Road volumes decline into the future potentially from detouring of through traffic as a result of NWCH upgrade or; and increase in sustainable transport mode share, a future single lane roundabout could be investigated.

### 12.8.2 Maitland Street / Durlacher Street

This intersection has already been identified as needing improvement and plans are in progress to improve its safety and operation. This intersection is currently under give way control, and requires upgrade to traffic signals to assist the right-turn into and out of Maitland Street. There are also safety concerns due to visibility obstruction as shown in accident history. The City is currently campaigning to MRWA to support traffic signal installation as they have full jurisdiction over them. The City currently has full detail designs of this upgrade and will be seeking funding to construct as soon as possible as this is one of the City's highest intersection upgrade priorities.

### 12.8.3 George Road / Durlacher Street

This intersection is difficult for pedestrians to cross particularly in the school peak periods. Also, performance is hampered by a shared left/right turn lane on George. A future upgrade is required which may require some acquisition of land on the eastern side. The City would work closely with any affected businesses to ensure where possible their needs are catered for. The treatment could potentially include a refuge island on George and dedicated left and right turn lanes to cater for up to semi-trailers.

### 12.8.4 Sanford Street / Cathedral Avenue

This intersection has already been recognised as needing upgrade due to safety concerns. Opposing right turns from Cathedral obscure through movements and pedestrian provisions are insufficient particularly on the north side.

The preference is to install a roundabout to improve traffic flow and facilitate circulation adjacent to the Civic Centre and to reinforce the City Centre as a destination rather than a thoroughfare. To improve pedestrian provision at the intersection at this intersection would also be a priority with any treatment as well as co-ordinating with the Cathedrals' master plan upgrades. A conceptual design has been prepared by the City.

**12.8.5 Sanford / Durlacher**

This intersection has already been recognised as needing improvements, due to safety concerns. The intersection would benefit from an upgrade of its right turning provisions such as dedicated right turning arrows. The upgrade would need to consider the future of the section of Sanford north of Durlacher.

**12.8.6 Cathedral Avenue / Lester Avenue / Chapman Road**

There is a safety issue caused by right turns from Lester Ave and Chapman Road obscuring through movements due to the geometry of the intersection. The intersection would benefit from an upgrade of its right turning provisions such as dedicated right turning arrows in both directions. This would have an impact on intersection performance and may lead to some increased congestion in order to provide safety.

In the future this intersection forms the southern extent of the proposed Cathedral to Forrest streetscape. Subject to future traffic volumes based on success of sustainable transport initiatives, a single lane roundabout may be appropriate, which would also address the current sight distance safety issue.

**12.8.7 Forrest / Marine**

The Batavia Coast Marina project (BCM2) will connect to this intersection and it is deemed to be of an appropriate standard to cater for this increased traffic. No other changes are proposed at this intersection in future.

**12.8.8 Forrest / Chapman**

This intersection will ultimately represent the northern extent of the proposed Chapman Road Streetscape. In the future, it is anticipated that the current provisions at this intersection will be satisfactory.

**12.8.9 Sanford / Forrest**

The intersection of Sanford / Forrest is relatively narrow and traffic volumes have been increasing over time. The operation of this intersection needs to be monitored into the future and may benefit from widening and change of geometry. It would also need to integrate with the possible downgrading of Sanford Street north of Durlacher.

**12.8.10 Foreshore / Durlacher**

This intersection will only be upgraded if the Foreshore Drive two-way project proceeds at some time in the future. No other modifications are planned.

**12.9 Non – City Centre Roads****12.9.1 Ainsworth Street**

Refer previous section on Bayly Street.

**12.9.2 Chapman Valley Road**

Chapman Valley Road is a primary route into the City that connects the north east suburbs of Waggrakine and Moresby to the City and also services the rural areas north-east of Geraldton. In the vicinity of the Waggrakine Primary School, the road experiences traffic volumes in the order of 8,000 vehicles per day. This is anticipated to increase substantially into the future due to residential development in its catchment, such as Seafields, Geraldton Heights and Moresby

Freedom Estate. The City is concerned about the safety and amenity of residents with these increasing traffic volumes. Two key elements in addressing these future volumes and speeds are;

- A bridge over Chapman River at Place Road and;
- Traffic management treatments through Waggrakine, e.g. carriageway narrowing.

### 12.9.3 Webber Road

Webber Road is currently a low-density residential access road that leads from Chapman Valley Road southwards to the new Geraldton Heights development. It currently carries in the order of 1000 vehicles per day. Its volumes will increase with residential development, however the City has capped its future traffic volume to 10,000 vehicles per day when the bridge to Place Road will then be required. The road volumes will peak at 10,000 and then reduce ultimately to around 3,500 vehicles per day when the bridge is in place. Carriageway widening is required in the interim to cater for these volumes. It is intended to retain the road in its rural cross section.

### 12.9.4 Fairfax Drive

Sections of Fairfax Drive remain unmade. This road is an important link for network connectivity servicing the Moresby residential developments of Geraldton Heights and Moresby Freedom and also the existing Special Rural estate of Moresby. The City's intention is for this road to be constructed to 8m sealed rural road standard in the Special Rural area and suitable urban road standard (kerbed) in the rural residential development areas.

### 12.9.5 Flores Road

Flores Road improvements will include consolidation of intersection movements south of Place Road, i.e. improving the intersection with Fifth Street, while banning right turns into the Wonthealla residential area. All other movements would be permitted. The improvement of Fifth Street / Flores Road intersection would service all movements. There will also need to be an intersection upgrade at Eighth / Flores Road (all movements) to improve safety and visibility and facilitate future connectivity with Eighth St east. The ambition of the City is to advocate for the North South Highway to be built in order to remove road trains from the residential section of Flores Road and thereby improving safety to residents. The southern extent of Flores road is also planned to be realigned in the future (subject to the North South Highway being constructed). Refer to the section on the Utakarra Road Network Upgrade Project (URNUP).

### 12.9.6 Horwood / Eastward Road / Johnston Street / Waldeck Street

The City is planning to reconnect Horwood with Eastward as a the primary local, eastern suburbs route into the City and thereby downgrade Utakarra Road. Refer also section on URNUP and the RUK precinct plan.

### 12.9.7 Place Road

Place Road runs from NWCH east to Rowan Road. Place Road will eventually be required as an alternative access for traffic to/from the Moresby area in order to relieve pressure on Webber Road and Chapman Valley Road. Ultimate traffic volumes generated by the residential areas east of the Chapman River exceed 20,000 vehicles/day. The eastern section of Place Road will need to be upgraded and widened to dual lanes between NWCH and the future bridge over the Chapman River in order to cater for this growth in traffic.

### 12.9.8 Utakarra Road Network Upgrade Project (URNUP)

The URNUP is a planned substantial rationalisation of the higher order local road network in Utakarra. Refer to **Figure 13** for a map showing the URNUP. Several factors have necessitated the development of the URNUP:

- Decommissioning of the former Utaarra Road RAV route
- The actions of the RUK Precinct Plan
- The Karloo-Wandina Project, including Abraham Street bridge
- The future North-South Highway (MRWA)

It is planned to reconnect Eastwood to Horwood Road creating a direct east-west link into the City Centre. This will necessitate the upgrade of the Blencowe/Eastward intersection and the creation of a new intersection at the eastern extent of Utaarra Road.

The Blencowe/Utaarra Road intersection has accident history and is inefficient due to legacy turning restrictions from the former RAV corridor. A roundabout servicing all turning movements is planned.

When the Abraham St bridge is constructed in 2015 creating a link to Mt Tarcoola, Wandina and the southern suburbs, traffic volumes will increase on Abraham Street. The existing level of service and safety at the Abraham/Horwood intersection is already poor with up to 10 vehicles queued in the morning peak hour to turn right into Horwood. A roundabout is planned here and is one of the City's highest intersection priorities. Detailed planning of the roundabout and the URNUP as a whole was undertaken in 2014/15. Detailed design on the roundabout will be complete in mid-2015. In the future, subject to the North-South Highway being constructed (to cater for RAV vehicles) a realignment of the southern end of Flores Road to connect to the roundabout may be implemented. The City will undertake community consultation with a view to protecting the corridor. When complete, this will improve traffic flow and safety in the City's inner east removing the existing "stagger" and many conflict points.

The Flores Rd south/Horwood intersection may become redundant in the future should the North-South Highway and the Flores Rd realignment eventuate. Until then, the intersection, whilst undesirable needs to be maintained for road trains and adjacent businesses.

Alexander/Horwood intersection has been identified as requiring substantial upgrade to service residential subdivision to the south. There is no immediate need for upgrade until the development progresses.

When the North-South Highway is constructed, there may be potential to also downgrade the Edward/Horwood intersection to as-of-right (19m semi) access only. This is considered low priority.

### **12.9.9 Sutcliffe Road**

Traffic volumes and speed on Sutcliffe Road to be monitored with ongoing higher density development in the Moresby area. Traffic management measures may need to be implemented in future subject for safety & performance of the local network in this area.

### **12.9.10 Tramway Road**

This road will be upgraded in the future to service new residential development in Waggrakine. The new road cross section will be of Neighbourhood Connector standard.

### **12.9.11 Strathalbyn Road**

Until the North-South Highway is constructed, Strathalbyn Road will remain an internal local road servicing the existing Strathalbyn rural residential estate and there are no plans to upgrade until that time. The City's priority for river crossing is at Place Road to service the Moresby residential area. The future river crossing at Strathalbyn Road is a secondary priority and could be implemented to reduce future congestion on Place Road. Once connected to Moresby the intersection of Strathalbyn and North-South Highway would require significant upgrade. It is

anticipated that in the future a Neighbourhood Connector standard road will be suitable. Direct property access from new development should be avoided where possible.

#### **12.9.12 Central Road**

Central Road, Wonthella would benefit from roundabouts at the local crossroads to improve safety and reinforce the speed environment.

#### **12.9.13 Scott Road Extension (East-West Road)**

The future Scott Road extension will be delivered by adjacent development. The ultimate alignment extends east from Rangeway, across Edward Road onto the Polo Road alignment and is planned to cross the Chapman River at the southern extent of the Moresby residential development. The full implementation of this road is long term. The western end between Highbury St and Abraham Street will be constructed as part of the Karloo-Wandina project by the Department of Housing (DoH).

#### **12.9.14 Glenview Street**

Traffic management may be required on Glenview Street in the near future. The road is currently carrying in the order of 9,000 vehicles per day which is undesirable for the existing standard of road. The City will monitor traffic volumes after the Abraham bridge is connected and they may reduce to a tolerable level. If not, the City may have to consider implementing traffic management such as carriageway reduction.

#### **12.9.15 Verita Road**

The southern extension of Verita Road to Brand Highway will be constructed with adjacent development. It will be funded by the developer contributions scheme that is in place for Verita and constructed of a standard to match the existing Verita Road north. The road reserve has the capacity for an ultimate dual carriageway, however is not designed for RAV vehicles and direct access is limited to priority, structure-planned intersections.

#### **12.9.16 Greenough River Road**

The eastern section of this road is planned to be upgraded to Neighbourhood Connector standard to service the Cape Burney area and the Greenough River residential estate. This road will be constructed by the developer.

#### **12.9.17 Carnarvon-Mullewa Road**

The Carnarvon-Mullewa Road is an important tourist route and connects the Murchison with Mullewa. The City's strategy is to progressively seal this route accessing Regional Roads Group funding where possible.

### **12.10 Intersection Improvements - non City Centre**

There are some important intersections requiring capacity improvement measures outside the City Centre, as detailed below.

#### **12.10.1 Chapman / Bayly**

The Chapman Bayly intersection will likely require upgrade as part of LandCorps BCM2 project. There is an existing east-west issue with right and through turns shared. It would benefit from dedicated turn phases; however this would impact on intersection performance.



**12.10.2 Hermitage / Cathedral**

This intersection experiences a relatively high proportion of right-turners from Cathedral in the am peak hour. It is proposed to provide a protected right turn into Hermitage, incorporating a pedestrian refuge facility and maintaining access to the existing motel. Concept planning of this treatment is currently underway.

**12.10.3 Place Road / Hibbertia Street**

This intersection requires a right turn provision from Place into Hibbertia as in the am peak hour, many vehicles divert onto the gravel shoulder which is unsafe and leading to excessive maintenance.

**12.10.4 Jenark Road / Woorree Lane**

There is currently relatively high demand on this route and a stagger exists at Eighth Street. Whilst low priority in the near to medium future, priority may need to be revised in future when the North-South Highway is constructed and Eighth Street west is connected.

**12.10.5 Verita Road / Brand Highway**

This future intersection is anticipated to warrant traffic signals as it will be a priority link to significant light industrial and residential development.

**12.10.6 Brand Highway (MRWA) / Ackland Road**

Due to imminent connection of Abraham Street, this intersection will experience significant volumes and the City recommends traffic signals as the upgrade treatment. This will also remove the need for traffic wardens on Brand Highway and provide gaps for Barrett Drive traffic.

**12.10.7 Highbury Street / Durlacher Street**

Investigate a change of priority due to Durlacher Street being the priority route. Considered low priority project at this stage.

**12.10.8 Intersection between Rifle Range Road and Scott Road**

Investigate a future roundabout or change of priority treatment with Rifle Range Road being the priority Road. Considered low priority at this stage but could increase in priority with further development to the east.

**12.10.9 Chapman Valley Road / Webber Road**

A protected right turn is required into Webber Road from Chapman Valley Road. This intersection will experience up to 300 right-turning vehicle turning movements in the peak hour before the Place Road Bridge is constructed. After the bridge is constructed, there will still be a need to service right turn demands. The City is undertaking the design and construction of this intersection with the assistance of developer contributed funds.

**12.10.10 Chapman Valley Road / Hall Road**

This intersection currently experiences significant traffic movements in the school pm peak hour. Chapman Valley Road is anticipated to substantially increase in volume with residential development in the Moresby area without a bridge crossing connecting to Place Road. To service the turning movements, and signal to drivers they are entering a low-speed residential environment, a roundabout is proposed. This project is currently considered medium priority, however over the next few years; it is expected to increase in priority.

### 12.10.11 Utakarra Road / Rifle Range Road

The current staggered intersection arrangement is a legacy from the former Utakarra Road RAV route. There is strong demand for north-south movements along Rifle Range Road and it is an important high order local road. The staggered intersection introduces many right-angle conflict points and hampers efficient north-south movements on the local road network. The City proposes a roundabout to consolidate the movements and reduce number and severity of conflict points. This was an action which came out of the RUK Precinct Plan and also offers opportunity for beautification.

### 12.10.12 Abraham Street / Horwood Road

Refer to section on the Utakarra Road Network Upgrade Plan (URNUP).

### 12.10.13 Horwood Road / Polo Road

This intersection will require upgrade when either the Scott Road (East-West road) or Chapman River crossing at Polo road is constructed. This is considered a longer term project and low priority at this stage.

### 12.10.14 Waldeck Street / Brede Street

This intersection has crash history and the existing roundabout separation to Waldeck Street is not compliant and creating a safety issue. The intersection is on a steep section of curved road and it is difficult for motorists to estimate speed of approaching traffic. This intersection requires urgent investigation and restriction of turning movements may be required. Note this project is also part of a footpath and drainage upgrade project.

### 12.10.15 Eastern Road / Johnston Street

This intersection has had a road safety audit undertaken which found the current configuration is not desirable for on-cyclists with the high speed eastbound added lane conflicting with the on-road bike lane. It is proposed to consolidate all movements to one intersection, potentially on the crest. Whilst the intersection upgrade is planned longer term, the matter of addressing the on-road cycle lane is urgent and high priority.

### 12.10.16 Geraldton Mt Magnet Road / Peter Road

A study was undertaken in 2013/14 to determine primary grain haulage route in the Ambania/Tenindewa area. This study revealed that Peter Road is the preferred route. The route is currently safe for 27.5m road trains (due to close proximity of railway line to the highway) but to accommodate 36.5m road trains, an intersection upgrade would be required at this intersection. A concept design has been developed, however funding arrangements have not been determined. The final study is planned to go to Council for final endorsement in 2015.

### 12.10.17 Geraldton Mt Magnet Road / Eradu North Road

This intersection possesses poor sight distance for vehicles turning right onto Geraldton Mt Magnet Road and is a safety concern. A cost-effective solution has not yet been identified.

## 12.11 Schools Precinct Roads

School precinct roads in Geraldton present unique challenges to the local road network:

- Twice daily congestion due to a large number of cars and buses in a short space of time (often <1hr), particularly at school closing time (morning arrivals can tend to be more spread across a longer period in some cases, while in the afternoon, students do not tend to wait long in the school to be picked up).

- The congestion is short-lived each day and it may be an inefficient use of funds to address such a brief temporary problem; however, the safety issues it creates suggest that the use of school roads by other drivers should be avoided during these times.
- In 2015, the Grade 7 will change from primary to high school, so there will be an increase in numbers of high school students; this may cause localised congestion worsening around some high schools.
- Congestion can make drivers impatient, which reduces safety for students crossing the road.
- Buses can create a safety hazard for pedestrians due to visibility obstruction; possibly more of a problem with children, who may be less aware of the danger.

The TravelSmart program encourages students to walk, cycle or take the bus, which is beneficial in reducing school congestion and improving health and wellbeing, however not all schools are involved in TravelSmart.

