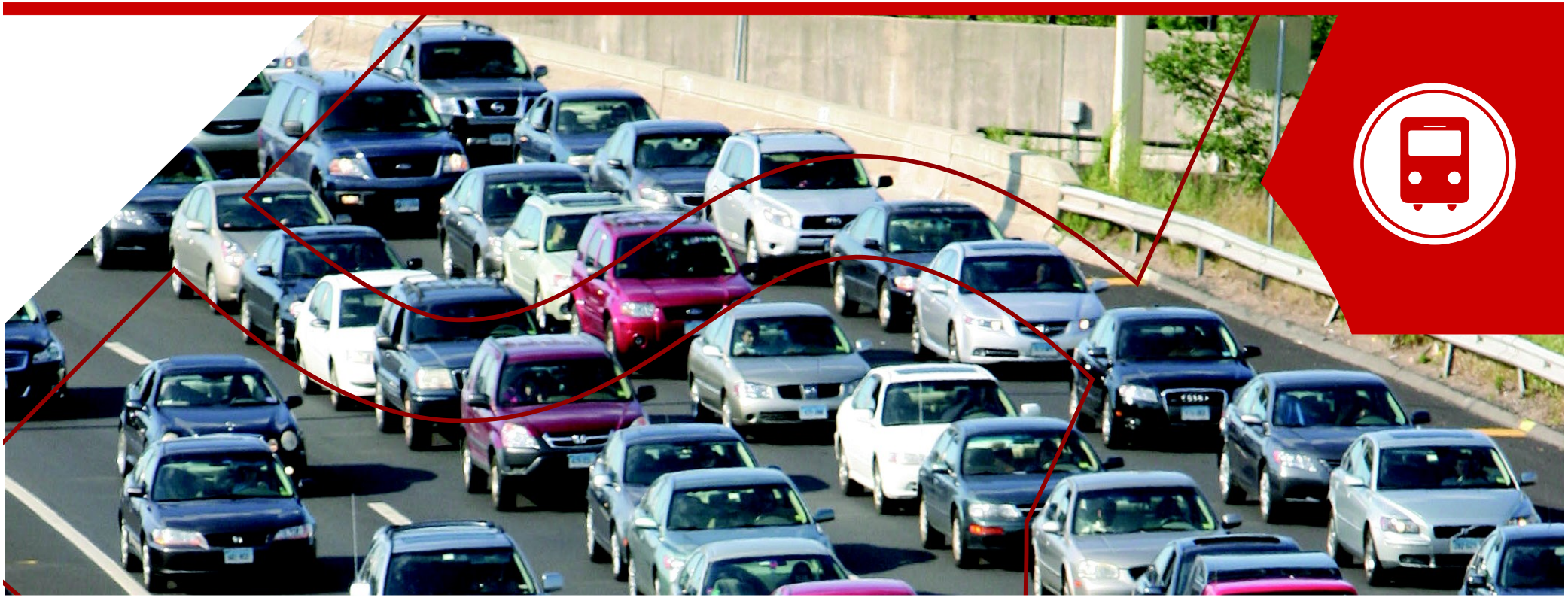
City of CANNING

FINAL

INTEGRATED TRANSPORT STRATEGY



July 2015

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INTEGRATED TRANSPORT STRATEGY

Executive Summary

Executive Summary

In 2014, the City of Canning (City) commenced the development of a city wide Integrated Transport Strategy (ITS). The intention of this strategy is to identify a range of interrelated transport strategies to assist the City in managing the sustained urban growth and maintaining the community's high quality of life. **The result of the work is a comprehensive Integrated Transport Study (available online) and this Strategy.**

The ITS is a strategic document for the period to 2031, which gives consideration to all modes of transport and the movement needs of all users, now and in the future.

The development of the ITS has been overseen by a Project Working Group (PWG) comprising representatives from key State Government agencies (Department of Planning, Department of Transport, Main Roads WA (MRWA), Public Transport Authority and the Disability Commission WA) and the City of Canning. The PWG has been engaged at each key stage in the process and has played an integral role in the agreement of the strategic direction of the ITS.

Feedback from the local community using the SpeakOut surveys and Residents Perspective Surveys has also been used to help inform the identification of key transport and mobility issues to be addressed within the City.

Overview

The City is evolving. There are geographical, environmental and other drivers that are leading to increased pressure on the existing transport network. The City needs to plan for the future to serve residents, visitors, businesses and those who pass through the City.

In 2011, the total population for the City was an estimated 90,893 people.

In addition to the residential population increase, the City has seen an upsurge in overall development focussed in the Canning Vale and Welshpool industrial areas and around Albany Highway.

Car ownership levels in the City continue to increase and despite a reduction in car mode share for journeys to work made by the residential population in recent times, the private car remains the predominant mode of transport to work. This is also true for the workplace population, despite the fact that a significant proportion of people who work in the City live locally. The proportion of residents travelling to work by any sustainable modes (any transport mode rather than a driving a car on their own) is on the increase and it is essential that this upward trend is maintained through an appropriately planned and designed transport network.

Significant population and employment growth is forecast for the City with development nodes such as Activity Centres, Transit Orientated Developments (TODs) and urban corridors expected to accommodate much of the growth. The demographics of the City's population is also changing. These factors will have a significant influence on travel patterns. For the City to thrive, the transport network needs to be planned to cater for the varying needs and demands of different users.

ITS Objectives & Outcomes

The ITS has been guided by a number of objectives:

- ***Economic:*** To support economic growth and protect investment, as a result of a planned and managed transport network, thereby allowing the efficient movement of goods and people.
- ***Social:*** To promote social inclusion by connecting communities and by increasing accessibility and travel choices to the transport network for all. To support the Strategic Community Vision '*to live in a place with a variety of lifestyle options with a diverse and safe transport network'.*
- To create a ***healthier and more accessible*** community through encouraging active travel such as cycling and walking and promoting public transport.
- ***Integration:*** To promote the integration of transport modes for the City and to enhance accessibility by creating a variety of travel choices.
- To ***monitor progress*** in the City towards the Directions 2031 infill dwelling targets.
- ***Safety:*** To provide a safe and secure transport system that meets the community's mobility and access needs providing maximum safety for all residents.

The ITS has also been developed with the following four key outcomes in mind:

1. Define the regional movement framework as it relates to the City including defining what are the known constraints and what can and/or should be changed;
2. Develop a local framework that responds to the regional framework and provides for local needs and aspirations;
3. Focus the City and the community towards the key issues and strategies to be addressed over the next 20 years; and
4. Provide a basis for the City and the community to

prioritise and guide the investment of City resources and lobby/ partner with other agencies for delivery of other components identified in the Strategy.

ITS Themes & Strategies

There are six ITS themes which address the key elements of the transport network, namely:

1. Roads;
2. Public Transport;
3. Cycling and Walking;
4. Parking;
5. Travel Demand Management (TDM); and
6. Monitoring and Feedback.

Note—Freight was not included in the Multi-Criteria Analysis (MCA) process

The ITS sets out a strategy for each of the themes, along with a series of underlying Policies / Positions and associated Actions / Projects to deliver the strategies.

The strategy for **Roads** is based on a **"Local Focus"** approach "Protectionist for the City, prioritising local movements. It includes no expansion of the Regional Road Network (RRN) outside the Metropolitan Regional Scheme (MRS); encouragement of speed reduction on local roads through Local Area Traffic Management (LATM); prioritisation of local freight movements" combined with a **"Limited / Balanced"** approach "Limited improvements focused on management and how the roads are used to balance the needs of local and regional traffic, and also of different road users e.g. targeted improvements and increases in capacity".

The results from the Multi Criteria Analysis (MCA) was not significantly different for these two.

The strategy for **Public Transport** is based around a **"Public Transport Focus"** approach. *"Resources and revenue will be used to provide greatly improved Public Transport services and infrastructure (including light rail and creation of "super stops"); development requirements linked to public transport; safeguarding of rail reserves, etc."*

The strategy for **Cycling and Walking** is a **"Maximise Priority"** approach. *"Greater priority is given to pedestrians and cyclists (particularly around Activity Centres); proactive identification of measures to improve universal access; greatly improved facilities and infrastructure through more prescriptive requirements in the Town Planning Scheme (TPS)."*

The strategy for **Parking** is a **"Managed"** approach. *"A Strong focus on the management of parking within the City, including the use of maximums and parking caps for new development and introduction of Controlled Parking Zones; requirement for unbundled parking and limited provision of off-street parking".*

The strategy for **Travel Demand Management** is a **"Balanced"** approach. *"A Balanced Travel Demand Management approach involve dedicating more resources to education and marketing programs in the hopes of shifting mode split in favour of walking, cycling and public transport.*

The strategy for **Monitoring and Feedback** is a **"Proactive"** approach. *"A proactive strategy designed to set measurable targets and to collect the necessary data to monitor progress towards mode split targets. A proactive approach is taken for the planning for future problem areas and implementing strategies to address them using state-of-the-art traffic models".*

Implementation

The Actions / Projects proposed to deliver the strategies, and ultimately the ITS objectives, have been grouped into broad categories based on their nature (for example, capital works projects, programs including monitoring, Town Planning Schemes amendments, further specific studies / projects required and liaison / support).

The implementation plans provide detail in relation to the relative scale of cost and timeframe for progression. Potential future funding sources have also be identified and the City will continue to explore other funding avenues to ensure the successful delivery of the ITS.

Performance Monitoring and Review

It is intended that progress in delivering the ITS will be regularly reviewed by the City and updates made accordingly. The ITS includes a series of Key Performance Indicators (KPIs) which will help to maximise the effectiveness of the ITS. This section of the ITS should be reviewed following the release of the Moving People Network Plan (MPNP), in order to ensure consistency with State Government policy. The Projects / Actions set out under the Monitoring and Feedback theme will enable the ongoing monitoring and review of the ITS.

INTEGRATED TRANSPORT STRATEGY

Introduction

Introduction

An insight into the City of Canning

The City is experiencing increased congestion on its transport network due to development and growth. The City needs to plan for the future so that residents, visitors, businesses and those who pass through the City can travel safely and efficiently.

In a regional context, never before have demands on the transport network been more pressing or more publicly debated. The broader community recognises the pressure on the transport network and also the need to plan ahead for the future. To not do so would be to ignore lessons from the past and also fail to recognise that left unchecked, relatively minor localised issues can cause significant problems.

The City is also growing. In addition to the residential population increase, the City has seen an upsurge in overall development focussed in Canning Vale and Welshpool industrial areas and around Albany Highway.

Significant population and employment growth is forecast for the City over the lifetime of this ITS with development nodes such as Activity Centres, Transit Orientated Developments (TODs) and urban corridors expected to accommodate much of the growth. Key growth areas within the City include Canning Vale, Queens Park, Canning City Centre, Albany Highway and the other District, Local and Neighbourhood Activity Centres. This increase in development activity is supported by local and metropolitan wide planning strategies.

In order to support both aspirational and committed land use development and redevelopment, an appropriate transport network must be planned (in both physical provision of infrastructure and supporting policies).

The City is committed to addressing future challenges through the development of this ITS and forms one of a number of strategic plans for the City.

In response to growth pressures, the City is preparing a Local Planning Strategy (LPS) and reviewing the existing Local Planning Scheme (Town Planning Scheme No. 40).

The ITS has six strategy elements, namely:

1. Roads;
2. Public Transport;
3. Cycling and Walking;
4. Parking;
5. Travel Demand Management; and
6. Monitoring and Feedback.

Each of these elements is critical. Strategies and plans implemented now can make a significant difference over the next 20 years.

As no strategy of this nature has been developed previously, the ITS breaks new ground in guiding the transport network and also aims to “future-proof” the City against potential trends, changes and technological advances. The ITS also brings together a number of other reports, strategies and documents produced previously into one coherent strategy document.

The ITS provides a framework for greater focus by the City on transport outcomes placing transport high on the agenda. It establishes priorities and actions to address all of the elements above.

The ITS objectives have been developed with consideration to the objectives in the “Strategic Community Plan”. The plan focuses on the achievement of outcomes, in particular projects that will positively position the City for the future and improve the community’s quality of life.