As well as physical improvements to safety, education programs to encourage safe behaviour around roads are advisable. It is important to ensure that all schools have a safe road-crossing location.

The City will not subsidise on-street free parking around public schools. The City considers this a State Government responsibility;

#### 12.11.1 Allendale School, Marsden Street, Wonthella

Concerns have been identified at this school. Its location on a cul-de-sac could contribute to the congestion, as this would encourage drivers to turn round in the road which could be a problem when there are so many trying to turn at the same time. The cul-de-sac has insufficient radius to make a single turn and generally 3 point turns are required.

Also the need for traffic-calming treatment on Marsden Street has been identified. Given the road's current straight alignment and its width, it is likely to encourage excess speeds. Treatments such as narrowing and/or chicanes could be investigated.

#### 12.11.2 City Centre Schools Precinct

Within this area, there is a residential college, and several schools including:

- Geraldton Primary School, accessed from Augustus Street between Maitland Street and Fitzgerald Street East;
- Holland Street School, accessed from Holland Street;
- Leaning Tree Alternative School, Bayly Street;
- Midwest Football Academy, Corner of Cathedral Ave and Shenton Street;
- Nagle Catholic College, accessed from Maitland Street, between Cathedral Avenue and Carson Terrace/Augustus Street; and
- Saint Francis Xavier Primary School, Maitland Street, between Durlacher and Cathedral.

The locations of these schools are shown in **Figure 9**.

Previous studies have identified various areas for improvement of road safety around Nagle Catholic College and Geraldton Primary School. These should be considered in conjunction with other changes to the road network here including those identified in this ITS.

The issues identified were as follows:

- Pedestrian Issues:

- Issue 1, Pedestrian surface footpath quality
- Issue 2, Conflict between pedestrian and off-street parking vehicles
- Issue 3, Conflict between through traffic and controlled pedestrian crossing
- Issue 4, Pedestrians cross at non-controlled locations
- Issue 5, Underutilised pick up/drop off area
- Parking Issues:
  - Issue 6, Vehicles parking illegally on Augustus Street
  - Issue 7, Off-street parking facility operation
  - Issue 8, Vehicles parking on the Augustus Street verge
- Road Network Issues:
  - Issue 9, Augustus Street/Maitland Street/Holland Street intersection operation
  - Issue 10, Fitzgerald Street East/Sanford Street intersection operation.

### **12.11.3 Improvements around City Centre Schools area**

Several remedial options were recommended for further consideration, as follows:

#### **12.11.3.1 Augustus Street:**

- Option 1 – kerb build outs
- Option 2 – 40km/h traffic zone
- Option 3 – stand up kerb works
- Option 4 – formalise parallel parking

#### **12.11.3.2 Augustus Street/Maitland Street/Holland Street:**

- Option 5 – Intersection Improvement
- Option 6 – Change of priority
- Option 7 – Roundabout

#### **12.11.3.3 Fitzgerald Street East/Sanford Street:**

- Option 8 – Intersection treatment

#### **12.11.3.4 Sanford Street:**

- Option 9 – Pedestrian crossing

#### **12.11.3.5 Off-Street Car park:**

- Option 10 – Off-Street Car park, Pedestrian footway
- Option 11 – Off-Street car park, Kiss and Ride

#### **12.11.3.6 Surrounding the schools:**

- Option 12 – Footpath upgrades.

### 12.11.4 Development within the City Centre School Precinct

The City will not support development within the school precinct without a full traffic impact assessment utilising the City's Strategic Transport and Land Use Model (GSTLUM). Whilst existing road links may have capacity, intersections within the precinct, without substantial upgrade, are expected to have a significant reduction in performance as a result of development and will have downstream impact on the network.

## 12.12 Rural Road Sealing

The City receives regular requests to seal rural gravel roads. Unsealed roads should only be sealed when certain conditions exist:

- Minimum 100 vehicles/day
- Identified as a high order rural road
- School bus route
- Grain haulage route
- Existing road geometry has been audited and declared suitable for high speed limit (up to 110 km/hr)

Sealed roads add greater annual depreciation expense to the City and introduces risk. Drivers using unsealed roads are required to “drive to conditions”, which places the duty of care essentially on the driver. Sealing roads introduces a much higher level of service with the higher speed limits as the road needs to be maintained to facilitate the operating speeds to which it is signed.

The purpose of sealing a road is to keep moisture out of the pavement and minimise operational maintenance. Sealed roads without sufficient volumes to enliven the seal will experience accelerated deterioration. Where sealed rural roads don't qualify under the above criteria, they may be returned to an unsealed road standard.

### 12.12.1 Priority Rural Roads for Sealing

Minnenooka Road has been identified as requiring sealing due to its important strategic nature as a School bus and Grain Haulage route.

Carnarvon-Mullewa Road has also been identified for sealing due to it being important tourist route.

The City is undertaking a Level of Service (LOS) exercise across its entire road network in 2015/16 and this may identify other gravel roads for sealing. The next revision of the ITS will incorporate these roads.

## 12.13 Recommendations

There are a number of proposed upgrades to the road network which have been investigated in the previous sections. The strategic outcomes and actions related to road networks are in **Table 16**.

Table 15: Definitions of Roles

Role	Description
<b>Advocate</b>	Speaking on behalf of or in favour of a particular approach, scheme or design.
<b>Initiator / Facilitator</b>	Assist groups of differing opinions to understand their common objectives and assist them to plan to achieve them.
<b>Regulator</b>	An agency responsible for exercising autonomous authority over some area of human activity
<b>Owner</b>	Local government responsibility for transport assets belonging to them

Table 16: Road Networks Outcomes and Actions

Road Networks			
Strategies	Desired Outcome	Our Role	Our Action
	A road network that is efficiently managed and maintained.	<ul style="list-style-type: none"> <li>Owner/ custodian</li> <li>Advocate</li> </ul>	Investigate the current users and their impact on the road network with particular regard to economic and population growth
			Undertake capacity and deficiency assessments, including safety/black spot auditing
			Explore limiting access to high order City roads (local Distributer and above) to benefit vulnerable road users and improve traffic flow.
			Streetscape Chapman road and surrounding streets to increase amenity, safety for pedestrians and cyclists.

## 13 Tourism

*Objective: Create the transport networks to support and enhance the City as a tourist destination.*

### 13.1 Current Situation

The City of Greater Geraldton currently offers a wide range of tourism attractions featuring the natural environment, Aboriginal and European heritage and cultural features, outdoor and sporting activities, and local product shopping and dining opportunities. The City has not developed as a tourism destination in its own right. Research by Tourism WA (TWA) has shown that the City is perceived by many holiday-makers and tour operators (including wildflower tour operators) as a stopover or stepping-stone on the way to other destinations in the Coral Coast Region (or on longer journeys) and as lacking in unique or iconic attractions (TWA, 2008). There is a low level of awareness of opportunities offered for visitors and low expectations about the diversity of experiences.

### 13.2 Recommendations

The City of Greater Geraldton is also used as a through route for freight and tourism to and from the Coral Coast and Kimberley. It is important to maximise the benefits that this activity may have economic growth in the City and to manage the networks to both encourage and plan for future growth. Improving overall amenity will assist in creating pedestrian friendly, attractive and comfortable environments that people will be drawn to, as well as directing pedestrians via desired movement corridors and between key attractions. Amenity can be improved relatively quickly and at low cost in the short term, and then further enhanced with larger scale streetscape improvement projects.

The key recommendations for transport around tourism are:

- Key destinations designed for people
  - The City Centre as central hub of interconnected destinations and attractions
- Attract the right uses in the right locations
  - Establish movement corridors
  - City centre parking issues are resolved through improved management and the provision of appropriate parking facilities
- Deliver quality public realm and streets
  - High amenity
  - Prioritise pedestrians (dedicated paths)
  - Tree lined and sheltered
  - Appropriate shared spaces,
  - Ensure carpark upgrades consider caravans and RV's.
  - Ensure pedestrian linkages upgraded between DoT Marina and tourist attractions.
  - Investigate provision of larger shelter at HMAS Sydney memorial.
- Place and asset management

- Streets in the city centre are newly paved in some areas and reasonably well maintained, however there are still parts of the path network in poor condition.
- Improve way finding and signage
  - Improve the directional and way finding signage, particularly to the new visitor centre.
  - Less clutter and colourful entry statements and banners will help to announce arrival into the City.

The strategic outcomes and actions related to tourism are in **Table 18**.

**Table 17: Definitions of Roles**

Role	Description
<b>Advocate</b>	Speaking on behalf of or in favour of a particular approach, scheme or design.
<b>Initiator / Facilitator</b>	Assist groups of differing opinions to understand their common objectives and assist them to plan to achieve them.
<b>Regulator</b>	An agency responsible for exercising autonomous authority over some area of human activity
<b>Owner</b>	Local government responsibility for transport assets belonging to them

**Table 18: Tourism Outcomes and Actions**

Tourism			
Strategies	Desired Outcome	Our Role	Our Action
	A road network that is efficiently managed and maintained.	<ul style="list-style-type: none"> <li>▪ Owner/ custodian</li> <li>▪ Regulator</li> </ul>	Investigate the current users and their impact on the road network with particular regard to economic and population growth
			Undertake capacity and deficiency assessments of road networks to improve accessibility for tourist traffic.
			Improve place and asset management to build on existing pedestrian networks connecting destinations and accommodation.
	A City which is a travel destination	<ul style="list-style-type: none"> <li>▪ Advocate</li> <li>▪ Initiator / facilitator</li> </ul>	Ensure marketing of Geraldton makes it a desirable location for tourists to visit.
		<ul style="list-style-type: none"> <li>▪ Initiator / facilitator</li> <li>▪ Regulator</li> </ul>	Improve way finding and signage which welcomes and directs visitors to shops, parking and road networks while visiting the City.



## 14 Parking

*Objective: Sufficient parking is provided for residents and visitors to the City of Greater Geraldton*

### 14.1 Current Situation

The existing Council-endorsed City Centre Car Parking Strategy and Car Parking Management Plan documents remain in effect in the ITS. The City still has a parking management problem as opposed to a parking supply problem. The actions proposed in the management plan are still relevant, such as introducing on-street paid parking and upgrading corridors between parking stations and the City Centre.

Currently there is an abundance (300+ informal bays) of additional free parking being provided in the City Centre on Lot 601 which is working against the objectives of the management plan and the ITS (i.e. user pays for premium parking locations). Consequently, the City's parking stations, particularly Parking Station 3, is very underutilised.

The City will not subsidise any car parking associated with state government buildings & facilities.

### 14.2 Recommendations

In addition to the recommendations of the Council-endorsed City Centre Car Parking Strategy and Car Parking Management Plan documents:

- A comprehensive car parking survey of usage in the City Centre is required.
- Paid on-street parking needs to be implemented in premium parking locations, e.g. Marine Terrace.
- Remove free parking in Lot 601 or; upgrade and commence charging.
- More investigation is required into multi-level parking. The City intends to examine this again when the demand reaches the appropriate point. At this stage, it is not expected in the medium-long term future.
- Review directional signage to City's parking facilities.

The strategic outcomes and actions related to parking are included in **Table 20**.

**Table 19: Definitions of Roles**

Role	Description
<b>Advocate</b>	Speaking on behalf of or in favour of a particular approach, scheme or design.
<b>Initiator / Facilitator</b>	Assist groups of differing opinions to understand their common objectives and assist them to plan to achieve them.
<b>Regulator</b>	An agency responsible for exercising autonomous authority over some area of human activity
<b>Owner</b>	Local government responsibility for transport assets belonging to them

Table 20: Parking Outcomes and Actions

Parking			
Strategies	Desired Outcome	Our Role	Our Action
	To provide sufficient accessible parking for residents and visitors to the City of Greater Geraldton.	<ul style="list-style-type: none"> <li>Regulator</li> <li>Owner/ custodian</li> </ul>	Manage on-street and off street parking for the residents and visitors.
		<ul style="list-style-type: none"> <li>Regulator</li> </ul>	Ensure new commercial developments provide sufficient parking for staff and customers or contributions in-lieu of parking.
		<ul style="list-style-type: none"> <li>Regulator</li> <li>Initiator / Facilitator</li> </ul>	Manage parking demand by identifying the future users of a development (i.e. staff, tenants, customers or deliveries) and planning for their respective parking needs.
			Ensure a Green Travel Plan is prepared for all required developments, based on the criteria set out in the Green Travel Plan Policy. This should aim to limit and reduce the need for parking at a development. Ensure equity of access to all areas through providing accessible bays and facilities.

## 15 Conclusion

The intention of the ITS is to be a blueprint plan for the City's future transport infrastructure investment. In the past, there has been uncertainty and inconsistency regarding the City's future transport infrastructure needs which has frustrated internal and external stakeholders. This document serves to remove much of the uncertainty and detail the major initiatives, however it is acknowledged that there are cases where the ITS may not provide sufficient guidance. In these instances, the principles the ITS is based on need to be applied for direction:

- 'City centre as a destination'
- Improve Connectivity
- Encourage sustainable modes of travel
- Access & Inclusion
- Integration with Land-use Planning
- Future-proofing and;
- Safety

## 16 References

- Australian Transport Council 2011, *National Road Safety Strategy 2011–2020* (pg50).
- Austroads 2008, *Guide to Traffic Management Part 8: Local Area Traffic Management*
- Austroads 2009, *Guide to Road Transport Planning, Austroads Publications No AGRTP-09.*
- Austroads 2009, *Guide to Traffic Management – Part 4: Network Management, Austroads Publications No AGTM04-09.*
- Austroads 2009, *Guide to Traffic Management – Part 7: Traffic Impacts in Activity Centres, Austroads Publications No AGTM07-09.*
- Austroads 2009, *Guide to Road Design, Part 4: Intersections and Crossings – General*
- Austroads 2010, *Infrastructure / Speed Limit Relationship in Relation to Road Safety Outcomes*
- Austroads 2010, *The Road Safety Consequences of Changing Travel Modes*
- Austroads Research Report AP-R461-14 (2014) *Assessment of the Effectiveness of On-road Bicycle Lanes at Roundabouts in Australia and New Zealand*
- Austroads 2010, *Infrastructure / Speed Limit Relationship in Relation to Road Safety Outcomes, Austroads Publications No AP-T141-10*
- Austroads 2011, *Cycling Aspects of Austroads Guidelines, Austroads Publications no AP-G88-11*
- Austroads 2012, *Updating the ATC National Guidelines for Transport System Management in Australia: stage 1 – scoping issues paper*, prepared by GHD. Available from [www.austroads.com.au/images/stories/NGTSM\\_update\\_scoping\\_issues\\_paper\\_December\\_2012.pdf](http://www.austroads.com.au/images/stories/NGTSM_update_scoping_issues_paper_December_2012.pdf)
- Campbell, D., Jurisich, I. and Dunn, R. 2006, *Improved multi-lane roundabout designs for cyclists*, Land Transport New Zealand Research Report 287
- Cardno 2013, *Deficiency Analysis Report, Geraldton Strategic Transport & Land Use model Version 6.*
- City of Geraldton Greenough 2012, *City Centre Planning Policy – A Design Initiative for the Geraldton City Centre*, Rev 6, 26.6.12
- City of Greater Geraldton 2014, *Disability Access and Inclusion Plan Annual Report*
- Department of Infrastructure and Transport 2013, Ministerial Statement *Walking, Riding and Access to Public Transport* Supporting Active Travel in Australian Communities.
- Geraldton Port Authority website <https://www.midwestports.com.au/> accessed 5 September 2014
- New Zealand Transport Agency 2011, *Workplace Travel Plan Guidelines* 1st Edition, Amendment 0, Section 1.8.2
- Public Transport Authority (PTA) (2011) “*A Practitioner’s Guide to Bus Movement and Priority*”

Richtmeyer, Richard 6 January 2008, *Safer Roundabouts Sprouting Up All Over New York, Nation*, Associated Press, retrieved 10 January 2008; and Insurance Institute for Highway Safety overview

Shashi S. Nambisan, Venu Parimi. *A Comparative Evaluation of the Safety Performance of Roundabouts and Traditional Intersection Controls*. Institute of Transportation Engineers

Tonkin Consulting 2012, Prospect Road Upgrade – the Village Heart

Tourism WA (TWA) (2008). Geraldton/Greenough Better Business Blitz Research Report.

Wang, A.2013, *Developer Contribution Plans using Traffic Models*, presented to Australian Institute of Traffic Planning and Management (AITPM), 2013 National Conference

WAPC 2009, *Liveable Neighbourhoods* January 2009, Update 02

WAPC 2005, *Planning and Development Act 2005*, section 26 State planning policies, preparation and content of

WAPC's August 2006, *Transport Assessment Guidelines for Developments*

WAPC 2009, State Planning Policy 3.6 *Development Contributions for Infrastructure*

WAPC 2012, *Guidelines for Preparation of Integrated Transport Plans*, May Western Australian Planning Commission,

Wilke, A. and Koorey, G. 2001, *How Safe are Roundabouts for Cyclists?* in TranSafe Issue 5, April 2001, Wellington, NZ

VTPI "Online TDM Encyclopaedia" (<http://vtpi.org/tdm/>) accessed 30 June 2014

# Appendix A – Community Consultation

## Stakeholder and Community Consultations

Consultations with stakeholders and the community were a vital aspect of the development of this ITS. The consultations included re-iteration of previous consultations on transport-related issues, in order to stimulate discussion and feedback on these other consultations. Thus the consultation process not only enabled comment on the current transport issues affecting Geraldton, but also enabled comment on whether the previously expressed desires had been addressed.

## Previously undertaken consultations – Transport

Prior to the development of the ITS, other public consultations on transport-related issues had been undertaken in Geraldton. These are outlined below.

### Designing our City, Final Report; 21st Century Deliberation and Enquiry by Design. August 13, 14 and 15, 2011 at the Queen Elizabeth II Community Centre

This consultation was undertaken as part of the City's "2029 and Beyond" process, a process created to work with the community to plan the City-Region's future. The "Designing our City" process was instigated in 2011 and began with a 3-day deliberative planning process from 13 to 15 August 2011.

This "Designing our City" process used the techniques of 21<sup>st</sup> Century Dialogue and Enquiry by Design. These combined to form an iterative consultation process through which the community and stakeholder participants discussed their desires for the planning of Geraldton, which fed into the development of scenarios, which in turn were presented to the participants. Feedback on the scenarios then led to the preferred/consolidated scenario on which further feedback was obtained.

The results of this process are detailed in an extensive report; a brief summary of the results was presented to the participants at the ITS Community Consultation.

### Sunset Beach Precinct Plan Workshop, 10 June 2013

The Sunset Beach Precinct is the area bounded by North-West Coastal Highway (NWCH) to the east, Chapman River to the south, the Ocean to the west and Sail Boulevard to the north. A community feedback workshop was held on 10 June 2013 to discuss four scenarios for the Precinct Plan. This was part of the City's "2029 and Beyond" process also.

Again, the results of this process are detailed in an extensive report; and a brief summary of the results was presented to the participants at the ITS Community Consultation.

### Rangeway Utakarra Karloo Precinct Planning Report, August to December 2012

The Rangeway Utakarra Karloo Precinct is approximately bounded to the west by the NWCH, to the east by Hardey Road, to the south by Geraldton Mt Magnet Road and to the north by Eastward Road/Horwood Road.

The precinct planning for these suburbs was undertaken between August and December 2012 as a response to the outcomes of the City's "2029 and Beyond" process.

This precinct planning process involved significant community engagement, in the form of a series of community engagement workshops. The results were presented in an extensive report; and a brief summary of the results was presented to the participants at the ITS Community Consultation.

## The ITS Consultation

### Purpose

The purpose of the ITS community consultation was to ensure that the development of the ITS is informed by local opinion and values, in addition to the more technical quantitative data and engineering judgment. This way, the ITS has been prepared using a broad, all-encompassing approach that reflects the desires of people who live here as much as is practicable.

The purpose of the ITS stakeholder consultation was to ensure that the development of the ITS is informed also by the professional opinions of organisations involved in the planning and management of assets and environment within Geraldton, such as Main Roads WA and the Geraldton Port Authority.

### Process

The consultation was split into different processes to ensure engagement involved the community, stakeholders and advocacy groups. Advocacy groups included groups with an interest in the issues of transport (e.g. car, bus, walking, cycling), land use and development.

Initially, an online survey was made available throughout April 2014, so that people living and/or working in Greater Geraldton could express their views. This was particularly important as some people would be unable to attend the consultation workshops (although the survey was open to anyone so people were free to respond online and attend a workshop also, if they wished).

The stakeholder consultation workshop was held on 6 May 2014; the community consultation workshops were held on 8 May 2014 (Geraldton Civic Centre on Cathedral Avenue) and 9 May 2014 (Mullewa council offices).

The community consultation workshops were open to anyone, while the stakeholder consultation workshop was by written invitation. Several advocacy groups were invited to the stakeholder consultation. The list of stakeholders and advocacy groups invited was extensive; however if any were missed, they were of course free to attend the community consultations also, as members of the public.

### Advertising

The community consultation process was extensively advertised, through the following means:

- On the City's website, together with the online survey;
- In the local newspaper, together with a reference to online survey;
- Banner outside the council offices for the week prior to the public workshops.

### Online Survey

The online survey comprised 11 questions which included baseline demographic and employment information, in addition to questions related to transport issues. There was also

a section for “Any other comments” so that respondents could cover any issues that were not included within the specific questions; it was also expected that this would enable people to express feelings about progress of change following the previous consultations, if they wished.

The transport-related questions covered the following areas:

- Forms of transportation used on a typical day;
- Importance of various transport-related issues (graded scale);
- Importance of solving transport problems at given locations, as a graded scale (several initially identified problem locations were listed with an option of “Other” as well);
- Opinion on best transport features of Geraldton;
- Opinion on various options to improve transport infrastructure (graded scale).

In order to cover a good cross section of the community, the survey was available on several online locations such as the City’s website, “YourView”, and social media.

The survey was live for 4 weeks and had 160 responses in both the electronic and hard copy forms. The full survey questions and responses, together with tabulations of responses, are detailed in the sections below.

An outline summary of some of the key issues in responses is given below.

### How important to you consider the following transport related issue for the City of Greater Geraldton?

In this question, 15 specific issues were listed, as well as “Other, please describe”. Each issue had between 153 and 159 responses indicating that nearly all respondents gave an opinion on each specific, listed issue. Also, the “Other, please describe” option had 17 responses.

The 15 specific issues were ticked as either “Very important”, “Fairly important”, “Important”, “Slightly important”, “Not at all important”, or “No opinion”.

A good summary indicator of important issues is the issues that attracted the response “Very important” from over 50% of responses. These were as follows:

- Traffic safety – 75%
- Pedestrian safety related to traffic – 71.4%
- Pedestrian safety related to personal security – 65%
- Cyclist safety related to traffic – 63.7%
- Public transport security – 52.5%
- Cyclist safety related to personal security, e.g. fear of crime – 50.9%.

Further details of the responses to all questions, including the “Other” responses, is enclosed in **Appendix B**

### How important is solving the transport problems at the following locations?

In this question, 9 specific locations were listed, as well as “Other, please specify”. Each location had 159 responses indicating that nearly all respondents gave an opinion on each specific, listed location. Also, the “Other, please specify” option had 31 responses.



The 9 specific locations were ticked as either “Very important”, “Fairly important”, “Important”, “Slightly important”, “Not at all important”, or “No opinion”.

A good summary indicator of important locations is those that attracted the response “Very important” from over 50% of responses. For this question, *none* of the locations attracted over 50% of responses to anyone single response option. The highest percentage for any location/response combination was the “No opinion” response to the Ainsworth Street location: 32.1% of respondents gave this answer to the importance of solving transport problems at this location.

Further details of the responses to all questions, including the “Other” responses, is enclosed in Appendix B

### Do you agree with the following options to improve transport infrastructure in the City of Greater Geraldton?

In this question, 21 specific improvement options were listed, as well as “Other, please specify”. Each issue had between 155 and 159 responses indicating that nearly all respondents gave an opinion on each specific, listed issue. Also, the “Other, please describe” option had 18 responses.

The 21 specific issues were ticked as either “Strongly agree”, “Slightly agree”, “Neither agree nor disagree”, “Slightly disagree” or “Strongly disagree”.

A good summary indicator of popular improvement options is those that attracted the response “Strongly agree” from over 50% of responses. These were as follows:

- Better/more pedestrian paths– 57.3%
- Better/more cycle paths – 56.7%
- Better/more cycle crossings over roads – 50.3%.

Further details of the responses to all questions, including the “Other” responses, is enclosed in Appendix B

## Community and Stakeholder Meetings

### Stakeholder Meeting

The stakeholder consultation workshop was for invited stakeholders only. Letters of invitation were sent to the following stakeholders:

- B&J Catalano;
- Cooperative Bulk Handling (CBH);
- Department of Planning;
- Department of Transport;
- Department of Education;
- Geraldton Airport;
- Geraldton Port Authority;
- Giacci Port Services;
- Main Roads Western Australia (MRWA);

- The Mid West Development Commission;
- Toll Ipec.
- Public Transport Authority;
- TransGeraldton Buses;
- Pirone's Sand Supplies Transport Services;
- Patience Bulk Haulage;
- RAC;
- WALGA – Road Wise Regional Road Safety Advisor, Mid West;
- WA Police;

The stakeholder consultation workshop included the following content:

- A PowerPoint presentation outlining the importance of the ITS and the process the City was undertaking for its preparation
- Participants marked red and green dots on a map, which linked to a table of comments, to illustrate:
  - Red dots: current issues on the transport network; together with any immediate and future plans to mitigate the issues;
  - Green dots: descriptions of successful initiatives already undertaken, why they were successful and how the success could be built upon.
- Opportunity for stakeholders to share their own strategies, projects or programs towards the development of transport networks;
- Opportunity for organisations to share and learn more regarding transport priorities and issues.

### Community Meeting

The community meeting was open to the public; in addition, several interest groups were sent an email inviting them to the community meetings.

- Country Women's Association (CWA);
- Drummonds Cove Progress Association;
- Go Gero representative ;
- Geraldton Harriers Club Inc;
- Geraldton Hospital;
- Geraldton Triathlon Club;
- Mendel/Wongoondy Progress Association;
- Mullewa Community Group;
- Pindar Progress Association;
- Rangeway Utakarra Karloo Progress Association;
- Revolutions Bike shop;

- School Drug Education and Road Aware (SDERA);
- Sunset Beach Community Group;
- School buses;
- Spokes Cycle Club;
- WA Country Health Service, Midwest;
- Waggrakine-Glenfield Progress Association;
- Walkaway Development Association;
- Wonthella Progress Association

The community consultation workshops included the following content:

- A Powerpoint presentation outlining the reasons for the ITS, the previous consultations (see above), the online survey responses in summary, areas for discussion and the desired outcomes;
- Participants marked red and green dots on a map, which linked to a table of comments, to illustrate:
  - Red dots: what parts of the transport network are NOT working well; together with description of the issue and, if desired, suggested actions to improve the issue;
  - Green dots: what parts of the transport network are working well; together with description of success, critical ingredients in the success, and how this success could be enhanced or built upon.

The responses from the stakeholders and the community are enclosed in **Appendix B**.

### Follow up to Consultations

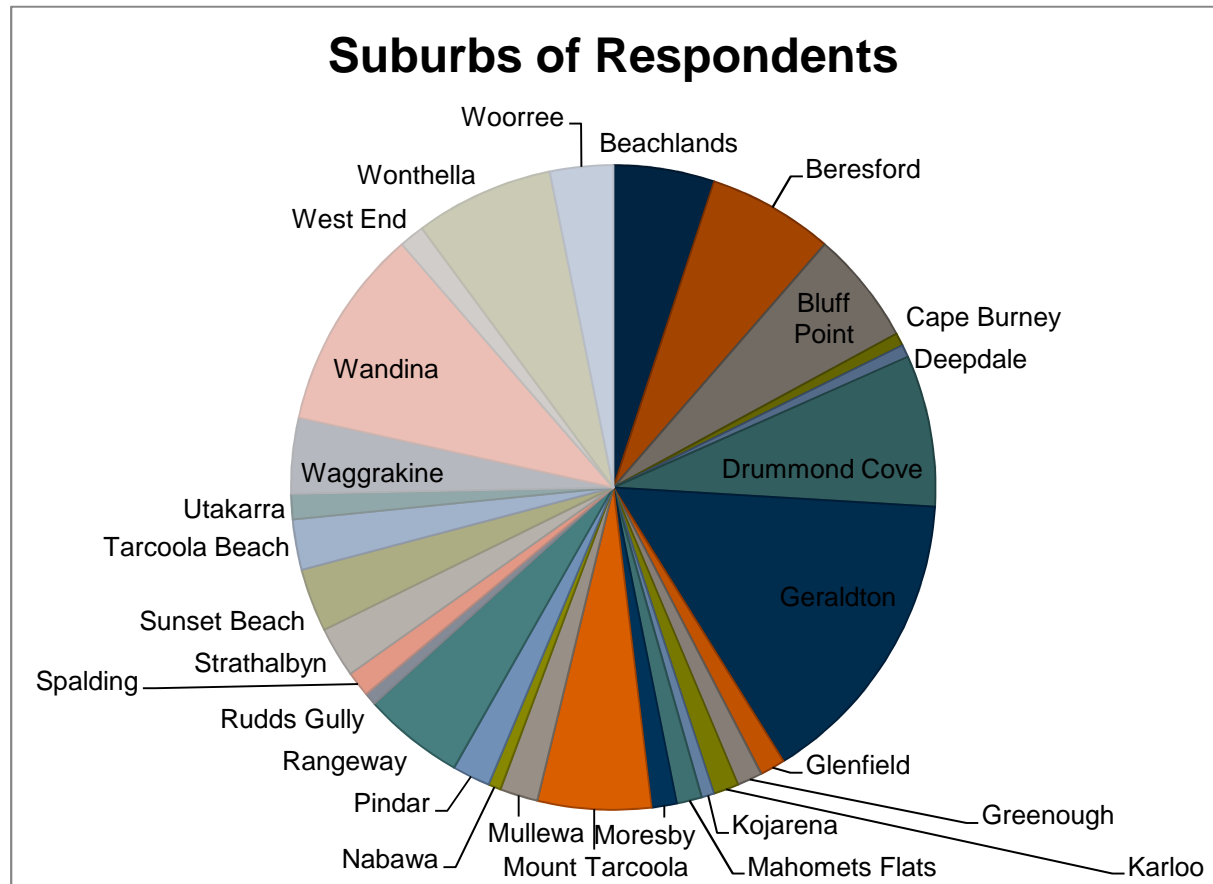
The consultation responses have contributed to the development of the ITS, where appropriate; generally, responses related to strategic issues have been accounted for in the ITS. Other requests/suggestions for improvements may be considered in other capital works programmes or maintenance programs.

### Further consultations – online polling and idea suggestion

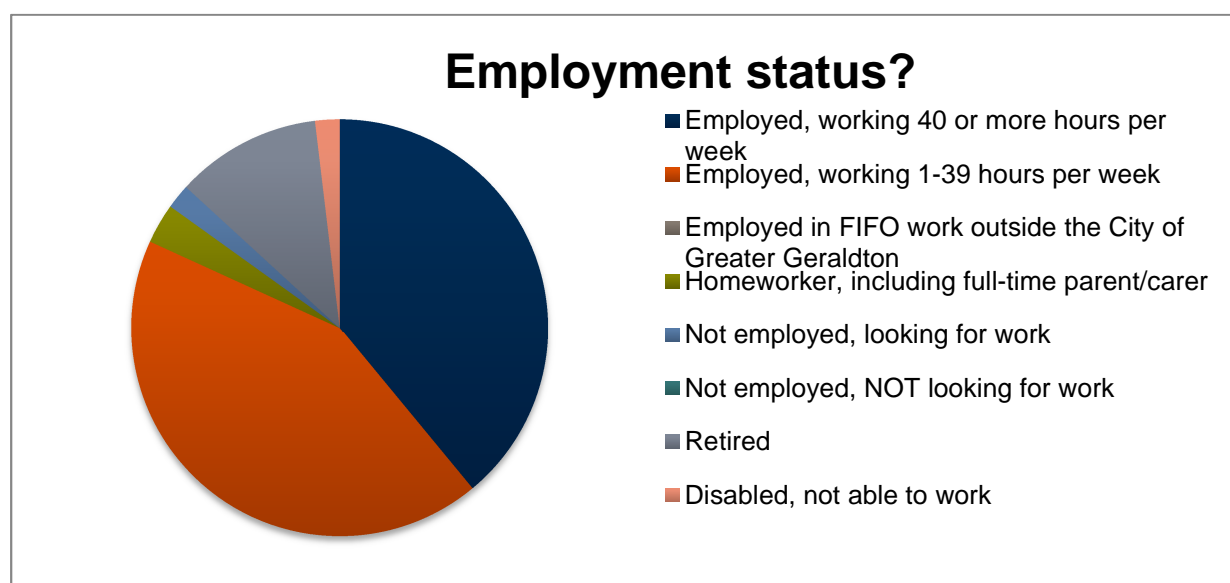
The City also offered residents a further chance to contribute to the Integrated Transport Strategy development by participating in the Your City Your Say online polling and idea suggestion (1 February – 28 February 2015). These online methods were around the safety of cycling, pedestrians and interaction with motorists in the City. The outcomes from both engagements will be utilised in the projects included in the ITS for future improvements to transport networks.