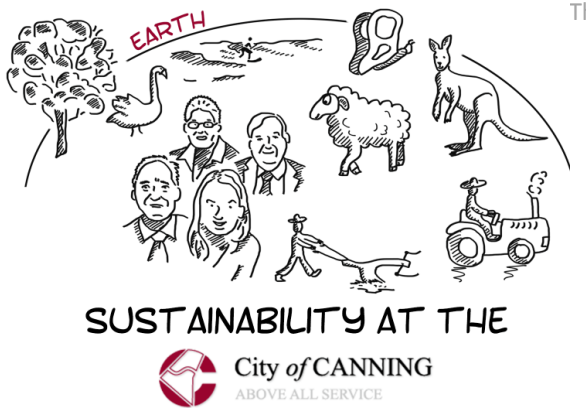
INTEGRATED TRANSPORT STRATEGY

Vision, Objectives and Outcomes

Vision, Objectives and Outcomes

The ITS is intended to provide a framework to guide the promotion, management and development of an integrated multi-modal movement network (both in terms of integration between modes and also with land use) to improve access and accessibility for all and encourage and facilitate sustainable and active travel.

This will be achieved through delivery of a combination of physical infrastructure and "soft" (non-built) measures.



The sustainability video is available at http://canning.wa.gov.au/Out-About/sustainability.html

The ITS is a strategic document, for the period to 2031, which gives consideration to all modes of transport and the movement needs of all users, now and in the future.

The ITS has been guided by a number of objectives:

1. **Economic:** To support economic growth and protect investment, as a result of a planned and managed transport network, thereby allowing the efficient movement of goods and people.
2. **Social:** To promote social inclusion by connecting remote communities and by increasing accessibility and travel choices to the transport network for all. To support the Strategic Community Vision *"to live in a place with a variety of lifestyle options with a diverse and safe transport network"* (Refer to Figure 2).
3. To create a **healthier and more accessible** community through encouraging active travel such as cycling and walking and promoting public transport.
4. **Integration:** To promote the integration of transport modes for the City, and enhancing accessibility by creating a variety of travel choices.
5. To **monitor progress** in the City towards the Directions 2031 infill dwelling targets.
6. **Safety:** To provide a safe and secure transport system that meets the community's mobility and access needs providing maximum safety for all residents.

Figure 2—Strategic Community Plan

The ITS supports the vision, and delivery, of the City's Strategic Community Plan. The strategies and policies which are set out within the ITS, and future projects undertaken by the City, relate to a number of different programs. The four key outcomes for the ITS include:

OUTCOME 1

Define the regional movement framework as it relates to the City including defining what are factors that are known constraints and what can and/or should be changed.

OUTCOME 2

Develop a local framework that responds to the regional framework and provides for local needs and aspirations.

OUTCOME 3

Focus the City and the community towards the key issues and strategies to be addressed over the next 20 years which will improve the transport network efficiency and effectiveness.

OUTCOME 4

Provide a basis for the City and the community to prioritise and guide the investment of City resources and lobby/ partner with other agencies for delivery of other components identified in the Strategy.

INTEGRATED TRANSPORT STRATEGY

Context

Context

The development of the ITS is guided by a series of policies, and evolving strategies at a metropolitan level. The context of the ITS is summarised below (Refer to Figure 3).

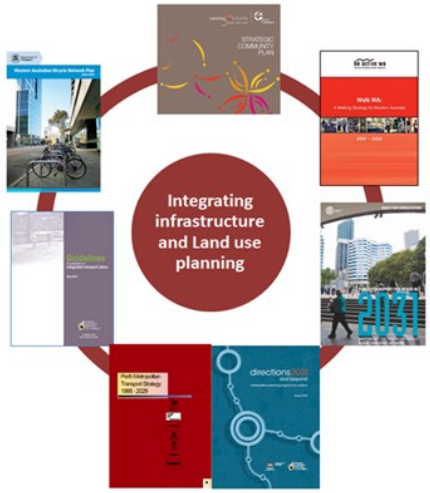


Figure 3—Planning Policy Framework

The ITS has used the following documents, as well as input from key Government agencies, to shape responses specific to the City. The primary existing and developing policy and strategy documents are:

- Metropolitan Region Scheme (MRS);
- Directions 2031 and Beyond;
- Central Metropolitan Perth Sub-Regional Strategy;
- Draft Public Transport for Perth in 2031; and
- Draft Moving People Network Plan.

Metropolitan Region Scheme uses a series of broad based zones and reserves in order to guide overall planning for the Perth Metropolitan Region. It is the primary statutory planning document and backed by legislation. Key regional transport infrastructure, (principally railway infrastructure and regional roads), have set reserves within the MRS. Major roads through the City are controlled by either MRWA or the City.

Directions 2031 and Beyond is a high level spatial framework and strategic plan that establishes a vision for future growth of the metropolitan Perth and Peel region; and it provides a framework to guide the detailed planning and delivery of housing, infrastructure and services necessary to accommodate a range of growth scenarios.

Growth targets for housing, employment strategies and guidance on the transport network for the Metropolitan Region are contained within Directions 2031 and Beyond and the Central Metropolitan Perth Sub-Regional Strategy.

The **Central Metropolitan Perth Sub-Regional Strategy** provides a more defined framework at a regional level of Directions 2031 and Beyond.

The **Draft Public Transport for Perth in 2031** identifies the public transport needed to support Perth's growing population and links to and between strategic centres. It also proposes the preferred type of public transport service (mode) and priorities for infrastructure investment across the network. Currently in draft form, the form of the future network is expected to be ratified by Government. The plan proposed a number of key projects that impact upon the City, including road and rail transit projects (Refer to Figure 4).

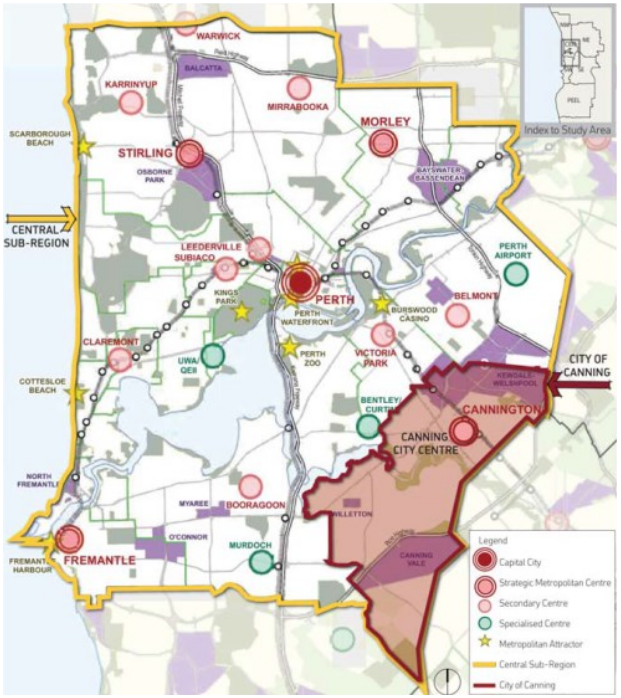


Figure 4—Key Growth Areas in the City (Source: Directions 2031 and Beyond, WAPC, 2010)

The **Draft Moving People Network Plan (MPNP)** is an emerging transport strategy document in support of Directions 2031 and Beyond that will guide implementation of transport network infrastructure and policies for the overall Metropolitan (and Peel) Region. Still in development, the MPNP is one of a number of broad based strategies that the Department of Transport is developing with other key documents being the Road Network Development Plan, WA Bicycle Network Plan (which is currently in draft form) and the draft Public Transport for Perth in 2031 plan.

The Moving People Network Plan will combine strategy documents for public transport, cycling and the road

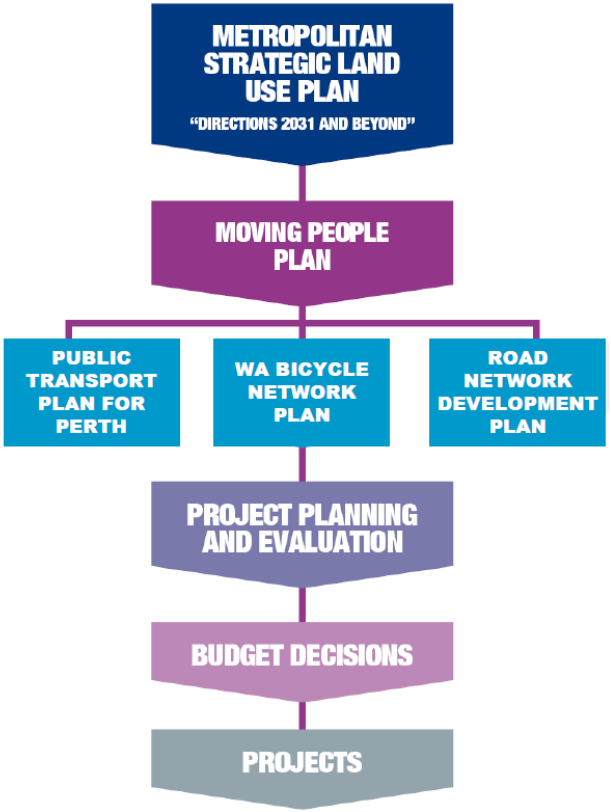


Figure 5—Moving People Network Plan "Strategic Fit" (source: DoT, 2012)

network (Refer to Figure 5).

In addition to the existing or developing Metropolitan Region strategies that impact upon the formation and outcomes of the ITS, the City has a number of documents and policies that also have implications for the delivery of the ITS. These include the following City of Canning documents:

- Strategic Community Plan;

Figure 6—City of Canning Structure Plan

- Town Planning Scheme 40—City Zoning Scheme;
- Town Planning Scheme 17A—Cannington Lakes Guided Development Scheme;
- Town Planning Scheme 21—Guided Development Scheme;
- Public Open Space Strategy;
- City of Canning Local Housing Strategy;
- Canning City Centre Structure Plan (Draft) - (Refer to Figure 6) and City Centre Movement, Access and Parking Strategy;
- Local Parking Law;
- Local Commercial and Activity Centres Strategy;
- Disability and Inclusions Plan 2012-2017; and
- Sustainability Policy and Strategy.

These documents formed the basis for the local transport network and planning context for the ITS. Each of them, and the State Government documents, provided an invaluable and solid foundation from which to assess and rationalise conclusions which are embedded into the ITS.

The complex nature of the support documents and evolution of plans and strategies to address ongoing planning issues will invariably mean that some elements of the ITS may not be aligned with State Government plans. Where practical, the most recent resources have been applied during the development of the ITS and are reflected in the ITS Strategies.

INTEGRATED TRANSPORT STRATEGY

Process

ITS Process

The ITS commenced in April 2014. In order to progress the plan to its present form, a significant amount of technical work has been completed. There was input and involvement from key State Government agencies as well as the City (Refer to Figure 7).

In addition to the process developed for this study, the recently released '***Western Australian Planning Commission Guidelines for the Preparation of Integrated Transport Plans 2012'*** was utilised where appropriate, in particular, "Part 3 — Principles and Process for Integrated Transport Plans".

The ITS has been guided by a Project Working Group (PWG) comprised of senior officers from these key organisations:

- City of Canning;
- Department of Planning ;
- Department of Transport;
- Main Roads Western Australia;
- Public Transport Authority;
- WA Disability Commission; and
- Worley Parsons' Project Team.

The PWG met regularly through the development of the ITS and contributed individually to the development of the ITS either through direct consultation or provision of review material or background data.