## Appendix B – ITS Survey Responses

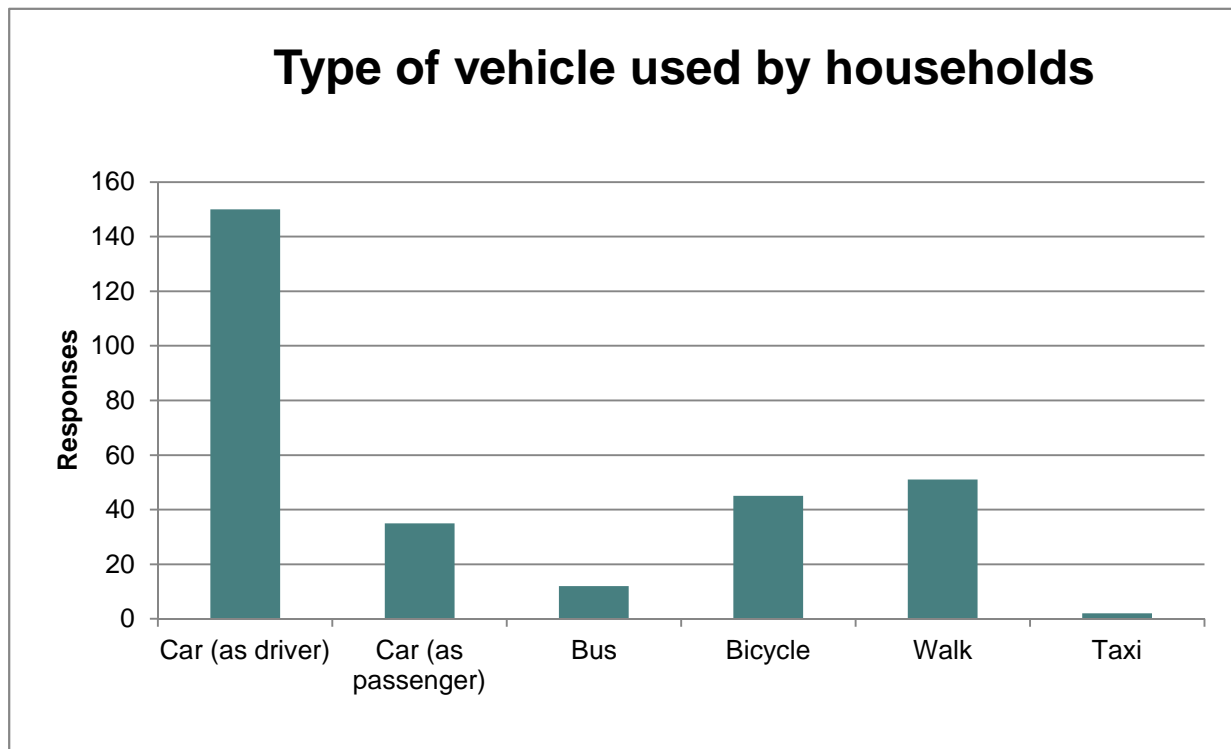
**Q1: What is the street address where you live?**



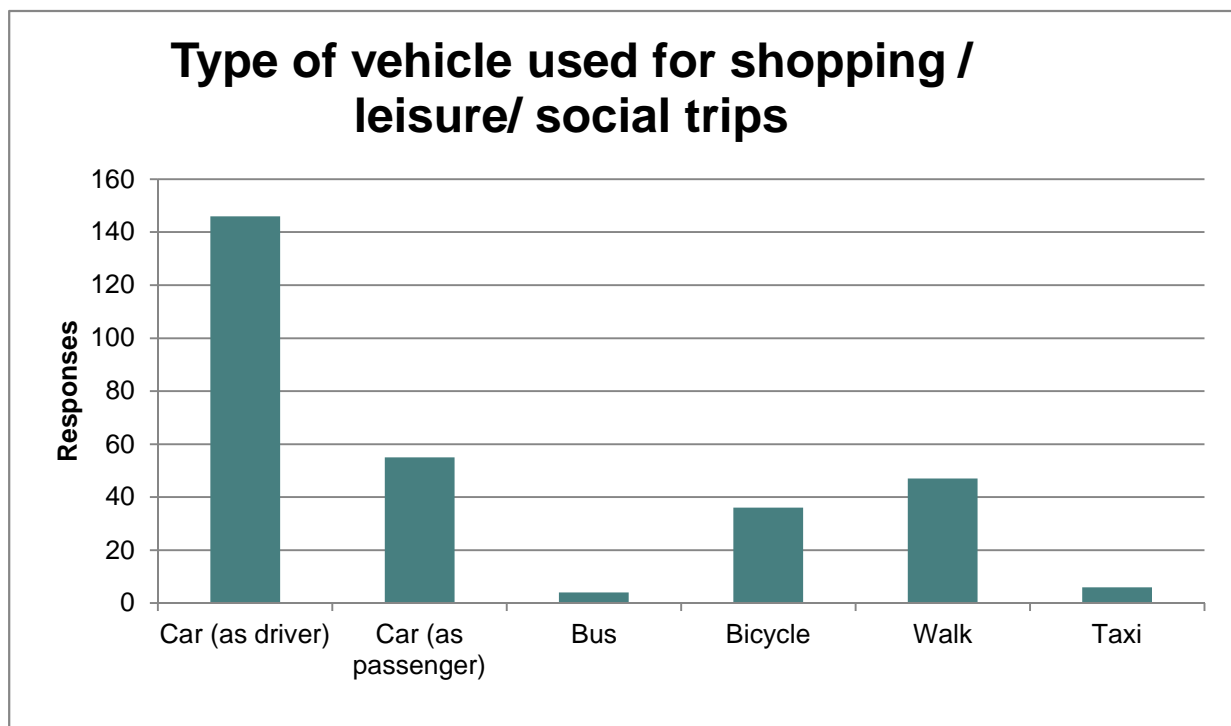
**Q2: Which of the following categories best describes your employment status?**



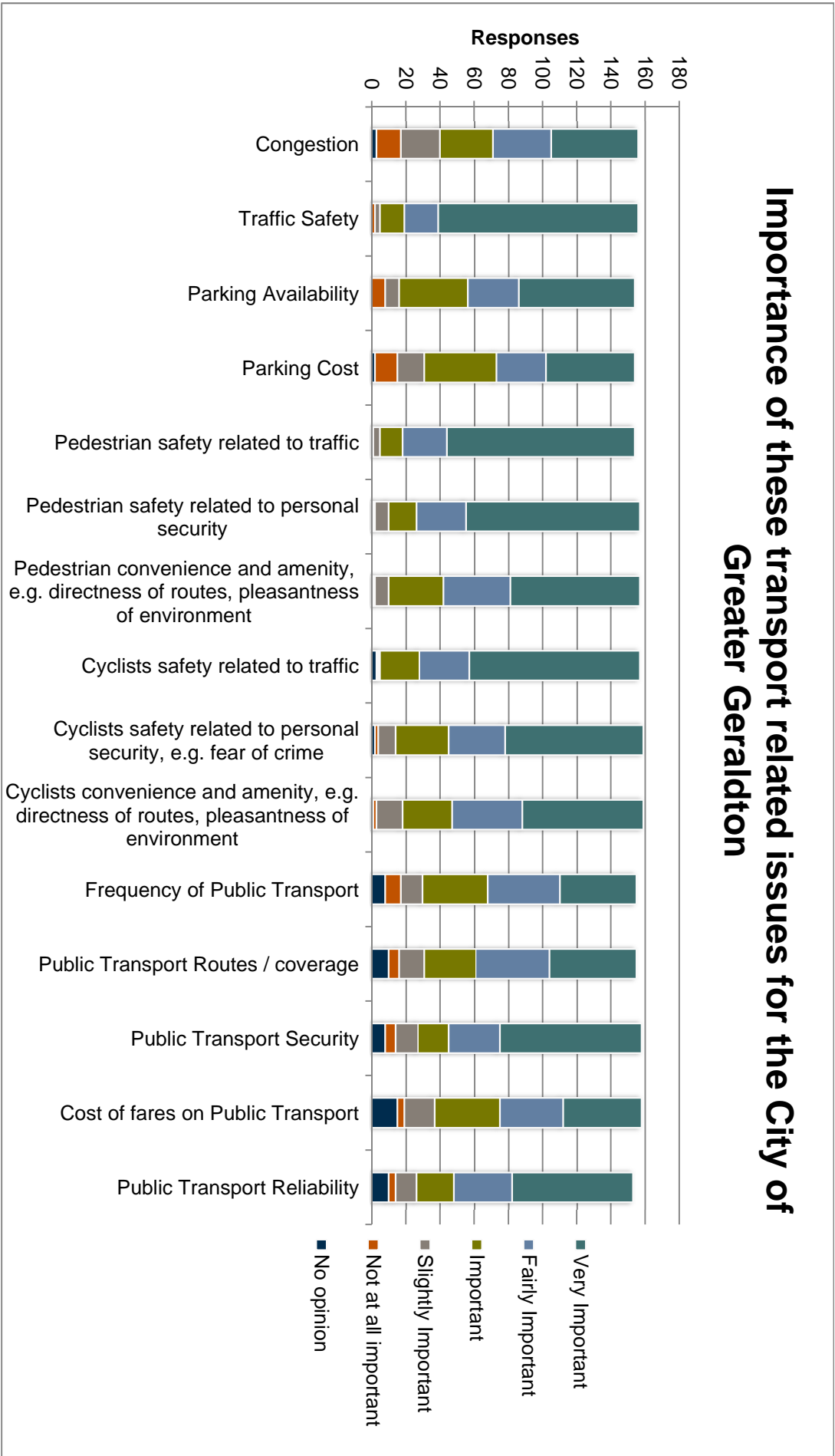
**Q4: In a typical day, which of the following forms of transportation does your household use? (Check all that apply)**



**Q5: Modes of transport used for shopping / leisure/social trips**



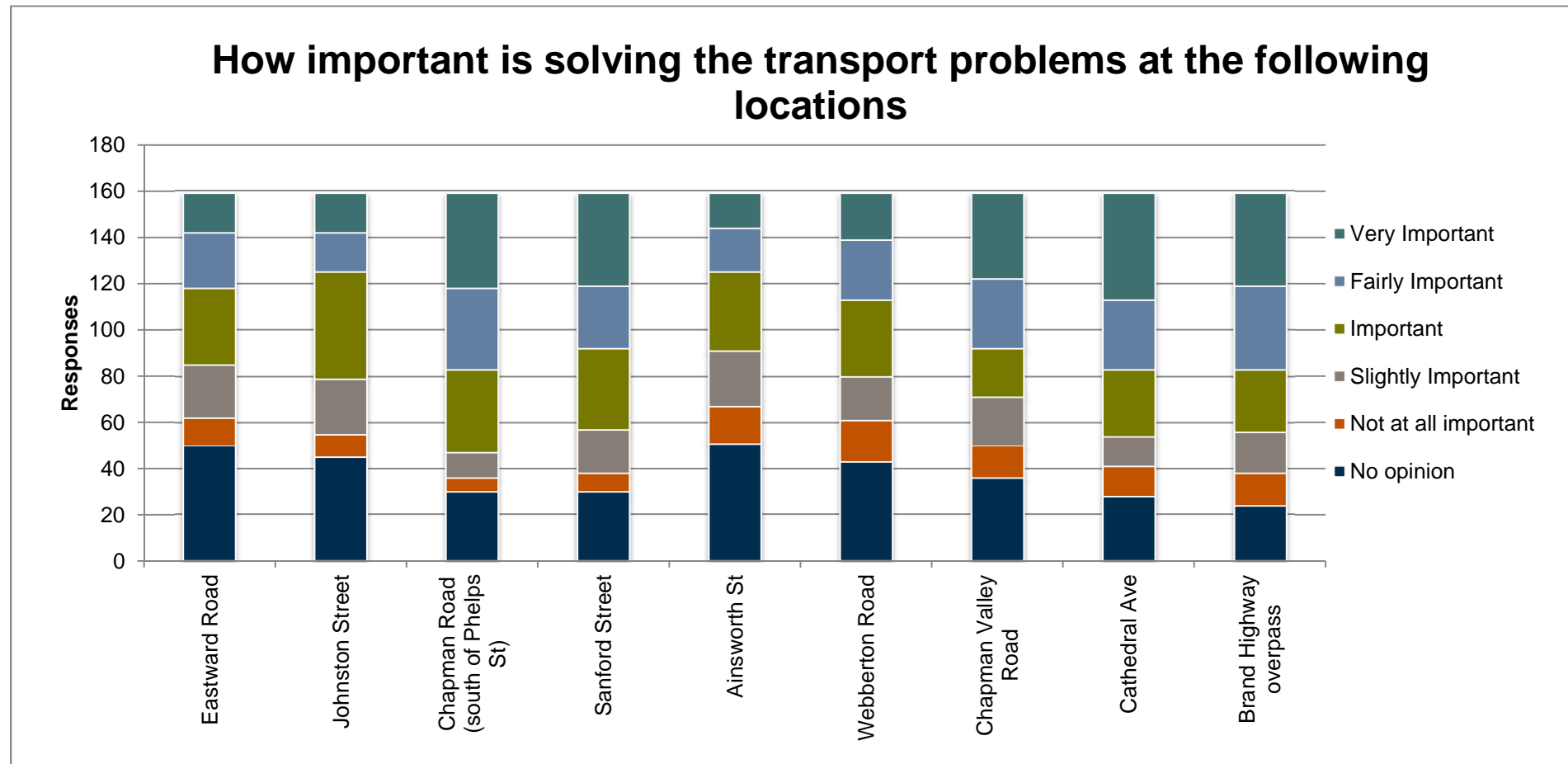
**Q6: How important to you consider the following transport related issue for the City of Greater Geraldton**



Q6:Other Comments
More Disabled parking in shopping centres and Marine Terrace.
If there were a number of locations where regular, say each half hour pick ups with some even more regular it would be good. Evening and late evening buses may attract usage .Runs to various beach locations. Perhaps smaller pick up buses to a more central point [say one doing Wandina another doing Tarcoola Bch and doing Mt Tarcoola all meeting at a brand H'way location to interchange with a larger direct express bus.
Flores Road/Eighth Street increased traffic (+hoons) since upgrade
all the broken glass on pathways
coverage to our area (Strathalbyn/Woorree)
Simplicity of these questions - very important
Good future street design and tighter regulations on poorly designed new housing developments that do not allow for good cycling and walking access.
Pedestrian access along Whitehill Rd North & Waterfront Circle West
Education for on road users for cyclists and motorcycle users
Cycle lanes in road way are very dangerous option
Broken glass on pathways
walk signs where traffic lights and give way to pedestrians signs`
Barrier semi-barrier Kerbing on roads; Stormwater pipework on roads
Cycle ways linking suburbs, a cycle way past the bicycle shop on NWCH and country routes along Hwy and major roads surrounding Geraldton to encourage longer rides of between 30 & 100km
Having public transport
Motorcyclists safety
More direct routes required from places like Drummond Cove to Strathalbyn School.



Q7: How important is solving the transport problems at the following locations



Q7: Other Comments
Cathedral Avenue roundabout speed or visibility needs review
Post Office
If there were a number of locations where regular, say each half hour pick ups with some even more regular it would be good. Evening and late evening buses may attract usage .Runs to various beach locations. Perhaps smaller pick up buses to a more central point [say one doing Wandina another doing Tarcoola Bch and doing Mt Tarcoola all meeting at a brand H'way location to interchange with a larger direct express bus.
Flores Road/Eighth Street increased traffic (+hoons) since upgrade
all the broken glass on pathways
coverage to our area (Strathalbyn/Woorree)
Simplicity of these questions - very important
Good future street design and tighter regulations on poorly designed new housing developments that do not allow for good cycling and walking access.
Pedestrian access along Whitehill Rd North & Waterfront Circle West
Education for on road users for cyclists and motorcycle users
Cycle lanes in road way are very dangerous option
Broken glass on pathways
walk signs where traffic lights and give way to pedestrian signs
Barrier semi-barrier Kerbing on roads; Stormwater pipework on roads
Cycle ways linking suburbs, a cycle way past the bicycle shop on NWCH and country routes along Hwy and major roads surrounding Geraldton to encourage longer rides of between 30 & 100km
Having public transport
Motorcyclists safety
More direct routes required from places like Drummond Cove to Strathalbyn School.

**Q8: What do you consider are the best transport features in The City of Greater Geraldton**

Cycling
There are some great foot paths & cycle paths off the road
travel on the few tree shaded streets .travel where bike and walking are convenient and safe Unfortunately not in ready supply. being able to leave intersections connecting Brand H'way [Glendening Rd] for example in one piece when a lot of the time it's pretty much a death threat that hidden away in the planning is a yet to be revealed plan to remove Chapman Rd from the status that it has assumed as being a prime growing/must have north to City Centre link. And in doing so taken a big step to returning Champion Bay/Beresford to having beaches once more. that there are enough people dealing with transport issues and some will see and act on the fact that the City Centre is only a half of what it will need to be. Try playing a game of footy on one half an oval with only one end to score on because the other half is under water. No wonder we have put our parks on our sand dunes and likewise our roads {try Chapman Road}
Cycle lane on part of Chapman Road, good locations of roundabouts.
The bike/walking path along Chapman rd and along the foreshore.
The walking/cycle paths although these need to be extended to cover all areas of each suburb. For problem areas, personal security when walking or cycling is a concern however.
Coastal cycleway/footpath
Coastal cycle / walk paths
Beach to river pathways
The continuous shared use (pedestrians & bikes) path from back beach round to Separation Point then to town and North to the Chapman River. Proximity to facilities, easy access to parking in town and minimal travel time to get anywhere.
Improved bicycle lanes - Would like to see these further improved and increased to link all of Geraldton
Starting to look at cycling and walking options as well as access & safety. That it is not just all for the vehicles as many people do not have vehicle access and therefore could easily become isolated.
Cycle paths
Cycle lanes and the cycleway along the foreshores.
Cycle and walk trail paths that are separate to vehicular traffic. Cycle lanes on roadside
Foreshore cycle path
The coastal shared path.
Bike paths but they need many more
Pathway along the foreshore
bike lanes
The foreshore shared use cycle paths. Need to be extended up to Drummonds and Cape Burney. There are currently big gaps in the cycle paths around town. Prefer shared use pavements as less threat from traffic.
Cycle paths
improved cycleways

connecting dual access pathways linking parts of the City with safe alternative travel routes (i.e. Tarcoola Beach links with Bluff Point via dual access via foreshore)
Bikepaths
Safe roads Cycle paths
The cycle paths are great around the foreshore
Coastal cycle paths are great. Traffic is always moving, never stuck in a jam!
Some lovely bike trails, particularly along the beachfront. Need more cycling infrastructure for commuting cycling, rather than just leisure.
Cycleways
Footpath from bluff point to town
Bike paths. Not much traffic.
The cycle/paths along the foreshore
the cycle paths and lanes are a great addition
Cyclist's paths around the city. Safety between them and general traffic.
foreshore paths
the main access roads around the town and the cycle path along the foreshore.
footpaths
Walkways along the foreshore from the West End to Bluff point
The amount of footpaths in Geraldton's City Centre for cyclists/walking
Cycle paths
The Foreshore for cycling is quite amazing as it's pretty flat from the Silos to Bluff Point, with incredible views...!!
Increasing cycle ways. High quality links (ie. foreshore pathways). City Centre is condensed so you can park on outskirts and easily walk all the way through. Plentiful parking (the only times I have issues parking is when an event is on and it is to be expected). Minimal congestion.
My car and my legs. Not relying on anyone.
INSTALLATION OF BIKE PATHS THROUGHOUT THE CITY
Pathways for cyclists and pedestrians
bike paths
Not the taxis, some cycle paths are good.
cycle walk way from bluff point to Tarcoola beach
That more cycle paths are being made along the beach into town.
Bicycle Path
DUP along Chapman Road
Foreshore bike path!
The bike paths and bike parking
Beginning to develop a good cycle path network. Dual use paths in most areas for walking

Bicycle lanes
Bicycle and Footpaths running along the Geraldton beach front.
flat town, fairly small, great for cycling
The move towards accommodating the huge increase in cyclist with improving cycleways and cycle lanes.
Parking
Free City Centre parking
Ample parking.
The free car park in the centre of town.
free parking
ability to park
Pram parking spaces for ease of shopping with children
Parking is quite good in the City now - never have to worry about getting a park with the PTA land opened up
Public transport
Good public transport system
Buses are kept clean
most are fairly basic at best - a lot of work needs to be done to even get close to acceptable
The Bus service for those who do not drive
STC, regular bus service
Inner city bus stops are at convenient locations.
Bus Service is really good for those that do not have transport, school runs in the mornings and afternoons.
Regular Buses
The new bus bays on Chapman Rd adjacent to Northgate.
The school buses are reliable and the service runs smoothly.
Traffic
No congestion.
The transport corridor, traffic flows without many lights. Heaps of room and great bike lanes. Brand Hwy and NWC Hwy could do with the same features
The Great Northern Highway strategic plan for traffic flow
Brand Highway overpass
strategically placed traffic lights and, especially, roundabouts
minimal traffic
Foreshore parking & traffic flow are excellent. Chapman Road flows well. Drivers are courteous.
The Bypass

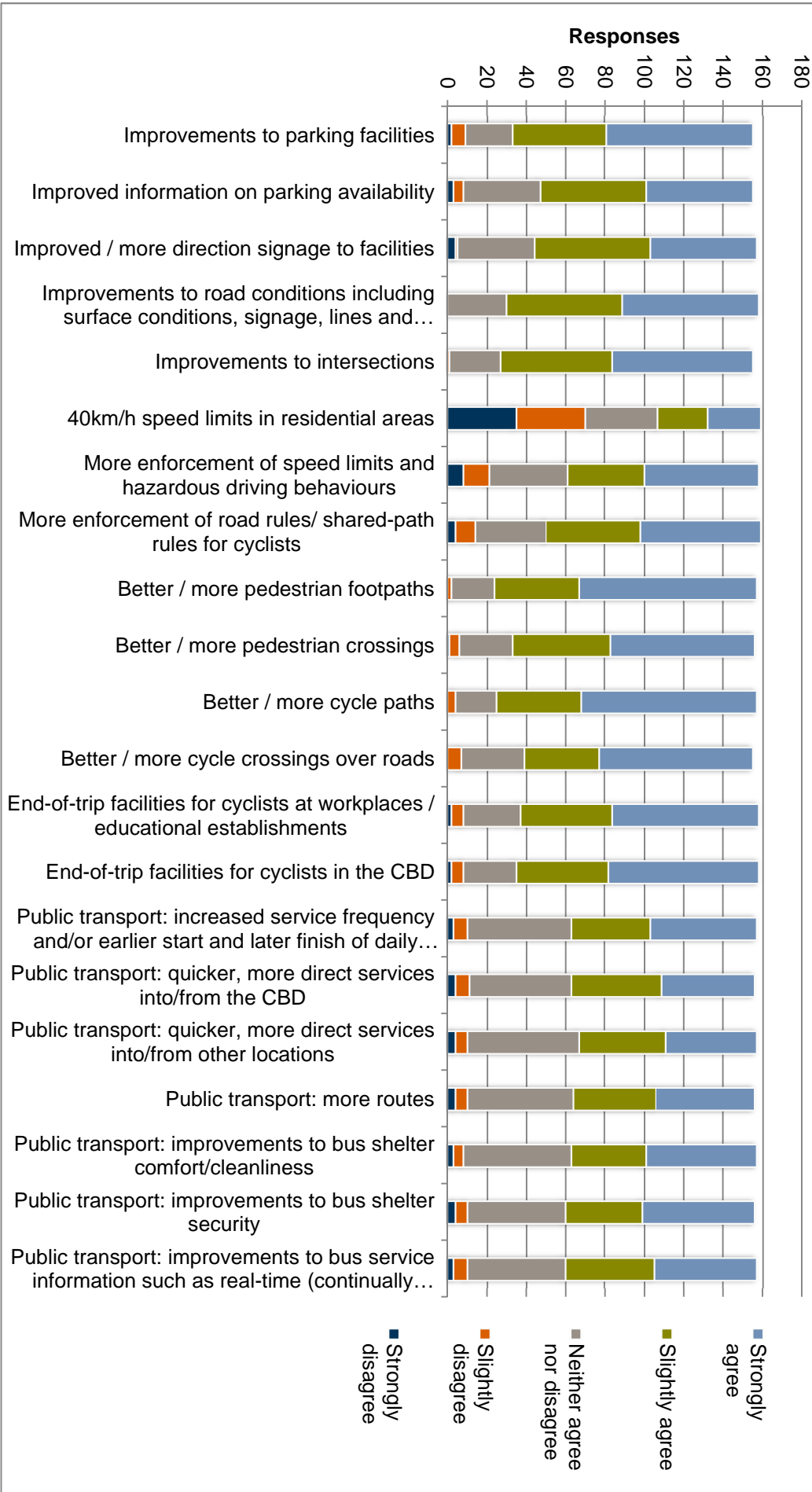
Wide roads with safe cycle options
The amount of traffic lights.
Smooth and wide enough roads.
Southern transport corridor
Roundabouts
Private Vehicle
Relatively free flowing up to now Little time lost in travel even at peak times
Don't use public transport but city streets are quite wide car spaces seem generous in places
the wide streets
Southern Transport Corridor and Overpass
Overpass
Roundabouts - larger ones and the Place road roads
Direct routes
Traffic Lights and Roundabouts
ease of accessibility
Traffic lights,
ease of access to city
Roundabouts.
Roundabouts
Bypass rd from airport and around Geraldton
Brand highway Over pass
New Transport Link - 70km zone
Flores road intersection
driving
Not much traffic on the road....Easy flow of traffic
Reasonably close to everything.
recent major road works i.e. Place & Flores and Verita etc
central
There are hardly ever any traffic delays in Geraldton compared to where I have lived before.
proximity to town and activities
Foreshore Drive
The lights at the Flores Road/Place Road intersection.
CAR
Limited congestion
new upgrade on Place Rd

Minimal traffic.
overpass
Other
flashing 40km zone signs at the schools.
Road network is adequate. Severely lacking in bike and pedestrian access from outer suburbs.
The city is only small so everything is within a reasonable distance (if you own and use a car)
Short distances to travel
Close proximity of town and services from residential areas - maximum 10 minute trip by car
No feature, service is rudimentary at best.
In a car centric society we are still able to get a park not too far from Stirling and Northgate Shopping Centres on most days
There are problems with the current transport system in Geraldton that need to be fixed before more serious accidents occur.
proximity to destination
Geraldton city or Geraldton Shire, it seems so far this survey is only about where majority of population live.
The recent addition of lanes in some places
It usually takes five minutes to get to your destination by driving.



**Q9: Do you agree with the following options to improve transport infrastructure in the City of Greater Geraldton?**

**Improvements to transport infrastructure**



Q9: Other Comments
crosswalk/lights at 5th street shopping centre/speed signs
I don't use public Transport
Bus timetable displayed at each bus stop
Simplicity of these questions - very important
Consideration for increasing number of Gophers used by the elderly.
being a keen cyclist I rate the above highly
Bus Stops on Chapman Road opposite Northgate are unsafe due to having to cross the road to catch a bus where there is a high volume of traffic
cycle ways that are currently used, to be improved to encourage riders to use and not others.ie keeping them in certain areas making motorist aware the more likely places they will come up against cyclist.
School areas need flashing amber lights or something to remind people to slow down
40 km school time zones to have clear markings on road ie Durlacher street
school bus runs in the mornings need to be made more accessible to community members that are not allowed to use the service
The free parking on PTA land at the Foreshore (opposite the Library) has been well used and is awesome, never to have to worry about finding a spot...! Please keep it... INTERSECTIONS = please fix the pedestrian lights at Chapman/Durlacher so that all pedestrian directions come green at the same time once both car directions have had a go.
Insufficient information
Replace big buses and double or triple smaller services.
USE OF ZEBRA CROSSINGS WHERE CHILDREN CROSS ON THE WAY TO/FROM SCHOOL, NO NECESSARY WITH LOLLIPOP CROSSINGS BUT IN PLACES LIKE GLENVIEW ST, FORDEN ROAD FOR MT TARCOOLA
sms coded bus schedules on post like Perth
we need more footpaths

Q10: Do you have any other comments?
At times dangerous overcrowding, what of future expansion.
If you increase smaller bus services there is more local employment.
Please look at increasing disability parking in all areas and enforce and prosecute those that have invalid or forged tickets PLEASE.
Need more Senior and Disability parking.
Pleased this survey is being done.
There is not enough parking around Northgate Shopping Centre. I am the only home on View Street that look after the verge lawn. I myself cannot park outside my home because everyone else likes to park there. If i had to call an ambulance for my sick husband they would not have anywhere to park on a busy day. This problem needs addressing.
It would great to have a 40 or 50km sign on Green St and probably other streets running off the highway. Some people drive at very high speeds along this long street. A foot /bike path from Spalding area along NWC Highway to the home maker centre linking this part of town with the retail area.
Current bus services are not provided at each school. Child safety is of concern when students have to walk some distance, often unaccompanied, to reach their bus or school. Some parents don't allow their children to utilise the bus service due to these safety concerns.
Smaller public buses, more often with more routes inc., evening services and inter connecting recreation/sport locations/hospitals/ cafes consider lack of amenity in residential locations. Why spend in town/ City Centre when commuters loose time and money on fuel or fares. No wonder people stay at home with take away /home entertainment technologies and parking fees, on top of a busy day. Time for small bars/coffee/open tree and shelter community space. Places people can meet casually, they could stroll bike or such. Not another 'shopping ctr., please. clearly a well planned series of cluster locations that people can get to on foot is ideal. The City Centre has a vital role but is not the answer to more basic community needs. If we want a regional location that ticks we need to get the people out of houses and out of cars and buses for that matter. We need to get them mixing, talking and sharing ideas and experiences. This will not happen in the City Centre alone. Community needs to be fostered not just at special events at City Centre and sporting locations but at and around locations that are a stroll away, a few shops opening onto an 'open space' for small or slightly larger get togethers. .we do not have to model ourselves on other locations. Buses any day over car parks.. .bring in 'clipper type runs' Try some one locality pick up points at cheaper rates-encourage people out of habit. Get sponsorship/lusky tickets and so on. Don't encourage cars into City Centre, make it easier to park outside a given location .where money is to be spent to encourage use, ask is there another way. Is fear the deterrent or is it 'cost' or perhaps an irregular poorly run service. OPEN UP THE TRANSPORT BUSINESS OP PEOPLE TO SMALLER LOW COST OPERATIONS. TRY MINI/SMALL BUSES 6/12 18 AND SIMILAR It makes no sense to have operators on fixed rates driving super sized buses with a handful of people at best being customers. Clearly a wasteful service where the operator gets a price regardless Open up the business to people who will do lots of runs in smaller buses much more often .But ask can't business also happen in the location where people live.
Good to see community involvement taking place -congratulations to everyone
Every time I drive down Chapman Road around Durlacher Street I wonder how the city centre is going to cope with a population of 100,000.
I'm a cyclist so i would like to see improvements for cyclists and more education directed at drivers who don't treat cyclists with the same respect as other road users. A big concern is drivers cutting cyclists off as they make left hand turns. Thanks for the opportunity to provide comment
Busy traffic on NWCH & Chapman Road - a new road with more lanes is needed. I live in Spalding Street & sometimes it takes ages to get out of Dean Street to go onto NWCH or Chapman Rd.
I think if we recycled bottles it would go a long way to ending the incredible amount of broken glass on pathways
30 minute service frequency on all bus routes
Cycle/footpaths that do not just run out. For example on the Highway in front of the Super works, and in the other direction, 200m shy of the cycle shop. There are a great many roads in Geraldton that are wide enough for cycle lanes to be marked, but none are.

Q10: Do you have any other comments?
<p>Chapman Rd/ Bayly st lights are always a cause for concern. A give way to turn north onto Chapman rd when coming from marina side of Bayly st would help as would stopping vehicles from being able to turn North at the same time coming from East and West sides of Bayly st at the same time</p>
<p>I'm not certain what are you trying to learn and this survey has a lot of duplicated questions. Please keep it simple if you're seeking cc (constructive comments).</p>
<p>Unsure what you mean by "more enforcement of road rules/shared path rules for cyclists" - we need more shared paths and pedestrians and cyclists alike should not be plugged into headphones - as a walker/runner/cyclist it is frustrating when warning is given (either by bell or calling out) and other path users do not hear due to use of earphones etc. As a cyclist who observes the road rules (including stopping at lights, etc) I find it dangerous riding in Geraldton due to poor driver behaviour. I give way to the right on roundabouts yet many vehicles do not - I have been knocked off my bike on the Cathedral Avenue roundabout by a car that not only did not slow down coming into the intersection but did not even look to the right (when I was already on the roundabout after waiting until there was no traffic coming from my right or straight ahead). I am lucky that quick reflexes and vehicle awareness prevented me from death or injury - I jumped off the bike after swerving to the middle of the roundabout, as the vehicle hit my bike and it was sent airborne and crashing to the road. Dedicated bike lanes should not suddenly end with no option but to ride in traffic or to have to resort to the (pedestrian) footpath e.g Chapman Rd heading west, near the carwash. Bike lanes should be standard width (not get narrower when traffic islands appear - again, Chapman Rd, heading north..) Chapman Rd in town (Cathedral Ave to the police station) needs to be either clearly designated as two lanes in each direction or clearly marked with a bike lane and a single lane for cars. The Phelps St roundabout needs to be improved . It is poorly designed.</p>
<p>I do not believe that cyclists and drivers can share the road. The cyclists need to be separated in order to ensure their safety - at least until cyclist have right of way over drivers that is.</p>
<p>I think that the City deserves credit for being proactive in access &amp; safety in transport. We have an aging population and everyone is entitled to an affordable and safe transport infrastructure.</p>
<p>Several upgrades in the City Centre have been noticed but it is cosmetic the same hazards exist and Western Power need to put all services underground as the current poles in the City Centre are far too close to roadways and interfere with pedestrian walkways</p>
<p>More cycle paths</p>
<p>The bus service in Geraldton is difficult to use. It is not obvious as where one may be able to obtain timetables. This include the buses that service the schools as well. Also if you go somewhere on the weekend by bus most times there are no buses for the return trip.</p>
<p>Overall - Geraldton is improving constantly and working hard to achieve an amicable town for all residents / visitors</p>
<p>vegetation within the City is a hazard, Trees on the Brand heading toward Ackland Rd in my opinion is getting dangerous and in need of either pruned or removed. You would think that with all the mowing of the verges along this strip something could be done.</p>
<p>Foreshore Drive near Dome should be two way and reduced to 40km/h to increase pedestrian safety. With one way at current it seems to encourage drivers to continually loop around Marine Tce to keep looking for parking spaces.</p>
<p>Biggest issue I have is state of roads - always littered with glass etc. Not good for bikes. Also abrupt termination of cycle lanes at intersections eg: roundabout at Chapman Rd /Phelps St Regularly yelled at by drivers to "stay in the bike lane" but there isn't one through roundabout! Also speed humps in road in front of dome are really "higgledy piggledy" and not good for cyclists.</p>
<p>Highway bisects Geraldton. Over or underpasses for cyclists and walkers would be an advantage to those fearful of crossing.</p>
<p>More enforcement of unsocial behaviour - the amount of broken glass on footpaths and cycle paths around Geraldton is appalling.</p>
<p>Integrated transport systems.... include recreational use of natural areas? MTB/walking trails Chapman and Greenough Rivers? Need for improved signage in natural reserves to improve safety and amenity.</p>