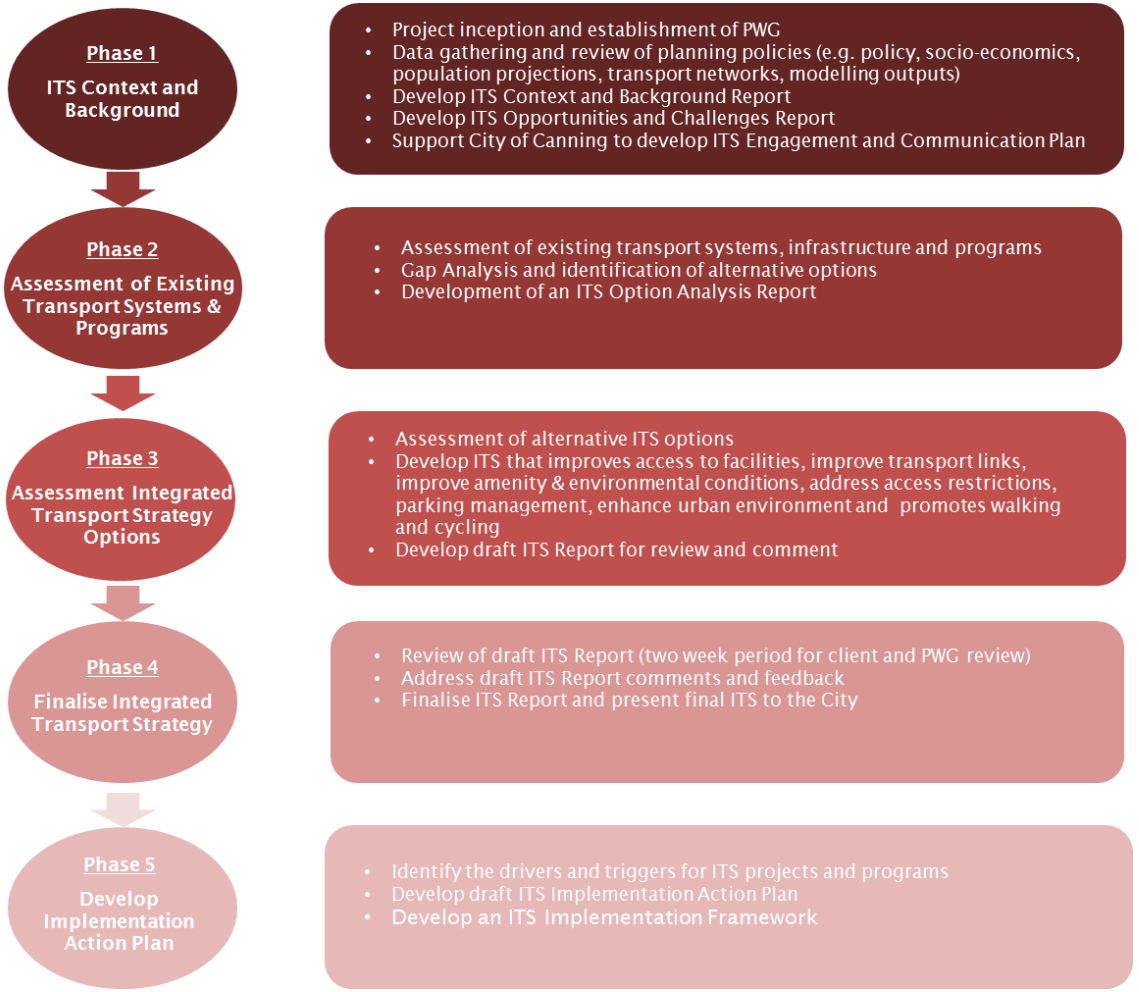


Figure 7—Simplified flowchart of how the ITS was developed

Stakeholder Consultation

Significant effort was put into consultation with the stakeholders. The local community had also been consulted extensively on several key issues since 2011, including the SpeakOut Surveys and Resident Perspective Surveys. A Community and Stakeholder Engagement Plan was developed for the ITS. Its aims are to:

- Seek input into how the community views the connection between transport, land use and community life;
- Ensure engagement with key stakeholders and the broader community engenders ownerships of the process and the project; and
- Validate findings and proposed strategies for implementation by a number of stakeholders (Refer to Figure 8).

STAKEHOLDER WORKSHOPS TO DATE—2014

- **Opportunities and Constraints (April)**
- **ITS Objectives (May)**
- **Gap Analysis and Alternative ITS Options (June)**
- **Assessment of Alternative Options (July)**
- **Multi-Criteria Analysis (August)**
- **Draft ITS (December)**

Figure 8—Map of stakeholder groups consulted

Assessment Process

The myriad of proposals, strategies, plans and projects that might influence the transport network in the City needed to be assessed. In order to provide the community with a plan focussed on future needs, a methodology was employed whereby the PWG was able to guide the character and general "shape" of the ITS.

A multi-criteria assessment (MCA) exercise was undertaken as part of the ITS. This involved MCA workshop with the PWG, which was held in August 2014.

The MCA task for the ITS comprised the following key elements:

- Development of MCA Framework;
- Formulation of three assessment "scenarios" per theme;
- Creation of evaluation criteria;
- Assign weights to the criteria; and
- Assessment of the scenarios in a MCA workshop to identify the preferred strategic direction for each theme.

A MCA framework was developed in advance of the workshop. The framework comprised criteria which were predominantly based on the ITS objectives, but also included some additional implementation issues / considerations. The selected criteria covered a range of issues which related to the **"Triple Bottom Line"** performance dimensions of environmental, social and economic sustainability.

The framework also included the use of weightings to ensure that the relative importance of criteria was considered, to provide consistency across the themes and to bring everything back to the ITS objectives rather than placing more importance on one theme over another (Refer to Figure 9).

The workshop comprised a presentation from the project team to ensure understanding of the process and the strategy elements within assessment scenarios. This was followed by agreement of the importance weightings for each criterion and then the MCA exercise which involved assessment of the initial scenarios on a theme-by-theme basis.

Throughout the exercise, attendees had the opportunity to comment on individual elements of each scenario and these comments were recorded to feed into the preferred scenario for each theme.

As a result of the workshop, a "hybrid" option was progressed where some of the supported elements of some ITS themes were taken forward into the ITS. A detailed ITS technical report provides more detail on this process, including the MCA Workshop.

The MCA process allowed for thorough and robust assessment of different scenarios and provided the PWG with a range of options from which to rate against the ITS objectives.

Figure 9—MCA Process Adopted to "Shape" the ITS

INTEGRATED TRANSPORT STRATEGY

Background

Background

The City is located in the southeast central part of the Perth metropolitan area. It is bordered by six other local authorities, namely Gosnells, South Perth, Melville, Victoria Park, Belmont, Kalamunda and Cockburn.

The City has a number of existing and planned redevelopment areas including the Bentley Regeneration Project, the Burrendah Precinct Master Plan, the Canning City Centre Structure Plan, the Queens Park Local Structure Plan, the Queens Park Regional Open Space, and the Canning Vale Sports Master Plan.

Travel Patterns

The predominant method of travel to work for residents of Canning is the private car, with 68% of residents using this mode either as a driver or a passenger (ABS Census Journey to Work 2011). Similar to most other areas of Perth, this demonstrates the high car dependency for residents of the City. The proportion of residents travelling to work by more sustainable modes (public transport, walking, cycling and motorbike) has increased from 12.7% in 2006 to 16.1% in 2011 and the public transport mode share (particularly bus and train) exceed the Inner Perth average. This trend is consistent with the general trend in Perth of higher public transport usage in the past 5-10 years (Refer to Figures 10 and 11).

The proportion of households known to have access to at least one motor vehicle in the City has increased from 86.7% in 2006 to 88.4% in 2011, with the most significant increase being in the proportion of households with access to three motor vehicles (increasing from 17.6% in 2006 to 20.2% in 2011). (Source Profile id 2014). The increase in car ownership could potentially be associated with the increase in the proportion of households comprising unrelated individuals sharing a family household and group members sharing rented properties such as students (Refer to Figure 12).

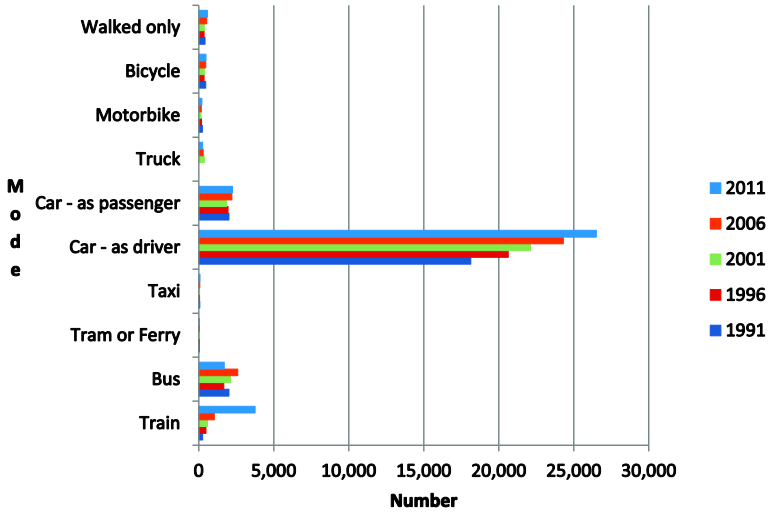


Figure 10—Method of travel to work in the City 1991 to 2011 Census

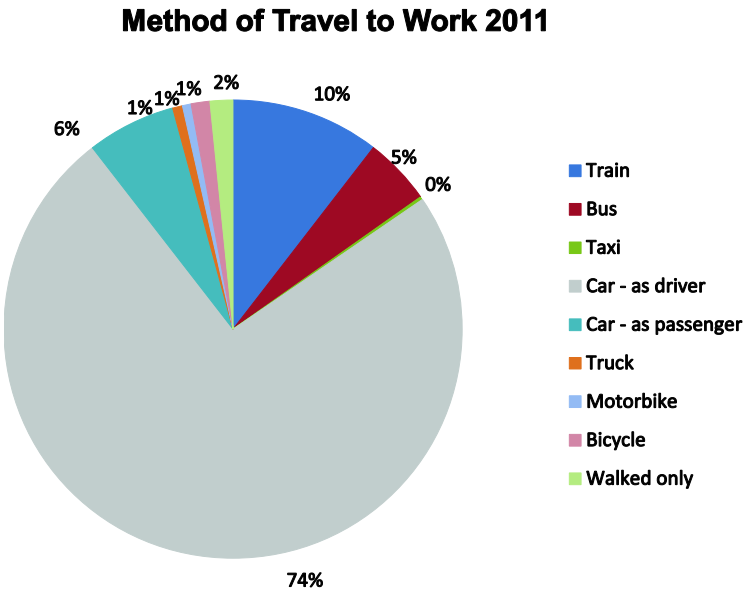


Figure 11—Method of travel to work in the City

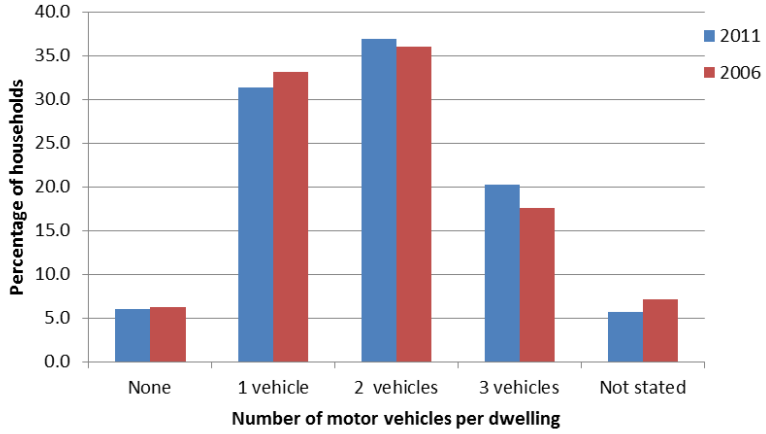


Figure 12—Car Ownership Levels in the City

Roads

The road network in the City caters for local traffic movements as well as longer distance regional trips. There are significant geographical constraints which constrain traffic movements in the City. These include the Canning River, the Armadale / Thornlie railway line and the Kenwick-Jandakot freight rail line. These constraints prevent traffic from travelling along the desired routes and funnel traffic into a small number of bridges and railway crossings. This creates severe congestion hotspots in the peak periods.

Road Hierarchy

The existing road hierarchy is shown in Figure 13. The different road types are set out in accordance with the MRWA Road Classification criteria. The existing road network is an established one with very few greenfield opportunities for expansion or alteration. The distributor road network plays a vital role in moving traffic, public transport, cyclists, freight and pedestrians around.

Parking

Parking provision and management is a significant consideration for the City in the context of the overall transport network. Parking exerts significant influence over travel behaviour and as such it is critical to the City that parking is managed effectively and its provision is balanced between competing interests.