Q10: Do you have any other comments?
Parking meters for Stirling's and the post office should have first 1 hour free - this entitles paying customers for Stirling's and the post office to park there on a short time basis but prevents people parking there all day without paying.
Public transport is good, quick, efficient but needs more frequency
Need a high speed route north/south (80km) with limited egress to specified areas. eg Flores Rd Rubbish tip. Heavy vehicle by-pass of city through Moonyoonooka to encourage trucks to bypass but also tourists to enter the city. Open Foreshore Dve past Dome to 2 way traffic!
Drivers need to be educated on having some respect for cyclists and cyclists who ride abreast across the road should be charged with a traffic offense.
Several bus stops on Ackland Road pose a challenge to potential bus passengers. The large limestone blocks can only be navigated by going onto the road. No shelter or seating provided - 'very inviting' for those waiting for a bus!!
we have over 50 gophers in Geraldton unfortunately our biggest problem is the amount of broken glass on the footpaths and there surrounds every flat tyre is approximately \$60 each puncture
If Geraldton does ever get a population of over 40,000 we will be grid locked.
I see empty buses drive past my home continuously every day. Maybe this is not a good route for them?
Bus stops in Rangeway need to be made safer, more sheltered. Bus' need to be more frequent from Riffle-range road - if the bus available there more often more people would use the service.
I would like to see more FREE Parking in the City Centre around Stirling's shopping centre for everyone who makes the money to support the centre and Geraldton.
New privately developed sub-divisions should include, at developer's cost, sound traffic control measures so that as they fill up with residential properties, movement through them is well controlled, includes formal cross-walks, traffic calming, street parking offsets and where the sub-division feeds into major traffic arteries, roundabouts or traffic lights.
Sometimes less is more. Downgrading a poorly designed or narrow dual carriageway in a network to a more functional and/or restricted single lane carriageway within a network may lead to higher efficiency
Geraldton needs to become a "accredited cycle friendly city" like Albany
Remember CGG is a RURAL city and needs to accommodate for rural people not just people living in the city! Parking close to shopping facilities is important for us, especially when we often are doing our shopping with young children. Also no mention of toilets available for us in the town to use.
Introduce smaller buses on a more frequent timetable instead of big empty buses.
Additional school buses on Route 851 from Grammar School with earlier afternoon departure time (students shouldn't have to wait 40 minutes to catch a bus home.
All parking should be free for the first 10 minutes
CGG needs to focus on increasing bicycle and walking traffic by improving facilities and amenity ie shady walks (more tree planting, not man made shelters) etc
Reduce truck noise in residential areas. It's a big issue when you live beside the NWCH, and signage is not helping! Truck activity needs to be policed regularly to get them to comply with rules.
In need of a footpath along Winnetta Ridge Wandina
Marine terrace section between cathedral & Durlacher should be a mall and parking should be addressed before it becomes a major issue.
City has done a great job with foreshore development over last 10 years (come a long way). Turning into pretty City
It would all be about the demand to supply such things, if the city is sending busses out for one or two people there is no point and cost are not getting covered.
Durlacher St intersections are hell - coming out of St Francis and next to Queens IGA

Q10: Do you have any other comments?
The footpaths in West End especially along Augustus St from Cunningham St towards Beachlands, are unsafe and in need of urgent upgrade.
More parking for caravans and recreational vehicles or directions where tourists can park as they tend to avoid the city due to parking and access issues.
If everything is important to a person then the survey is flawed. The question should be ranked in order of importance.
Great to see the free parking zone in the City Centre, there should be more of them.
This survey does not cater for moped riders. There is a growing number of scooter riders in Geraldton, particularly young people
Public transport is an UNKNOWN fact in Geraldton, not visible, not early enough, not late enough out of the City Centre, busses are TOO BIG, should be a lot more of the 20 seaters, more agile at corners and plenty enough seats for the 4 users of busses in Geraldton (as long as the times are so awkward to use and understand) Getting on the other side of NWCH from the Wonthella street, with a bicycle is hard at peak hours.
It would be sad to see additional funds invested in more parking in the City Centre at the expense of securing and upgrading pedestrian links. We should be encouraging our community to walk within our City Centre to make it a healthier and more vibrant place! Communicate to shop owners that passing trade is more likely to stop and peruse their store if they are on their feet, not in their vehicles.
Keep clear signs painted on roadway in front of shopping centre entrances and off roads and roundabouts. Tougher penalties for dangerous drivers.
I THINK THAT GERALDTON REALLY NEEDS TO START MAKING PLANS FOR THE INCREASING POPULATION AND TRAFFIC WITHIN THE CITY - PARTICULARLY THE HEAVY VEHICLES THAT PASS THROUGH THE CITY AND SEEM TO NOT ADHERE TO SPEED LIMITS OR HAVE AN AWARENESS OF OTHER ROAD USERS, LOCAL RESIDENTS AND PEDESTRIANS. I THOUGHT THERE WAS A PLAN IN PLACE TO HAVE THESE VEHICLES DIVERTED AROUND THE CITY BUT THIS DOESN'T SEEM TO BE HAPPENING.
You should have included motorcycle, our household has 2 of them.
more native verge trees along foot paths away from power lines
I have not ever used public transport in Geraldton and would not feel inclined to do so. Prefer to drive or cycle. Could not rely on public transport due to suspected unreliability and not knowing the routes in Geraldton.
Geraldton do not have population to support public transport. Bicycle maybe is the best option for sustainable transport option for Geraldton
More dual use footpaths need to be created for cycle and walk with footpaths easily connecting to another (pass st and rifle range rd do not connect making it difficult to cross with young riders). Need to locate schools out of City Centre to ease congestion in morning and afternoon or encourage park/walk points to keep a flow of traffic in both directions.
With Drummond Cove growing at such speed, surely there could be a cycle path that links in with Sunset Beach so that people who want to cycle into town can do so safely. Both roads heading into town are 90km's and 110km's. Not safe for cyclists.
Chapman road should be a 40km/h, two way, pedestrian / cyclist oriented road from Cathedral Ave to AT LEAST Forrest Street. There should be increased pedestrian crossing locations, shade tree plantings and wider / improved footpaths. Similar to Albany Highway in Victoria Park - dropping the speed limit from 60 to 40km/h massively reduced congestion there and the road still moves large amounts of traffic. Its worth noting that Geraldton's traffic is not that bad and widening roads, increasing road capacity is only a short term solution and long term it makes our urban environment worse.
Speed bumps in built up areas especially Ocean Queen Drive before someone is killed by Hoons!!!!
I have never used public transport so I cannot comment. I was speaking to someone who said they would be more inclined to ride their bike if there was a covered area in the city centre to protect it. I feel this could be another excuse, but perhaps it is something you are considering anyway.



**Q10: Do you have any other comments?**

Make the city more bike friendly and better lanes for cyclists.

It is frustrating that there is always broken bottles on the foot and cycle paths. It forces people on bikes to use the road which isn't always safe. It would be great to see a cycle lane along the highway section between sunset and Rangeway particularly on the south lane or a cycle path parallel to the highway in that area.

Please put a cycle path from Bellimos to McDermott in Wandina along Brand Highway. It is a dangerous section as the shoulder becomes quite narrow and there a lots of road trains and fast vehicles there. I also find it annoying that there are several roads in Geraldton that don't join up eg. Eighth St, Railway St, Durlacher St, Brede St. Makes it difficult to find addresses as you go down the wrong side of the street - they should be called different names. Also BIGGEST ISSUE is mobile speed cameras hiding behind bushes - as speed cameras are INTENDED for traffic safety NOT revenue raising, the cameras should be clearly signed and visible with a warning for drivers - this would advise drivers that the particular area is a concern for speeding and remind them of this.

## Appendix C – Future Road Schemes

Planned Road Schemes included in the GSTLUM and the expected timeframe.

GSTLUM Model Year	Expected Opening Year	Road Name	From	To
2016	2015	Verita Road	Columbus Boulevard	Highbury Street
		Proposed North-South Karloo Connector	Ackland Road	Abraham Street
		Columbus Boulevard Extension	Verita Road	Eastern Boundary of Lot 9
	2016	Streetscape Chapman Road	North of Durlacher Street	Cathedral Avenue
	2016	Streetscape Cathedral Avenue	Chapman Road	Brand Highway
2021		Verita Road	Highbury Street	Durlacher Street
		East-West Connector Road	Highbury Street	Horwood Road
		Eastward Road	Abraham Street	Blencowe Road
	2017	Geraldton North-South Highway - Inner Bypass phase 1	Brand Highway	Geraldton Southern Transport Corridor
	2018	Northwest Coastal Highway: Uta Karra Road to Green Street	Uta Karra Road	South of Eighth Street
	2018	Northwest Coastal Highway: Uta Karra Road to Green Street	South of Eighth Street	Homemaker Centre Access
	2018	Northwest Coastal Highway: Uta Karra Road to Green Street	Homemaker Centre Access	Webborton Road
	2018	Northwest Coastal Highway: Uta Karra Road to Green Street	Webborton Road	Green Street
	2018	Rest of Northwest Coastal Highway	Geraldton Southern Transport Corridor	Chapman Valley Road
	2019	Moonyoonooka -Yuna Road upgrade (Outer Bypass)	Geraldton Mount Magnet Road	East Chapman Road
2026		Place Road	Moresby	Northwest Coastal Highway
2031		Geraldton North-South Highway - Inner Bypass phase 2	Geraldton Southern Transport Corridor	Northwest Coastal Highway

## Appendix D – Crash Statistics Data

Rank	Int. No	Street 1	Street 2	Street 3	Road Class	Authority	Freq	Cost
670	13487	NWCH	PLACE RD		S / L	CGG	33	\$1,840,370
908	2098	NWCH	EASTWARD RD		S / L	CGG	25	\$1,007,002
1002	21782	CHAPMAN RD	DURLACHER ST		L / L	CGG	22	\$1,188,479
1002	13483	NWCH	PHELPS ST		S / L	CGG	22	\$884,662
1114	13500	NWCH	HOSKEN ST		S / L	CGG	19	\$864,422
1114	21855	CATHEDRAL AV	MAITLAND ST		L / L	CGG	19	\$580,379
1366	21854	CATHEDRAL AV	SANFORD ST		L / L	CGG	15	\$745,923
1366	21786	CHAPMAN RD	BAYLY ST		L / L	CGG	15	\$638,407
1366	2163	NWCH	UTAKARRA RD		S / L	CGG	15	\$534,287
1443	13507	UTAKARRA RD	BLENCOWE RD		L / L	CGG	14	\$673,164
1443	119689	BREDE ST	WALDECK ST		L / L	CGG	14	\$448,333
1525	21783	CHAPMAN RD	FORREST ST		L / L	CGG	13	\$548,839
1525	21959	FLORES RD	PLACE RD		L / L	CGG	13	\$534,039
1622	21998	PLACE RD	CENTRAL RD		L / L	CGG	12	\$636,200
1726	21780	CHAPMAN RD	CATHEDRAL AV		L / L	CGG	11	\$876,458
1726	13478	BRAND HWY	BROADHEAD AV		S / L	CGG	11	\$565,722
1726	143608	PLACE RD	FLORES RD		L / L	CGG	11	\$423,333
1726	2044	CHAPMAN RD	BOSLEY ST	CHAPMAN VALLEY	L / L	CGG	11	\$385,389
1840	13488	NWCH	MARK ST		S / L	CGG	10	\$500,986
1840	13482	BRAND HWY	ACKLAND RD		S / L	CGG	10	\$449,956