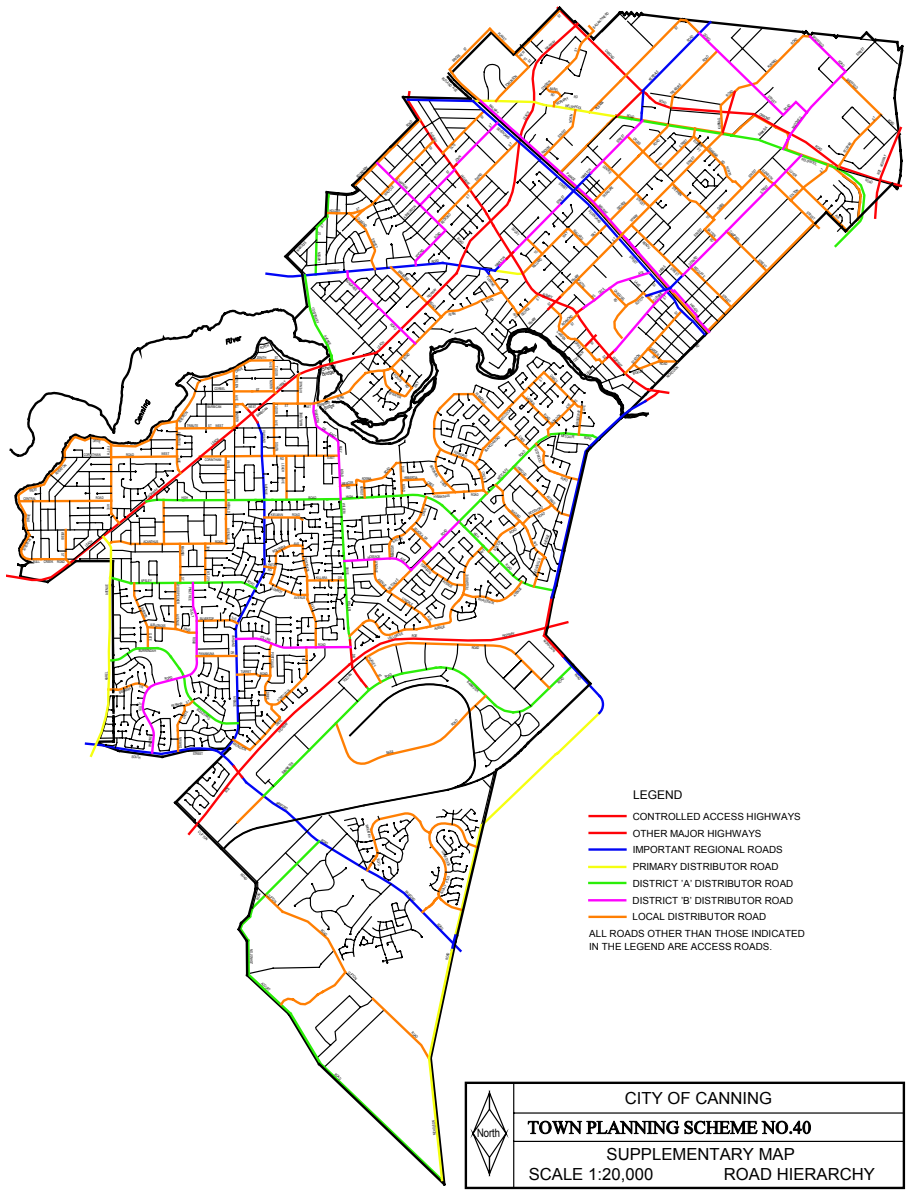


Figure 13—Existing Road Hierarchy

Safety

Road safety and speed are directly correlated and existing speed limits are shown in Figure 14. Safety on local roads remains one of the highest priorities for both the community and the City. Despite the increase in vehicle ownership and general traffic levels between 2006 and 2011, the number of serious incidents has decreased in total numbers. In general, the majority of crashes take place on the distributor and local roads. The worst intersections during the past 5 years include:

1 Leach Highway/Welshpool Road;
2 Albany Highway/Liege Street;
3 Bannister Road/South Street / Ranford Road;
4 Albany Highway/Wharf Street/Carden Drive; and
5 Albany Highway/Cecil Avenue.

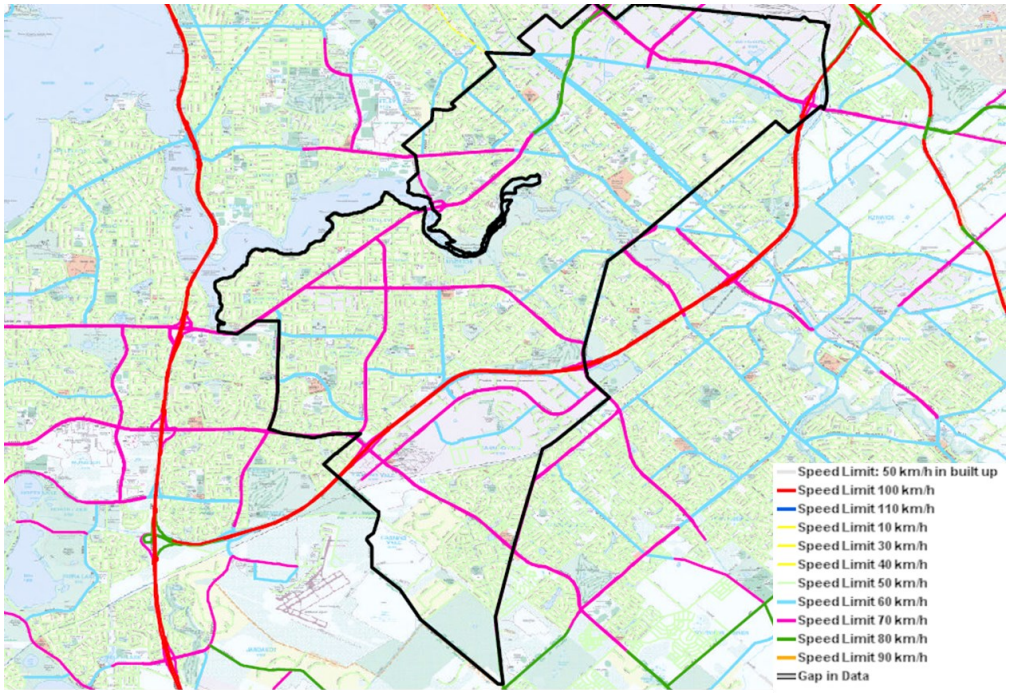


Figure 14—Existing Speed Limits

Crash data for the five year period from 1 January 2008 – 31 December 2012 were obtained from the MRWA online Crash Analysis Reporting System (CARS) (Refer to Figure 15). In the five year period there were a total of 11,934 crashes including the following:

- Fatalities – 23 (0.2%);
- Hospitalisation – 380 (3.2%);
- Other Medical Treatment – 1,713 (14.4%);
- Property Damage Only (PDO) Major – 6,096 (51.1%); and
- Property Damage Only (PDO) Minor – 3,722 (31.2%).

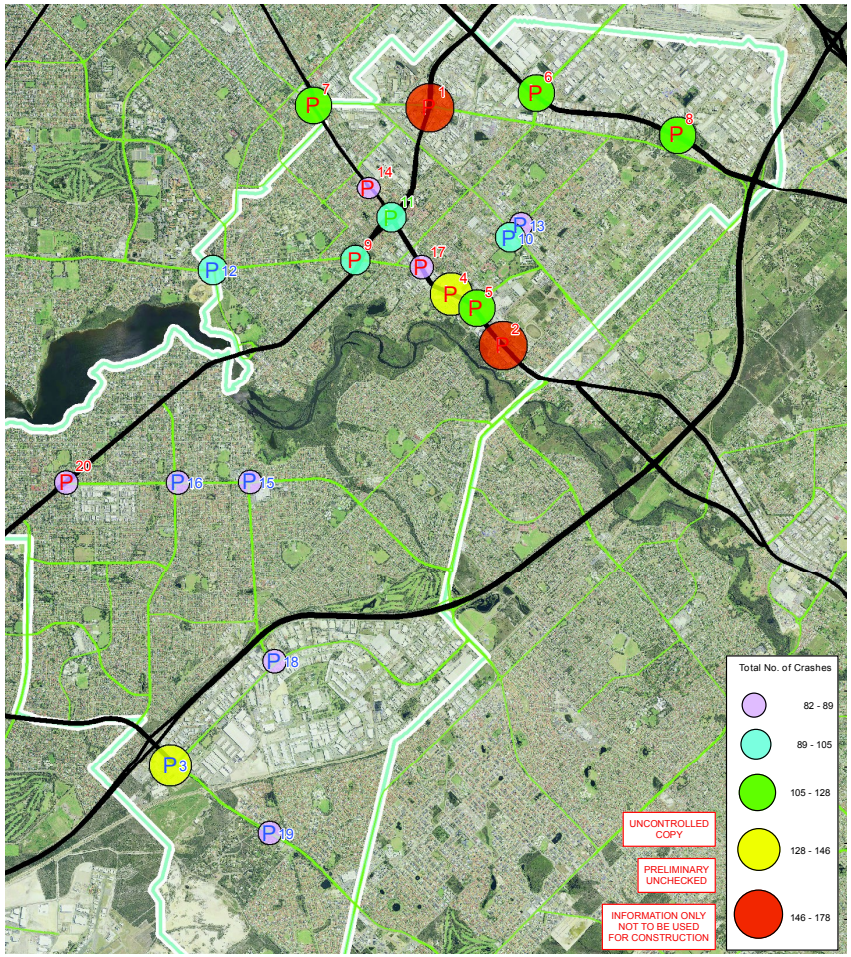


Figure 15—Top 20 Crash Sites (sites marked in red had the highest number of crashes in the City)

Road Network Planning

Planning for the future road network must take into consideration the potential for growth in traffic volumes. Detailed and sophisticated traffic modelling, undertaken by DoP and MRWA, provides a snapshot of the potential impacts on the regional and local road networks. This information has informed a large number of the strategies set out in the ITS.

The following observations summarise the major problem areas identified from the ROM 24* and STEM 2011* road network plots:

- Ranford Road is operating at capacity from Waratah Boulevard to Roe Highway in the AM peak.
- Leach Highway – Shelley Bridge carries a very high volume of traffic and is at capacity in 2011.
- Shelley Bridge is saturated in peak periods if Leach Highway is at capacity.
- Nicholson Road is congested in several locations – from Yale Street/Garden Street to Roe Highway and also from Lynwood Avenue to Albany Highway.
- Roe Highway operating at capacity from Willeri Drive to Orrong Road.
- Orrong Road is congested from Roe Highway to McDowell Street.
- Centenary Avenue is congested from Leach Highway to Manning Road.
- Manning Road is congested from Lawson Street to Leach Highway.
- Albany Highway is congested from Nicholson Road to Manning Road.

ROM and STEM are the two models used in WA by the MRWA and Department of Planning.

Public Transport

Public transport services within the City are provided by the State Government (PTA) and include buses and trains. This section of the report discusses the public transport network in the City in the context of the ITS. Beyond the movement of people, public transport contributes on a number of different levels to the makeup of the City as a vibrant, mixed use centre.

It will also play an increasingly important role in the future sustainability of the area. The City is well served by three stations on the Armadale / Thornlie line which include Cannington Station, Welshpool Station; and Queens Park Station (Refer to Figure 16). The City is well served by buses and most bus services in the western part of Canning feed into the Bull Creek or Murdoch rail stations while Cannington rail station and the Westfield Carousel Shopping Centre are the primary focus for bus services in the eastern part of Cannington.

Bus services to/from Curtin University are also very important and there is a bus service along Albany Highway from Armadale to Perth which serves local trips. The Welshpool and Canning Vale industrial areas are difficult to serve well by public transport but Transperth have some bus services which serve these areas. The same geographic constraints which affect the road network (the Canning River, the Armadale / Thornlie rail line and the Jandakot-Kenwick freight rail line) also impact on the bus network.

There are only three road bridges across the Canning River, these include Leach Highway, Fern Road and Nicholson Road, which results in traffic (and buses) being funnelled through these choke points. The Nicholson Road Bridge over the Canning River, which is a traffic congestion hot spot, accommodates eight bus routes at present. The buses are delayed significantly by traffic congestion in peak periods.