# Figures

**Figure 1: Location**

**Figure 2: City of Greater Geraldton**

**Figure 3: Residential Development Strategy for 100,000 (LPS)**

**Figure 4: Commercial Activity Centres Strategy for 100,000 (LPS)**

**Figure 5: Current Pathways**

**Figure 6: Future Shared Use Pathways**

**Figure 7: Current Public Transport Networks**

**Figure 8: Heavy Vehicle Network Map (MRWA)**

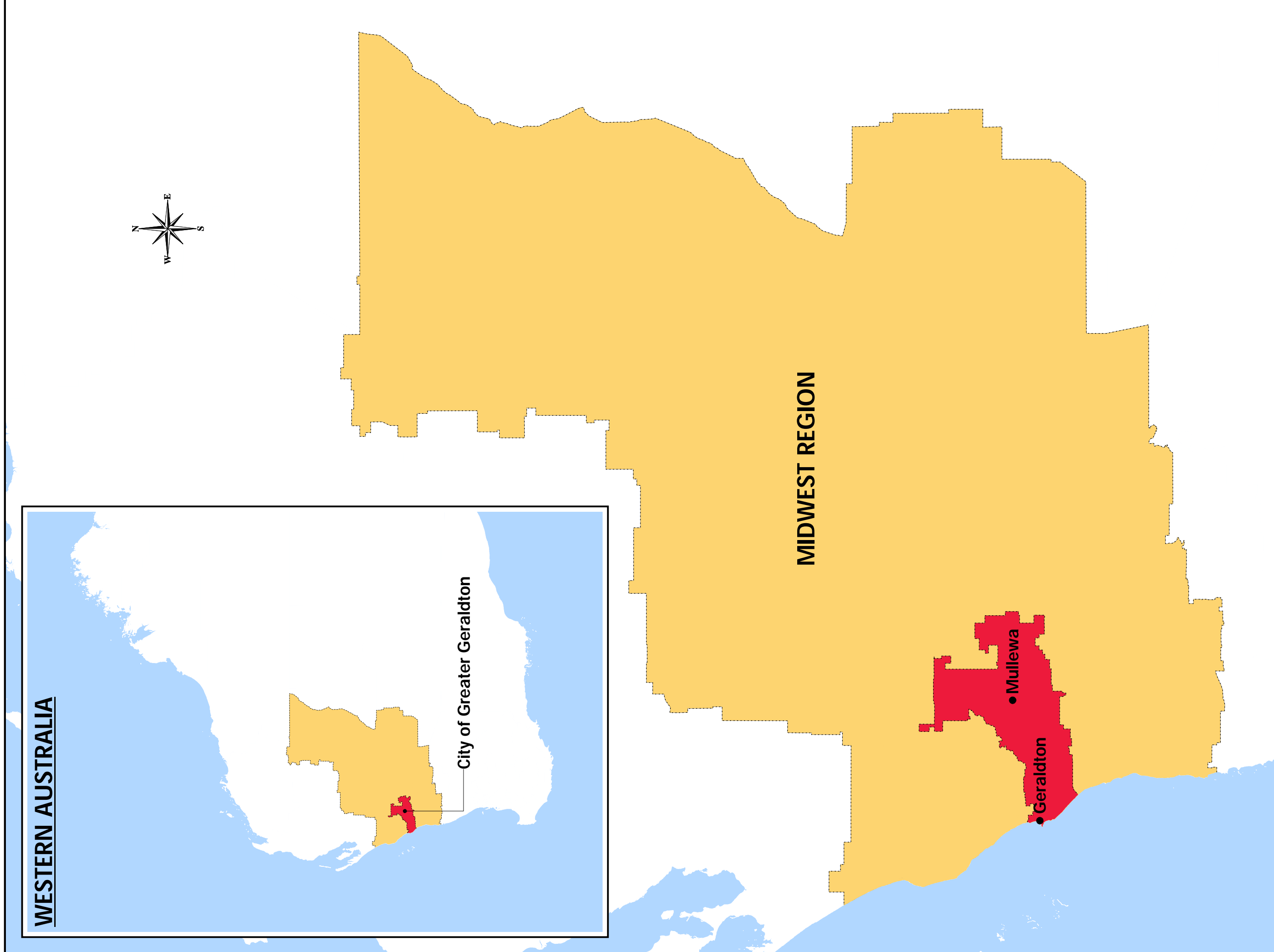
**Figure 9: City Centre Schools**

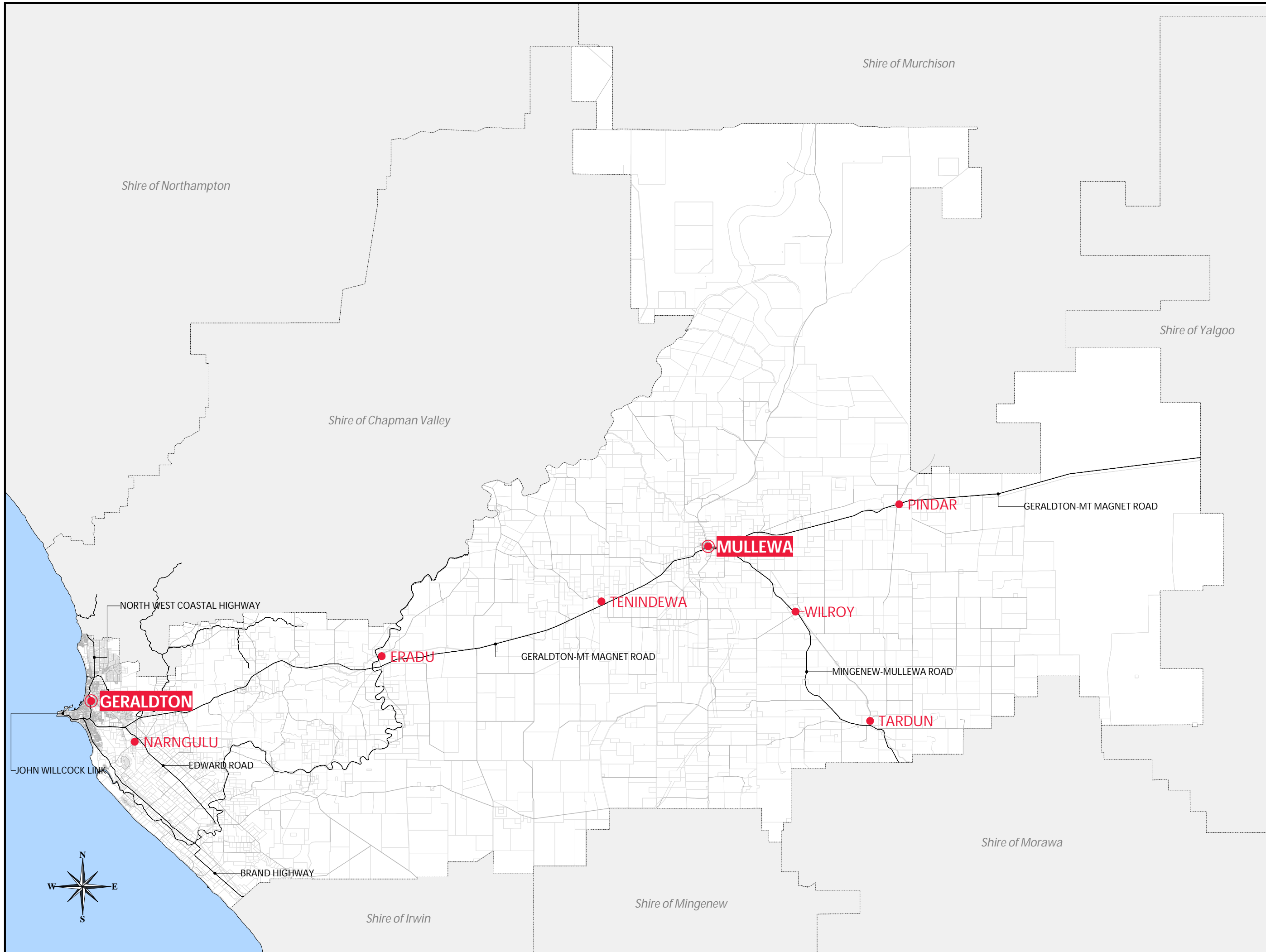
**Figure 10: Current Roads**

**Figure 11: Future Roads**

**Figure 12: Current Parking within City Centre**

**Figure 13: Uta Karra Road Network Upgrade Project (URNUP)**





# Integrated Transport Strategy

Figure 2

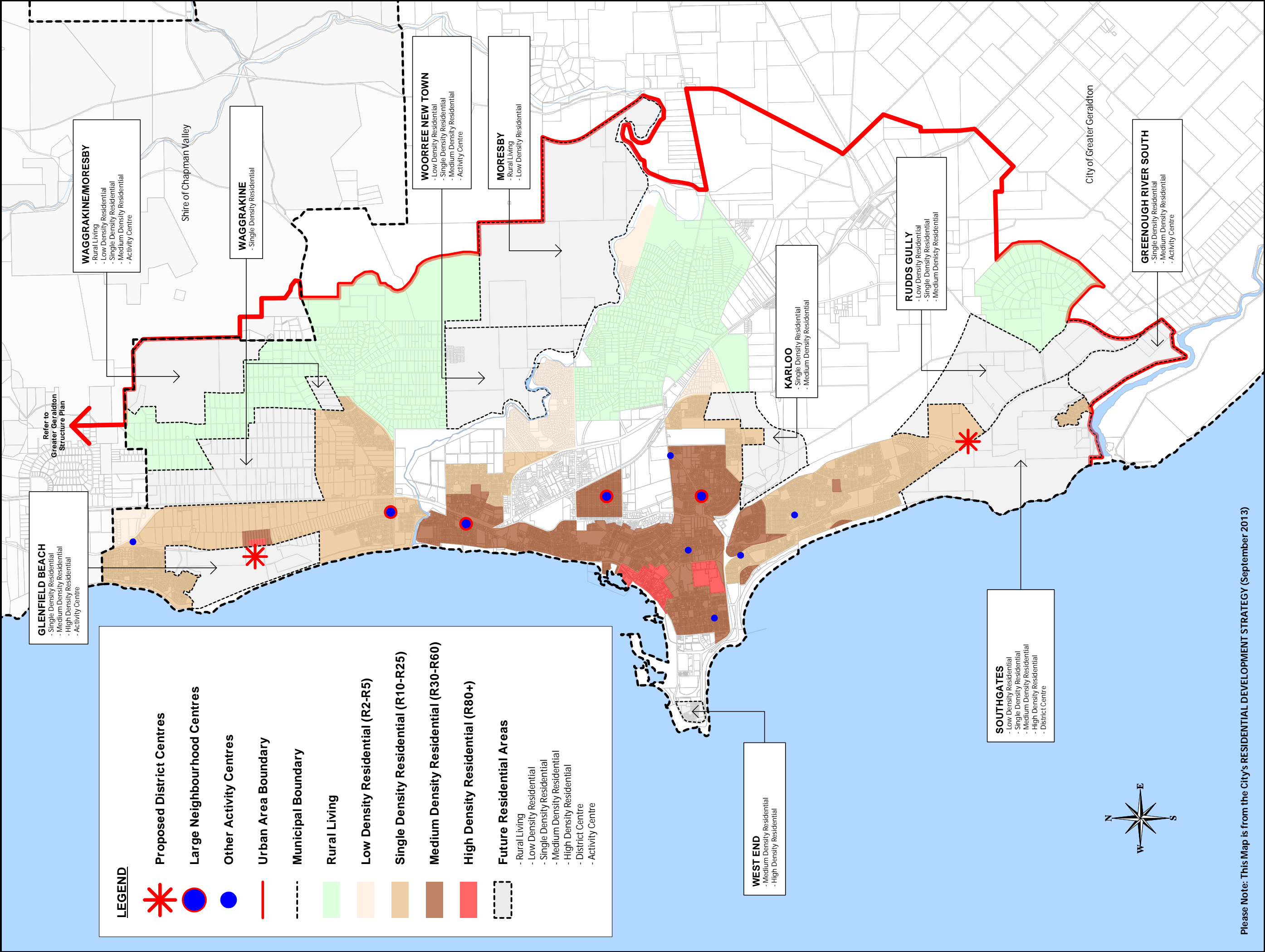
City of Greater Geraldton & Gazetted Townsites

Date: 10-Oct-14 Revision: DRAFT

Map produced by the City of Greater Geraldton

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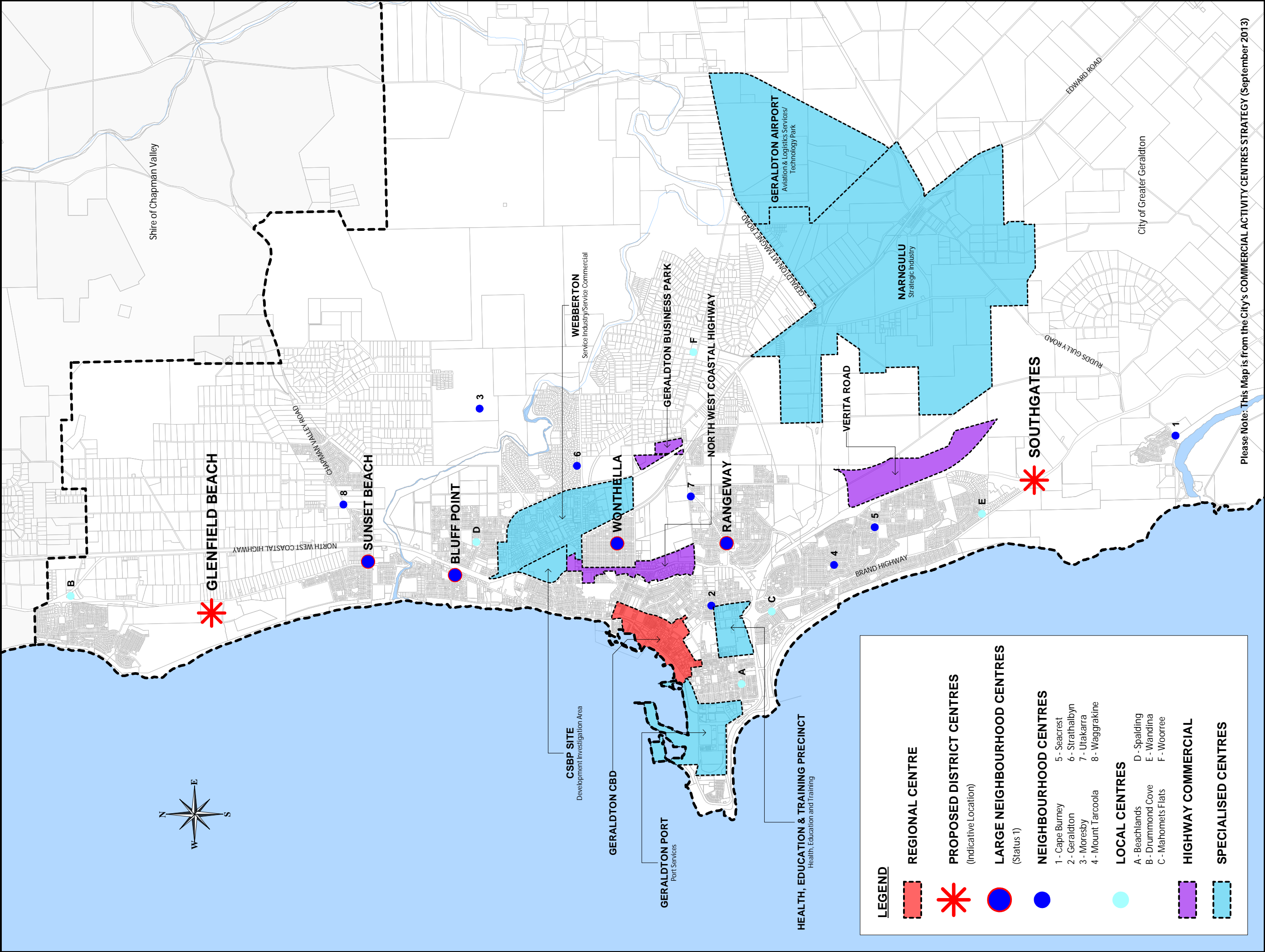


Please Note: This Map is from the City's RESIDENTIAL DEVELOPMENT STRATEGY (September 2013)

# Integrated Transport Strategy

Figure 3  
Residential Development Strategy Map (Geraldton Urban Area)