Armadale line stopping pattern diagram

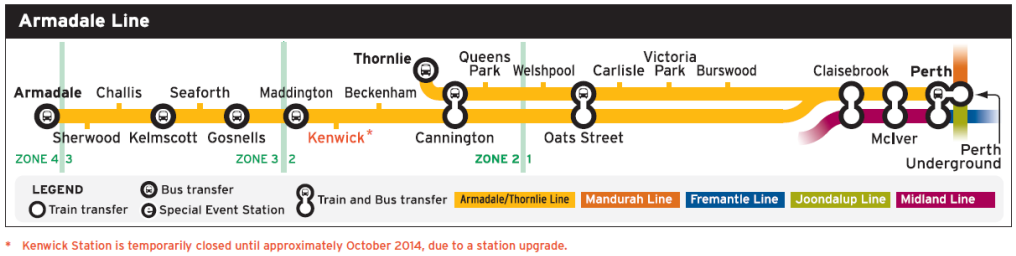


Figure 16—Armadale / Thornlie Line

Figure 17 summarises the function of the three train stations in the City.

NAME	STATION	DESCRIPTION
Welshpool		• 9.5 km from Perth railway station • Open station • No bus transfer • Park and Ride available • Access by maze
Queens Park		• 11.4 km from Perth railway station • Open station • Bus transfer available • Park and Ride available • Access by maze
Cannington		• 12.2 km from Perth railway station • Open station • Significant bus transfer (14 bus routes) • Park and Ride available • Access by pedestrian underpass

Figure 17—Train Stations in Canning

With the projected increases in population and employment, not just for the City but the entire metropolitan region, and the potential introduction of Light Rail Transit (LRT), passenger demands on the public transport network serving the City are forecast to increase significantly.

In addition Bull Creek Station and Murdoch Station (to a lesser extent) serve an important function for the City's residents, given the bus connectivity throughout the surrounding suburbs into the stations.

Cycling

Bicycle routes in the City consist of three types:

- on-road bicycle routes – predominantly on local and main roads; those on local roads tend to be 'plain links' with few dedicated bicycle facilities, whereas those on main roads typically have some form of separation or special provision for cyclists due to high vehicular traffic volumes and speeds;
- shared paths – typically along busy roads or arterials, at signalised junctions and roundabouts or where bicycle gaps have been installed in cul-de-sacs; and
- off-road shared paths – such routes are typically used by recreational cyclists and pedestrians.

These routes fall under two defined networks, the Perth Bicycle Network (PBN) and the City's local network. The City is well served by the PBN. The City's network of local bicycle routes serves local journeys to shops, schools and work, and predominantly uses access roads. Cycle use is increasing within the City, both for commuting and recreational purposes.

Walking

The City has an extensive network of footpaths and pedestrian facilities. The City is primarily responsible for this localised network and must ensure that it caters for a wide range of users of varying abilities, ages and interests, together with various forms of user "traffic" (e.g. prams / strollers, wheelchairs, electric mobility scooters, bicycles).

The proportion of residents in the City identifying themselves as being in "need of assistance" is increasing and with this growing demand it is essential that the pedestrian network is designed to cater for and attract such users. Pedestrian facilities at key locations, including rail stations, have been designed to provide maximum accessibility but there are locations across the City where provision for people with disabilities needs improving such as routes to bus stops and passive reserve infrastructure.

The quality of the pedestrian network and facilities varies across the City. Controlled crossings are provided at signalised intersections with high pedestrian demand and heavy traffic roads.

In addition to general footpaths, there are a number of recreational based paths in the City. There are a range of local generators and attractors of pedestrian activity in the City and these present a key opportunity to encourage people to make local trips on foot. The level of trips made on foot within the City is anticipated to increase significantly by 2031.

Freight

The designated freight road network comprises roads ranging from freeways to district distributors, the classification being based on the respective functions of each. The classification is intended to guide the movements of general access trucks, and to advise truck drivers and operators on the most appropriate roads to use.

The designated rail freight routes in Perth link the ports, major industrial areas and intermodal terminals with intrastate origins and destinations of major commodities and also link the State with the eastern seaboard.

MRWA manages strategic freight routes in the Perth metropolitan area. Perth's eastern region is a major air, rail and road transport hub servicing passengers and freight for the State. The region also services WA's construction and resources sector. The major north/south metropolitan passenger rail route passes through the northern parts of the City while the major freight line runs east/west from Welshpool to Canning Vale and on to the port of Fremantle.

Parking

Parking provision in the City comprises a mix of on and off-street, public and private, short and long stay, which serve various users including residents, local businesses and commuters. Parking is provided at rail stations in the City and disabled parking provision and kiss and ride facilities are also available at the stations.

Parking at stations is managed by the PTA. Parking in the City not only serves local residents and businesses, but also caters for demand associated with local land uses such as retail and education, but it is also used by commuters passing through the area.

Issues and Opportunities—The Road issues and opportunities for are shown below:

ROAD ISSUES

- Shelley Bridge experiences congestion and delays in peak periods;
- Leach Highway / Manning Road intersection experiences congestion and delays in peak periods;
- Welshpool Road / Sevenoaks Street / Rutland Avenue safety issues (note that traffic signals will be installed within 6 months);
- Welshpool Road / Leach Highway intersection very busy – may require additional capacity;
- Level crossings with Armadale line have significant delays and are potential safety hotspots. Locations include Welshpool Road, Hamilton Street, Wharf Street and William Street (City of Gosnells);
- Nicholson Road / Albany Highway intersection very busy. Significant delays on Nicholson Road Bridge over Canning River seems to be the constraint. The bridge has only 2 lanes and widens to 6 lanes (3 left-turn and 3 right-turn and left-turn bus lane) at intersection;
- Nicholson Road level crossing congested between Banister Road and Garden Street;
- The limited crossings of the freight railway, creates funnels for traffic and creates bottlenecks;
- Ranford Road capacity is inadequate for volume of traffic;
- Roads such as Albany Highway are a barrier for intra-centre accessibility;
- Roads such as Albany Highway and Leach Highway lack alternative access options;
- Centenary Avenue experiences congestion and delays during peak periods;
- Orrong Road becoming congested at Leach Highway and Roe Highway;
- Albany Highway through Bentley is a 4-lane undivided road;
- Sevenoaks Street (2-lane section) becoming congested; and
- Canning City Centre streets are heavily congested during peak hours.

ROAD OPPORTUNITIES

- The construction of the Thornlie Line extension provides a funding opportunity to remove the remaining level crossings in the City (Welshpool Road, Hamilton Street, Wharf Street, Nicholson Road). (Note that Welshpool station is likely to be removed when grade separation occurs).
- Centenary Avenue is a strategic road link. There is an opportunity to improve this connection through a combination of road widening and the introduction of reserved bus lanes (subject to road reservation widths).
- The planned Freightlink project and eventual widening of Roe Highway will provide improved road access between the Canning Vale industrial area and the Welshpool/ Kewdale industrial area; and
- The expansion of the Westfield Carousel Shopping Centre has to take into consideration road improvements in the Canning City Centre.

Issues and Opportunities—The Public Transport issues and opportunities are shown below:

PUBLIC TRANSPORT ISSUES

- Buses on Ranford Road are delayed by traffic congestion approaching the rail bridge and in the approach to the start of the reserved bus lanes at Vahland Avenue;
- Buses on Nicholson Road delayed in approach to Metcalfe Road, Spencer Road and Albany Highway due to heavy traffic congestion. Buses on Langford Road which is in the City of Gosnells, having extreme difficulty getting onto Nicholson Road due to traffic congestion;
- Traffic congestion delays buses on Albany Highway (mostly between Hamilton Street and Nicholson Road);
- Extension of the Thornlie line to Cockburn Central will change public transport patterns in the southern part of Canning and Gosnells. There will be new bus/rail transfer stations at Ranford Road and Nicholson Road. Services will need to be redesigned;
- Traffic congestion on Leach Highway delays buses (between Vahland Avenue and existing bus lanes on Centenary Avenue);
- The circle route (bus) servicing Canning City Centre is problematic whilst the Southern Link Road is not built;
- Traffic congestion on Cecil Avenue delays buses (on approach to Albany Highway); and
- Traffic congestion on Manning Road delays buses (on approach to Lawson Street).

PUBLIC TRANSPORT OPPORTUNITIES

- More capacity on Armadale / Thornlie line (more carriages);
- Thornlie line extension to Cockburn Central;
- Welshpool station will be removed when grade separation occurs at Welshpool Road;
- The redevelopment of Canning City Centre foresees an additional 10,000 dwellings between Cannington Train Station and Canning River; whilst Bentley Structure Plan foresees an extra 1,800 dwellings. Also, the Local Housing Strategy indicated densification along Manning Road. There is a logical need of linking Canning, as a major Activity Centre and its train station to Curtin, a specialised Centre and further to Canning Bridge station) - There is a separate strategy for the City Centre area (Canning City Centre Movement, Access and Parking Strategy);
- Unlikely that bus priority on Leach Highway could be justified at present given the volume of PT uses and number of buses feeding to Bull Creek station from Leach Highway from the east;
- The need for reserved bus lanes on Ranford Road (Vahland Avenue to Nicholson Road) should be examined;
- Look at the demand of buses on Albany Highway (Nicholson Road– Cecil Avenue) for reserved bus lanes;
- Consider Ferndale bridge for buses to bypass Nicholson Road or widen Nicholson Road and bridge to implement reserved bus lanes from Spencer Road to Albany Highway;
- Connect Gibbs Street to Mc Dowell Street. Long term link to Forrestfield and airport; and
- The expansion of the Westfield Carousel Shopping Centre has to take into consideration road improvements in the Canning City Centre.

Issues and Opportunities— The Cycling and Walking issues and opportunities are shown below:

CYCLING AND WALKING ISSUES

- Riding down Nicholson Road is very dangerous. No cycle path on Nicholson Road south of Yale Road/Garden Street (City of Gosnells);
- Shelley Bridge has no paths for walking and cycling;
- Few safe areas for pedestrians to cross Leach Highway - only two overpasses and an underpass at Shelley Bridge;
- Junction Dumond Street and Manning Road – difficult for pedestrians to cross over at peak hour (very busy);
- School children and pedestrians have to cross the busy Metcalfe Road with no crossing aid;
- Cycling - poor connectivity to surrounding residential areas e.g. NE of the railway line and SW of the river;
- Inconsistent lighting along bike path – Canning River;
- No footpath either side of Leach Highway between Webb Street and Karel Ave;
- Missing link of a shared path or cycleway along the Canning River between Centenary Park and Waterford (City of South Perth);
- A need for more bicycle lanes in the Bentley and Wilson area;
- Need a cycle way from Riverton Bridge to Kent Street Weir;
- Bike path near Cannington Station needs to be pedestrian and cycle friendly (e.g. glass on track, blind bends, too many cycle/pedestrian accidents);
- Lack of footpaths along common route for elderly to get from Bentley Regeneration project to IGA shops. Often they have to walk on the road and along verge;
- Riding down Manning Road is difficult as there is no proper shared path. Too narrow for both to use (people and bikes);
- A lack of end of trip facilities, and poor lighting, signage and streetscape deter people from cycling and walking within the City;
- Travel demand management measures will need to form a key part of proposals to encourage and facilitate local journeys to be made of foot or by bicycle;
- No cycle path on Nicholson Road north of High Road; and
- Shared path along Armadale Line ends at Welshpool Road (Town of Victoria Park) and Lacey Street (City of Gosnells).

CYCLING AND WALKING OPPORTUNITIES

- Major developments such as Canning City Centre Structure Plan will deliver significant improvements for cyclists and pedestrians;
- Opportunity to develop separated bicycle paths e.g. along Cecil Avenue;
- Redevelopment presents the opportunity to improve pedestrian connectivity through excessively long lots, increasing walkability between the network of cul-de-sacs and public transport network along Willeri Drive, as well as Riverton Shopping Centre;
- Opportunity to complete cycle path link from Surrey Road to Bywater Park;
- Need to extend the 40k school zone 'Rossmoyne Primary School' back along Webb Street as children are crossing from Webb Street to school ground;
- Review and update of the City of Canning Bike Plan;
- Opportunity to construct a cycle / walking path on Shelley Bridge;
- Opportunity to improve and develop cycle links from Bentley Regeneration Project to John Street, Curtin University and Centenary Avenue;
- Opportunity to improve access to the Welshpool and Canning Vale Industrial Areas; and
- Opportunity to develop and improve the cycle links to the Canning River Regional Park.

Issues and Opportunities—The Freight issues and opportunities are shown below:

FREIGHT ISSUES

- Business requests to allow 36.5m vehicles to access the Canning Vale industrial area. This presents problems for retrofitting intersections and roads, which have not been designed for these vehicles;
- Existing ban on trucks > 19m on Leach Highway between Albany Highway and Kwinana Freeway;
- Railway lines through the Kewdale Freight Terminal - creates severance and barrier effects;
- Heavy traffic on Roe Highway between Willeri Drive and Orrong Road will continue to increase;
- Canning City Centre is not an appropriate environment for heavy freight movement – restrictions on some local roads may need to be considered;
- Heavy vehicle movement on Cecil Avenue can cause disruption to buses; and
- Restricted Access Vehicles (RAV) network adjacent to the Bentley Centre which is a residential area.

FREIGHT OPPORTUNITIES

- Further study required on governance arrangements for freight routes at state and local government levels;
- A framework is required for different levels of government in relation to funding and maintenance of routes;
- Once the “Moving Freight Plan” is released, the City should review it and make a submission to address possible differences between freight routes; and
- Review the RAV network with the future signalization of the Welshpool Road – Sevenoaks Street intersection.

Issues and Opportunities—Parking issues and opportunities are shown below:

PARKING ISSUES

- A shortage of Park and Ride (PNR) bays at the train stations including Cannington, Queens Park, and Welshpool stations;
- PNR bays will disappear when Welshpool station is eliminated and when Queens Park and Cannington stations are redeveloped;
- The recent introduction of a $2 charge for PNR may increase the amount of illegal PNR occurring in the vicinity of rail stations;
- Major expansion of Westfield Carousel Shopping Centre and proposed new Bunnings and other developments will require significant amount of extra parking. Many of these bays will only be used on the busiest days of the year. The TPS needs to have more flexibility in relation to parking requirements;
- Informal parking at Westfield Carousel Shopping Centre as the best parking spots are being used by employees. This can make it difficult for shoppers to find convenient parking spots during the day; and
- Informal PNR at Livingston Shopping Centre and Southlands Shopping Centre.

PARKING OPPORTUNITIES

- Parking charges are becoming more widespread in activity centres outside the Perth CBD. Canning will eventually need to examine parking charges in the City Centre. Revenue from parking has the potential to provide new funding sources for public transport provision;
- Utilisation of the City's recreational and community facilities for PNR including local sports grounds, community centres, that is when they are not fully utilised (Monday – Friday);
- Work and collaborate with the City's shopping centres to allow PNR;
- New PNR bays to be constructed at Nicholson Road and Ranford Road when Thornlie Line extension proceeds; and
- Opportunity to reduce the number of PNR bays provided if frequency of feeder bus services is improved.

INTEGRATED TRANSPORT STRATEGY

Strategies

Strategies

The development of strategy and policy responses to existing and future pressures was based on a Multi Criteria Assessment process (MCA). This allowed for detailed review and discussion within the PWG of the different scenario strategy elements (Refer to Figure 21).

At the conclusion of the strategy development and MCA Phase (Phase 3), the "form" of the ITS was established. The adopted Scenarios for each of the key transport network themes were:

- **"Local Focus" and 'Limited / Balanced"** as the preferred direction for Roads.
- **"Public Transport Focus"** as the preferred direction for Public Transport.
- **"Maximise Priority"** as the preferred direction for Walking and Cycling.
- **"Managed Approach"** as the preferred direction for Parking.
- **"Balanced Approach"** as the preferred direction for Travel Demand Management.
- **"Proactive Approach"** as the preferred direction for Monitoring.
- *** Freight was not included in the MCA Process**

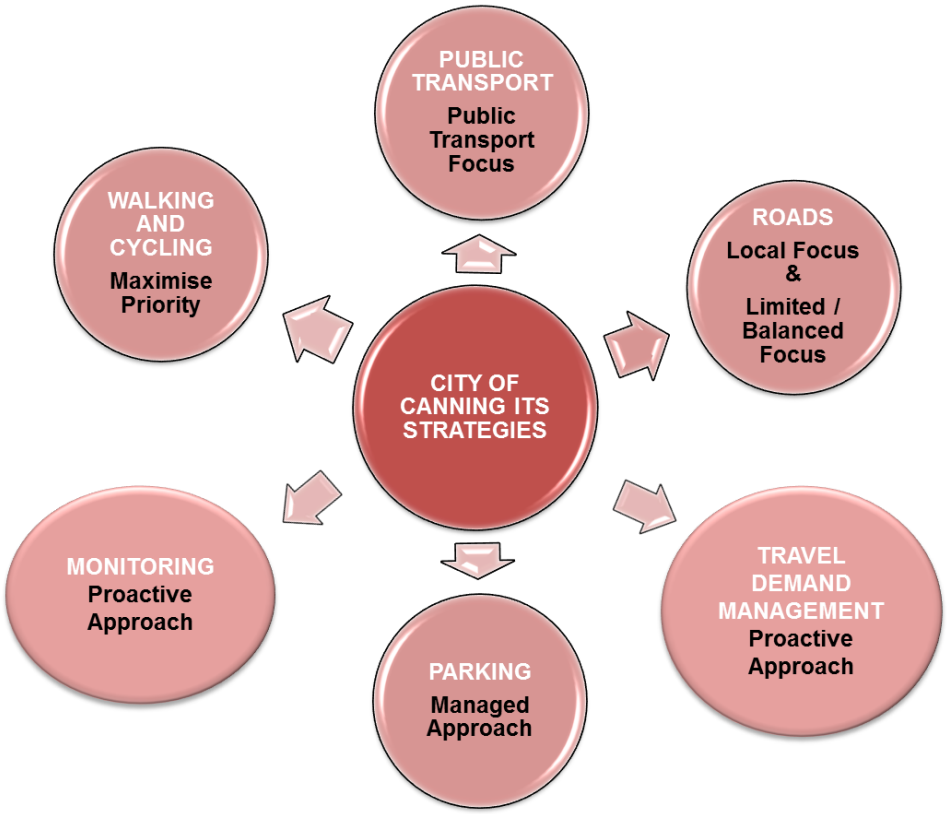


Figure 21—ITS Strategies

Roads Theme—Actions and Projects

The strategies and policies to guide the Roads theme of the ITS are based around a "Local Focus" and a Limited/Balanced approach. The overarching strategy for Roads is:

"Protectionist for the City, prioritising local movements. It includes no expansion of the Regional Road Network (RRN) outside the Metropolitan Regional Scheme (MRS); encouragement of speed reduction on local roads through Local Area Traffic Management (LATM); prioritisation of local freight movements".

There are 11 separate strategy elements within the Roads theme.

The primary recommendations developed for the Roads theme are shown in Figure 22. High priority (short term) projects are shown in red, while medium term projects are shown in blue and longer term projects in green.

Many of these road network improvements are dependant on the State Government as they primarily affect regional traffic movements through the City.

A high priority has been placed on the addition of reserved bus lanes in strategic locations. Providing priority for buses should help to increase the mode split, which in turn should help to reduce traffic congestion.

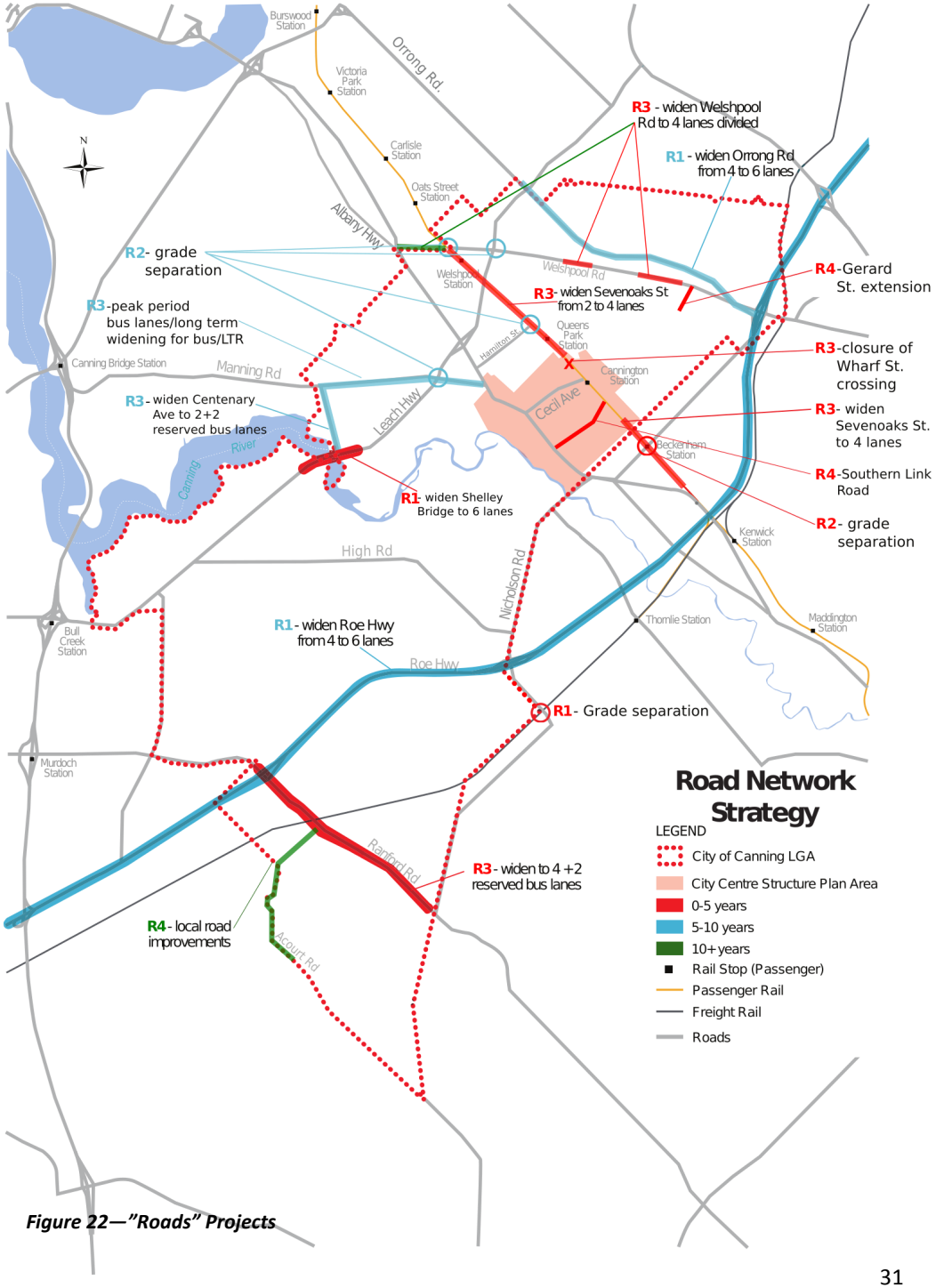


Figure 22—"Roads" Projects

Strategy Element Roads Scenario 1: 'Local Focus' & Scenario 2: 'Limited / Balanced'		Policy / Position	Action / Project
R1	**Regional Roads**	ITS supports limited road network expansion. Some new road capacity will be required, but the overall emphasis of the ITS should not be on adding new road capacity.	• Widen Roe Highway from 4 lanes to 6 lanes (Kwinana Freeway to Tonkin Highway). • Leach Highway - widen Shelley Bridge to 6 lanes + pedestrian/cyclist paths. Reference to PT and CW. • Widen Orrong Road from 4 lanes to 6 lanes (Roe Highway-Leach Highway).
R2	**Grade Separations**	ITS supports the progression of road/rail and some road/road grade separation. (Welshpool Road, Hamilton Street, Nicholson Road).	• Welshpool Road/Armadale line grade separation (long term recommendation) and removal of the Welshpool Station. • Hamilton Street/Armadale Line grade separation. • Leach Highway/Welshpool Road grade separation. • Nicholson Road / Freight Line grade separation. • Leach Highway / Manning Road grade separation. • William Street / Armadale Line grade separation which is in the City of Gosnells.
R3	**District Distributor (Blue) Roads**	No additional capacity for cars. ITS to consider widening roads only to provide reserved bus lanes and/or queue jump lanes for buses.	• Welshpool Road – Upgrade to 4 lanes divided (Pilbara Street-Kewdale Road, Wharf Street to McDowell Street). • Sevenoaks Street – Upgrade to dual carriageway. (Welshpool Road to Mills Street, Mills Street to Wharf Street is underway, Crawford Street to Albany Highway which is mostly within the City of Gosnells). • Ranford Road – widen to 4 lanes plus two reserved bus lanes (Vahland Ave to Nicholson Road. • Manning Road – to be widened if the Light Rail feasibility indicates the need for more land.