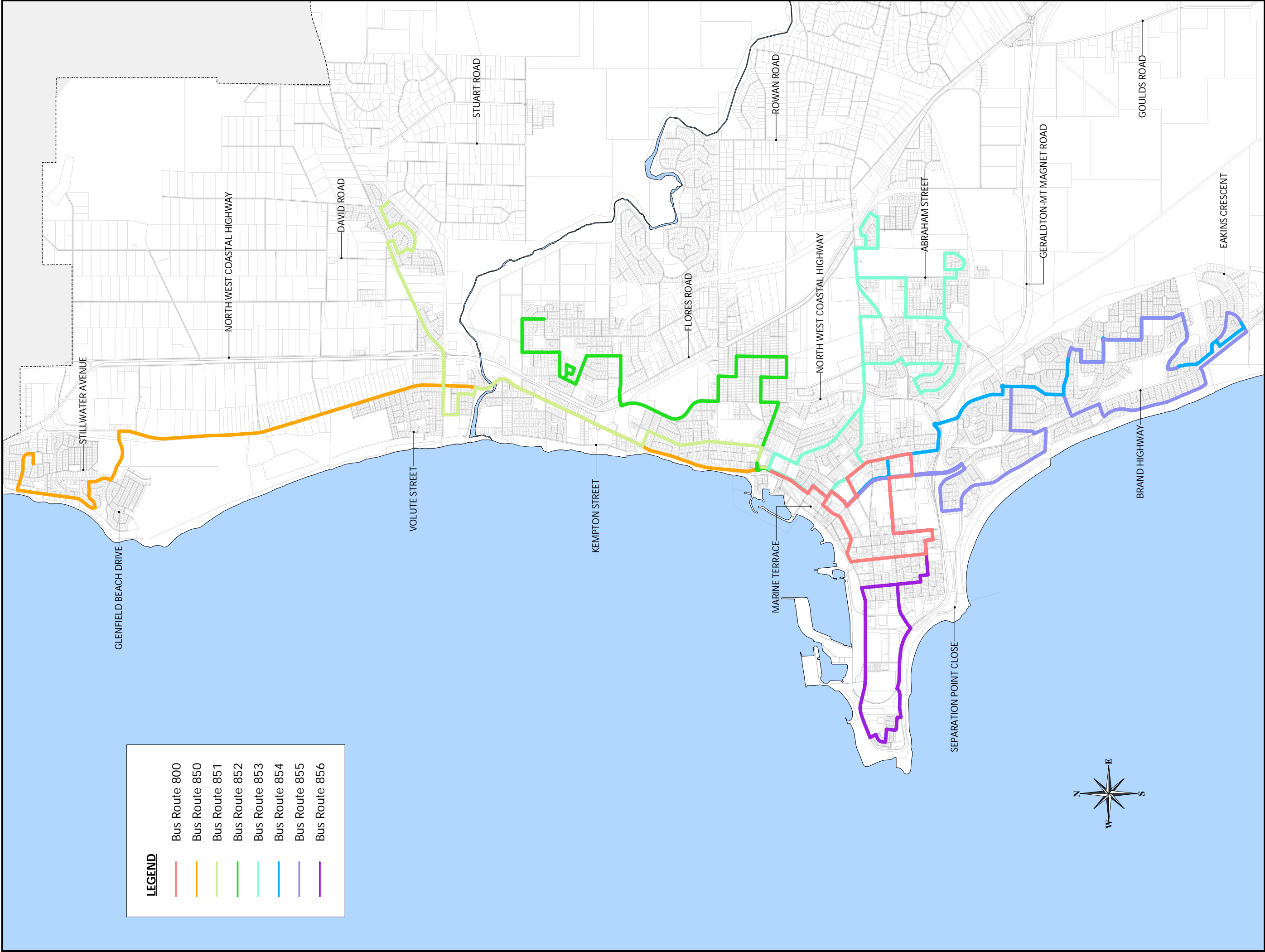




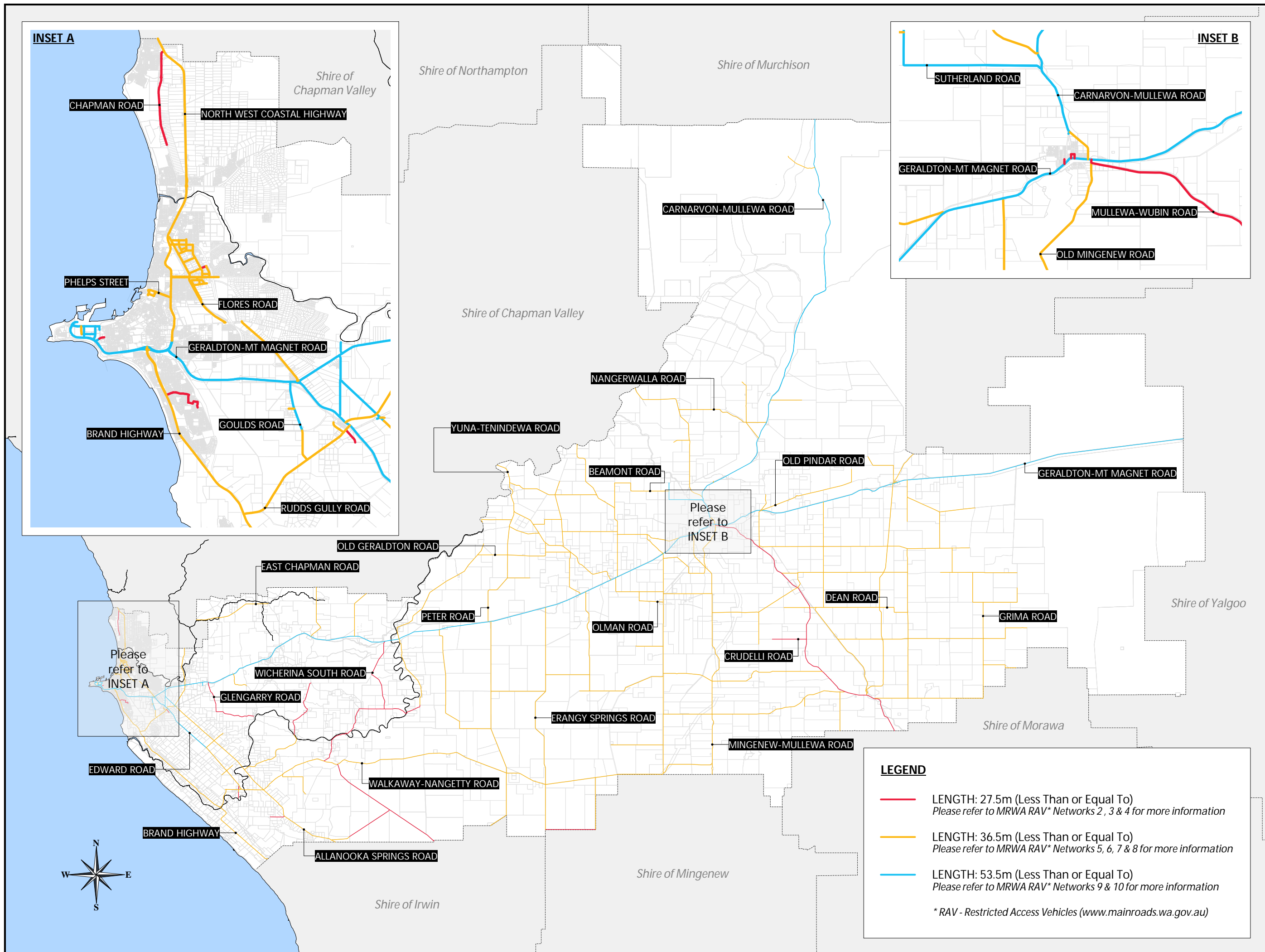












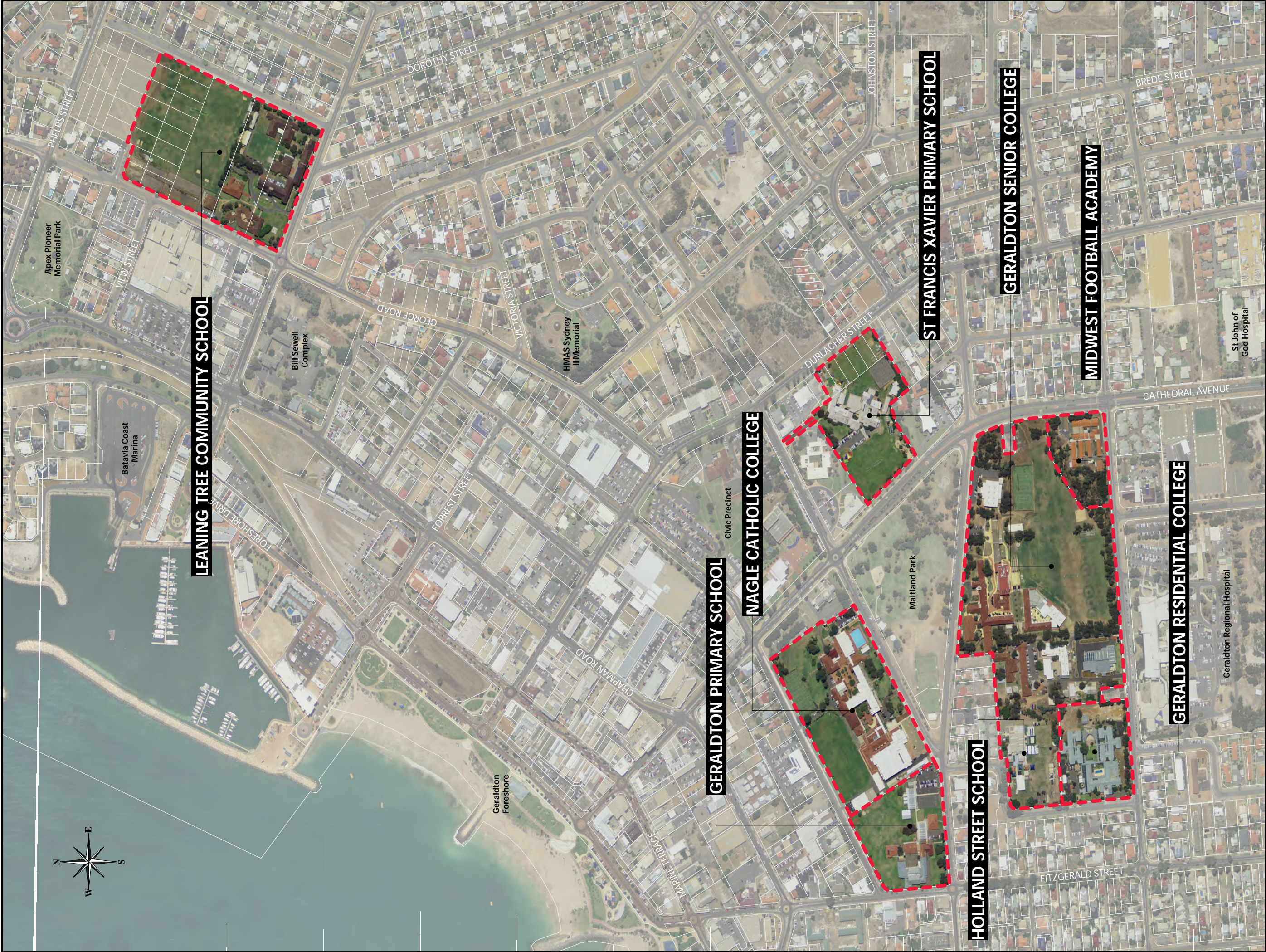
# Integrated Transport Strategy

Figure 8  
Heavy Vehicle Network (MRWA)

Date: 06-Oct-14 Revision: DRAFT A3

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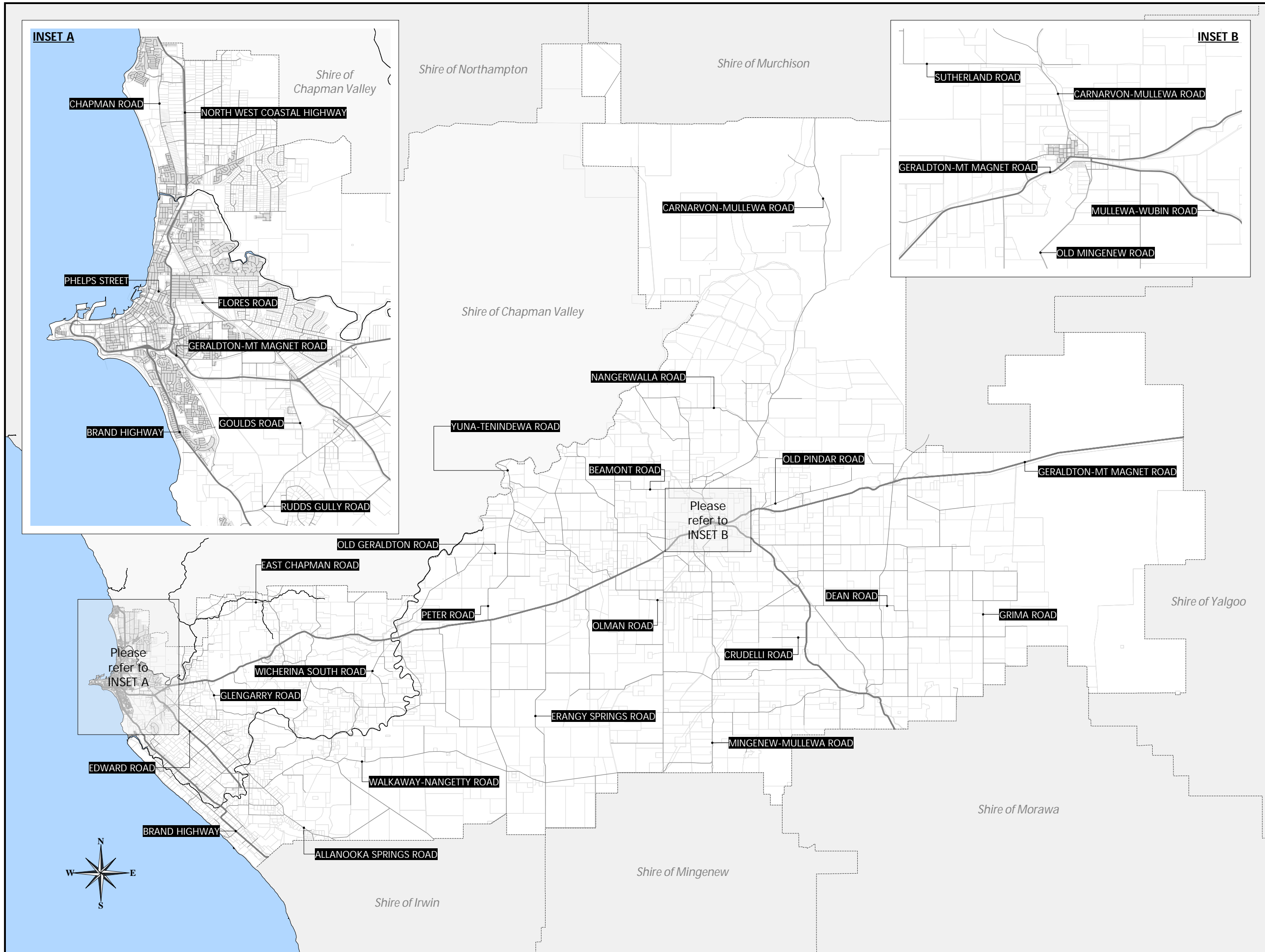
# Integrated Transport Strategy

Figure 9  
CBD Schools

Date:	06-Oct-14	Revision:	DRAFT	A3
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# Integrated Transport Strategy

Figure 10

Current Road Network

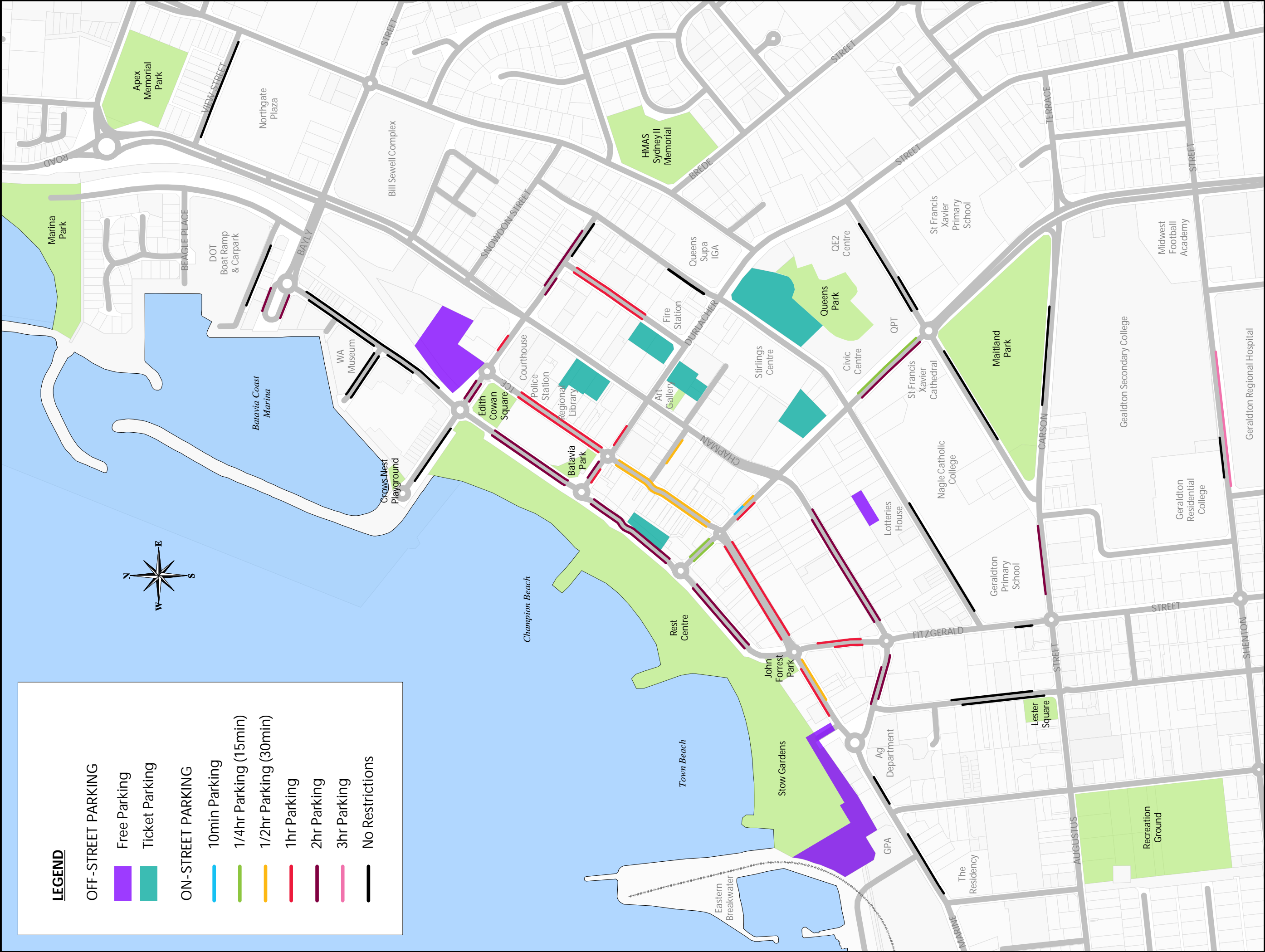
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# Integrated Transport Strategy

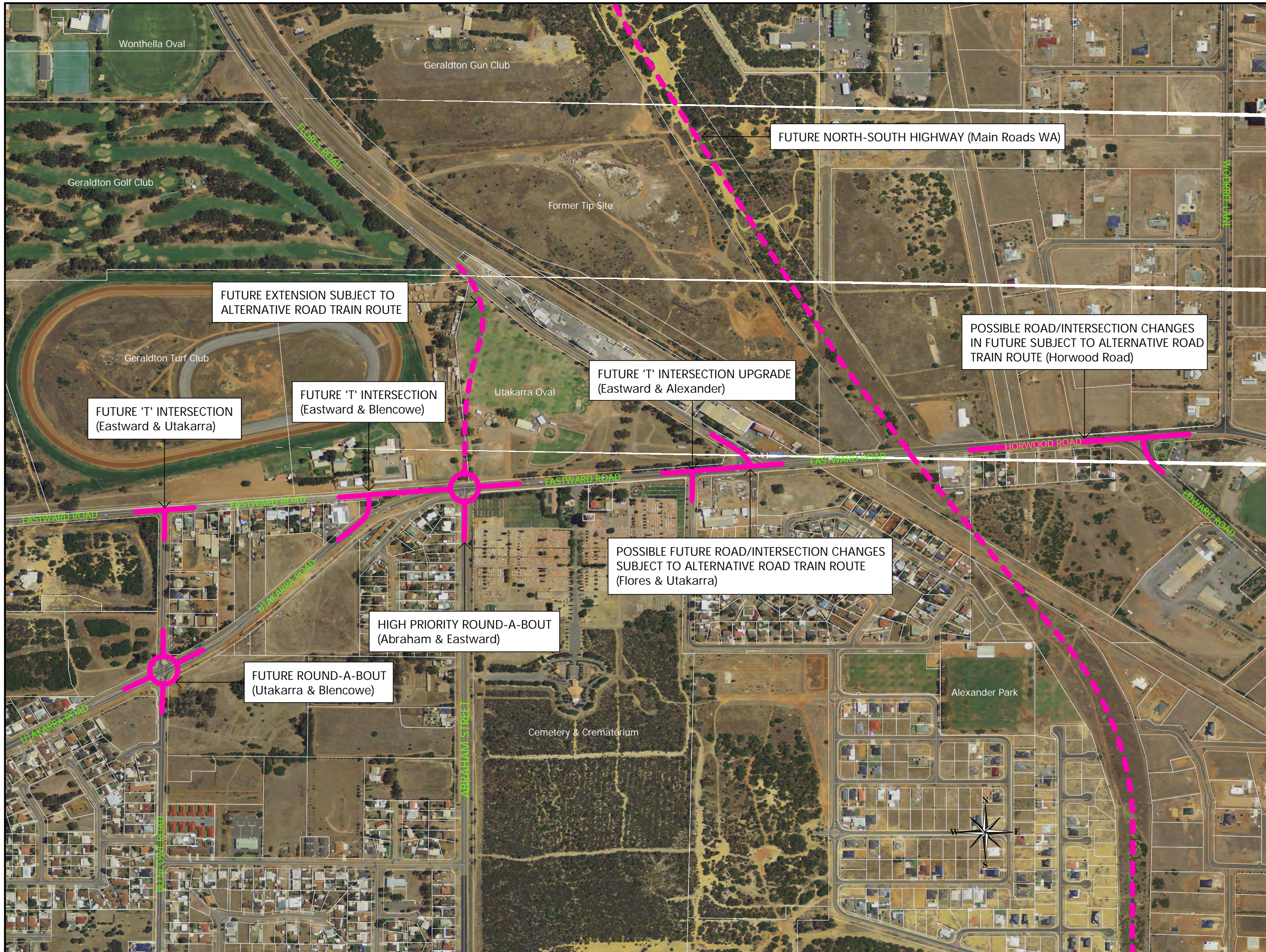
Figure 12

Parking Restrictions (Time Limits) and Locations in the CBD

Date:	09-Oct-14	Revision:	DRAFT	A3
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Map produced by the City of Greater Geraldton





# Integrated Transport Strategy

Figure 13

Utakarra Road Network Upgrade Project (URNUP)

Date: 02-Apr-15 Revision: DRAFT

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A3