Strategy Element Roads Scenario 1: 'Local Focus' & Scenario 2: 'Limited / Balanced'		Policy / Position	Action / Project
R3 (cont.)	**District Distributor Roads**	No additional capacity for cars. Consider widening roads only to provide reserved bus lanes and/or queue jump lanes for buses.	• Welshpool Road – Upgrade to 4 lanes divided (Albany Highway to Sevenoaks Street). • Centenary Avenue Stage 2 – widen to 2 lanes plus 2 reserved bus lanes (Leach Highway to Manning Road).
R4	**Local Roads**	Support limited new roads to encourage local access. Use site specific innovative design practices (e.g. shared use, pedestrian/cycle priority, TOD principles).	Local Road Improvements: • Cecil Avenue (Albany Highway-Sevenoaks Street). • Liege Street (Albany Highway-Grose Avenue). • Lake Street (Grose Avenue-Southern Link Road). • Lake Street (Cecil Avenue-Grose Avenue). • Lake Street Extension (Wharf Street-Cecil Avenue). • Southern Link Road (Lake Street—Grose Avenue). • Pattie Street (Wharf Street to Cecil Avenue). • Gerard Street extension to Welshpool Road. • Carousel Road (Cecil Avenue—Grose Avenue). • Carousel Road Extension (Wharf Street-Cecil Avenue). • Build Eastern Link Road (Ranford Road-Clifton Road). • Build Acourt Road/Johnson Road (Eastern Link Road to existing Acourt Road).
R5	**Signal Operation / ITS**	Discourage through traffic and reduce car driver trip lengths by providing more green time for access roads and pedestrians/cyclists and less for cars. Lower overall cycle lengths. Support introduction of Intelligent Transport Systems and other measures.	• Review existing signalised intersections in City of Canning with MRWA to examine introduction of parallel pedestrian phases. Support introduction where beneficial. • Support MRWA in development of network monitoring throughout City of Canning. • Investigate introduction of ITS measures based on road network conditions, parking availability, traffic enforcement and variable messaging along Albany Highway & other significant roads.

Strategy Element Roads Scenario 1: 'Local Focus' & Scenario 2: 'Limited / Balanced'		Policy / Position	Action / Project
R6	**Local Area Traffic Management (LATM)**	Consider the implementation of LATM on local roads to deter vehicle speeding in high activity locations, where safety concerns prompt design responses and through corridors rather than "spot" based responses (safety reasons). Ensure that LATM is cycle, pedestrian and bus friendly. Focus LATM expenditure on transport network around school sites and activity centres.	• Prioritise localised pedestrian schemes to improve accessibility and safety through the Traffic Management Plan (TMP). • Continue to monitor and target improvements at Black Spot locations. Develop and maintain appropriate schemes to improve safety. • Develop and deliver safety schemes for local activity corridors and activity centres.
		Seek to minimise traffic redistribution impacts associated with the MAX LRT scheme and TransPriority.	• Work with DoT to ensure that local traffic management is considered as part of the planning stage. • Consider traffic redistribution associated with MAX LRT and TransPriority in the development of the TMP.
R7	**Trans priority (Smart-Roads)**	Focus on finding balance between local and regional traffic alongside pedestrians, cyclists and public transport. Slightly less emphasis on accommodating cars than scenario 2. Supports the introduction of the TransPriority network plans being developed by the State Government and seek to become benchmark local government for assessment of network and implementation of TransPriority measures.	• Develop TransPriority Operation Plan, in liaison with DoT, giving consideration to traffic redistribution impacts of TransPriority, and the MAX LRT scheme. • Develop the City Traffic Management Plan (TMP). • Work with State Government in monitoring of TransPriority network implementation.
R8	**Speeds**	Support reduction in speeds on local roads through LATM where justified for safety reasons. Future changes in speeds should be considered taking into account safety issues and role of the road in the overall network. Retain and monitor speeds on distributor road network, including those streets with potential to change categories.	• Support introduction of measures to create a slower speed environment around activity centres and key locations including school zones and train station precincts. • Review speed limits alongside review of road classifications. • Investigate introduction of Intelligent Transport Systems measures based on localised traffic enforcement.

Strategy Element Roads Scenario 1: 'Local Focus' & Scenario 2: 'Limited / Balanced'		Policy / Position	Action / Project
R9	**Safety**	Prioritise funding for LATM sites and around schools and activity centres. Support the introduction of measures to create a slower speed environment around school sites and Activity Centres. Contribute proactively to broader metropolitan and state wide road safety initiatives.	• Develop and deliver safety schemes of local activity corridors and activity centres. • Actively support a Safe Systems approach and deliver safety schemes at key local intersections. • Develop TransPriority Operation Plan, in liaison with DoT, giving consideration to traffic redistribution impacts of TransPriority, and the MAX LRT scheme. • Deliver blackspot scheme at a number of intersections. • Prioritise localised pedestrian schemes to improve accessibility and safety through the TMP.
R10	**Level Crossings**	Eliminate level crossings whenever possible with grade separations of level crossings on the urban rail network subject to funding constraints.	Advocate for MRWA to deliver schemes to address safety issues at key intersections of state / local roads. Work with PTA to deliver grade separated pedestrian crossings as part of station redevelopment works.
R11	**Heavy Vehicles / Freight**	Limited local freight movements. Manage future on-road movement through TransPriority (SmartRoads).	• Retain and support existing restricted access vehicle network. • Support localised freight movements and deliveries through provision of loading and universal on-street parking bays in key locations (with side-streets being the preferred location) in accordance with the parking hierarchy, not on Regional Roads and located as far away as possible from intersections. • Incorporate provisions in TPS No. 40 for development of benchmarked Servicing and Delivery Plans for land uses within Local and Regional Activity Centres.

Public Transport Theme—Actions and Projects

The strategies and policies to guide the Public Transport theme of the ITS are based around a "Public Transport Focus" approach which means a shift towards public transport is the preferred direction for the ITS. The overarching strategy for Public Transport is:

"Resources and revenue used to provide improved PT services and infrastructure (including light rail); strengthen future developments requirements regarding public transport; protection of rail reserves".

There are 10 different strategy elements for Public Transport.

Recommended public transport projects are shown in Figure 23. High priority (short term) projects are shown in red, medium term projects are shown in blue and long term projects are shown in green.

The majority of these actions are dependent on State Government cooperation and will be subject to funding constraints.

Some actions and projects are also beneficial to other themes, such as a new bus only bridge constructed across the Canning River connecting Ferndale with the

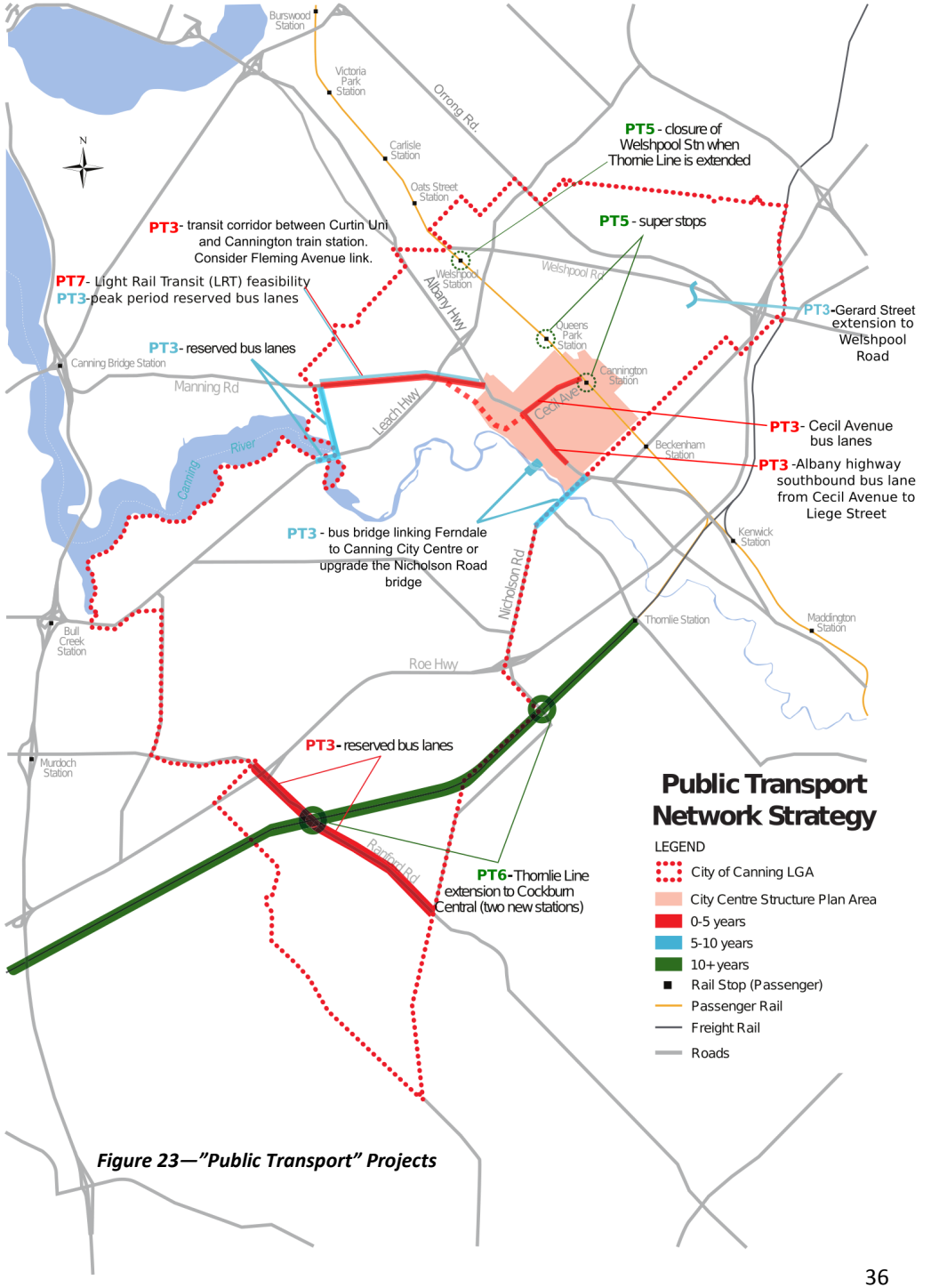


Figure 23—"Public Transport" Projects

Strategy Element Public Transport (Scenario 1—PT Focus)		Policy / Position	Action / Project
PT1	**Land Use Integration**	Integrate land use development with public transport provision in order to make both public transport more efficient and allow the City to focus resources (such as maintenance and communities facilities) on key locations or corridors. Propose to develop a performance measure based on accessibility to public transport modes to be linked with the Town Planning Scheme. Increased densities promoted through incentives along key routes, based on transport accessibility index. The key routes for increased densities have been previously identified in the Local Housing Strategy. Support the expansion of the urban rail network. Support the provision of public transport infrastructure. Support land use policies which either support the increase in use of public transport or safeguards existing high use corridors, such as the urban rail network and the provision of infrastructure for public transport in key locations.	• Develop tool to measure public transport accessibility (PT2) and link to development requirements within TPS No. 40. • Review development potential within TPS No. 40 in light of the MAX LRT alignment (PT7). • Develop land use policies for Regional and Local Activity Centres supportive of increased Public Transport trip generation or patronage capture. • Amend TPS 40 or include in the new scheme to ensure adjacent development does not impinge on potential future duplication of the rail line. • Include suitable provision of land for public transport infrastructure within Regional or Local Activity Centre strategic and land use planning.
PT2	**Accessibility Index**	All land within City is given a formal public transport accessibility rating which must be considered during development applications (higher densities & lower parking requirements in highly accessible areas).	• Prepare a public transport accessibility map for the City and make available online through Intra-maps.
		Proactively support development of land uses which have high accessibility performance and provide increased public transport trip generation or patronage capture in and around the activity centres and corridors.	• As per the adopted Local Housing Strategy, proceed with the densification of areas near regional and local activity centres as a means of optimising PT trip generation or patronage capture. • All land within City is given a formal PT accessibility rating which must be considered during development applications (higher densities & lower parking requirements in highly accessible areas).

Strategy Element Public Transport (Scenario 1—PT Focus)		Policy / Position	Action / Project
PT3	**Bus Priority**	Support the introduction of more on-road based public transport priority facilities including reserved bus lane, queue jump lanes and priority measures around activity centres. Contribute to and act upon recommendations from the State Government about these facilities. Develop a formal bus priority strategy (with PTA) to identify, prioritise and implement priority measures within the City. Develop targets and implement ongoing program to monitor performance. Support introduction of requisite transit based priority which support development from Canning City Centre to Curtin University.	Complete study to justify and work with State Government to deliver bus lanes on: • Centenary Avenue – peak period reserved bus lanes (Leach Highway to Manning Road). • Ranford Road – peak period reserved bus lanes (Vahland Avenue to Nicholson Road). • Manning Road – peak period reserved bus lanes (Centenary Ave to Albany Highway) , foreseeing the Light Rail implementation in the future. Consider Fleming Avenue link from Manning Road to Canning City Centre. • Work with State Government to introduce transit based priority as part of the LRT planning and TransPriority process. • Support the introduction of a transit corridor between Curtin University and Cannington. • Investigate feasibility of new one lane bus-bridge linking Ferndale to the Canning City Centre or upgrade the Nicholson Road bridge and approaches to accommodate a bus priority lane. • Cecil Avenue bus lanes as part of road redesign. • Albany Highway southbound bus lane between Cecil Avenue and Liege Street. • Gerard Street extension to Welshpool Road. (Connect Gibbs Street to Mc Dowell Street. Long term link to Forrestfield and airport)
PT4	**Local PT Trips**	Investigate funding options for local services within the City(“Canning Cat”).	• In exchange for higher densities and lower parking requirements, investigate funding options with developers for local bus services (“Canning Cat”).

Strategy Element Public Transport (Scenario 1—PT Focus)		Policy / Position	Action / Project
PT5	**PT Stops**	investigate the development of super stops in Activity Centres and develop infrastructure which is safe, provides adequate amenity and also provides a commercial opportunity around the stops in order to offset development and maintenance costs. Proactive approach to ensure that transit stops have excellent facilities (information, lighting and shelter). Improve bus stop accessibility at prioritised stops across the City.	• At key locations in activity centres and around stations, develop plans and designs for super stops (based on the hierarchy of existing stop usage). • Provide additional "super stops" (rail stops) based on a hierarchy of stop usage. • Develop commercial agreements for development of super stop infrastructure (to potentially incorporate advertising, sponsorship, maintenance etc.) • Work with the PTA to deliver upgrades to stop infrastructure including shelters, improved signage, wayfinding, accessibility and safety. • Conduct streetscape audits where prioritised PTA bus stop works are annually programmed to facilitate a continuous accessible path of travel (supporting the Disability Access and Inclusion Plan, 2012-2017). • Work with the PTA to deliver the recommendations of the streetscape audits and other upgrades.
PT6	**Heavy Rail**	Although the City has a limited statutory role in the provision of the urban rail network, there can be positive policies developed to support planning around rail corridors and stations. Work with PTA and other stakeholders to secure the existing corridor and remove impact of development along the corridor that may impinge on future expansion of urban rail. Lobby State Government for additional carriages on Armadale line and Thornlie line extension to Cockburn Central as soon as possible (subject to funding constraints and political imperatives). Redesign local routes in Canning Vale and other suburbs to feed new rail stations. Support improvements to safety and access at stations. PT6 supports strategy element R10 in the replacement of level crossings in the City with grade separated crossings.	• Advocate for increased capacity of Armadale / Thornlie Line services, particularly in peak periods. • Extension of Thornlie Line to Cockburn Central.

Strategy Element Public Transport		Policy / Position	Action / Project
PT7	**Light Rail**	Help to stimulate increased urban densities in urban corridors, and also as a critical mode in supporting future greenfield or brownfield development by lobbying for light rail.	• Develop a feasibility study to define the Light Rail corridor, route, stops and land needed for implementation; • Amend the Town Planning Scheme if necessary to secure the land ; • Lobby State Government for revival of MAX LRT. Push for link from Curtin University -Canning City Centre as part of MAX Stage 3. Implement Bus Rapid Transit) BRT system along intended LRT corridor in the interim. • Work with DoT to determine the most appropriate locations for stops based on walking catchments and the type of land use.
PT8	**Universal Access**	Improve equitable access to local services and facilities by efficient , reliable and seamless public transport. Part or fully fund a local community transport service. Improve equitable access to local services and facilities by public transport and supplement with community transport initiatives as required.	• Undertake a study to investigate the viability of providing a fully or partially funded community transport service (identify demand).
PT9	**Funding**	Focus existing and future parking revenue streams on more sustainable modes of transport, including the whole or partial funding of community based public transport services. The provision of community based public transport services is supported in PT9, which in turn is closely linked to PT4. Although the City is limited in being a service provider, this item proposes the potential for localised point to point services and also the examination of funding options to finance such a service.	• Investigate enhanced PT funding for local services through alternative sources (parking revenue, developer contributions). These options could include providing a service using revenue from parking, partial fare box recoup or other means of developing a commercial venture. • Localised public transport options to be explored first and if gaps still exist a community based service would be investigated accordingly. • Canvas State Government for funding.
PT 10	**Intelligent Transport Systems**	Provide real time public transport information which is essential for the promotion of sustainable travel. Consider a demand responsive PT system for evenings and weekends.	• Real time PT info (smartphone app). Consider demand responsive PT system for evenings/weekends. • Canvas State Government to introduce information aids in electronic format.

Cycling and Walking Themes—Actions and Projects

The strategies and policies to guide the Cycling and Walking theme of the ITS are based around a "maximise priority" approach. The overarching strategy for Cycling and Walking is:

"Greater priority afforded to pedestrians and cyclists (particularly around Activity Centres); proactive identification of measures to improve universal access; greatly improved facilities and infrastructure through more stringent requirements in the Town Planning Scheme (TPS)".

There are 12 different strategy elements for Cycling and Walking.

The primary actions developed for the Cycling and Walking theme are shown in Figure 24. Red, blue and green show the high, medium and long term priorities.

These actions involve both infrastructure projects as well as planning considerations and requirements. The implementation of these actions will require the cooperation of the State Government.

Shared Pedestrian and Cyclist Path at Cannington Station

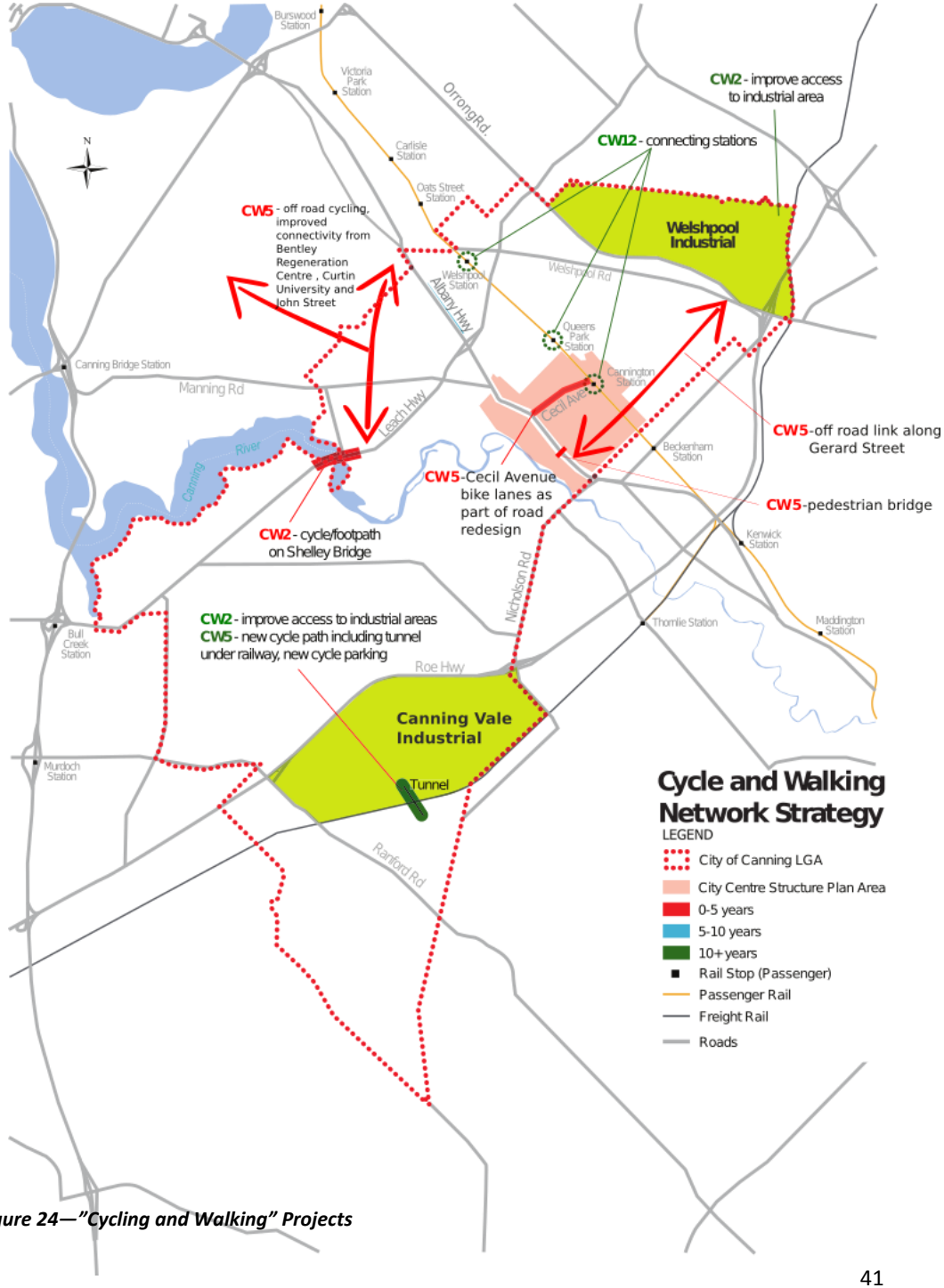


Figure 24—"Cycling and Walking" Projects

Strategy Element Cycling and Walking (Scenario 1—Max. Priority)		Policy / Position	Action / Project
CW1	**Bike Plan**	Revise City of Canning Bike Plan and remedy gaps in the network in a 5 year time period.	• Update Canning Bike Plan/identify missing links in the Canning Bike Plan. • Deliver the recommendations of the City of Canning Bicycle Plan and identify further locations for on-street cycle parking within activity centres through the structure planning process.
CW2	**On-road cycling**	Significant increase in on-road cycle network as identified in the Bike Plan. Prioritise on-road cycling improvements for capital works program.	• Canvas and undertake a study to justify the construction and shared path crossing on Shelley Bridge. • Deliver recommendations of City of Canning Bicycle Plan, as set out in the detailed works program. • Seek to incorporate on-road cycle facilities (lanes) as part of schemes identified through the City Traffic Management Plan. • Develop and deliver schemes to improve access to the Welshpool industrial area. • Develop TransPriority Operation Plan, in liaison with DoT, to identify cycle priority measures such as priority at signals along key routes.
CW3	**Activity Centres (On-road cycling)**	This reflects the intent of CW2 around Activity Centres and also R5 through the introduction of priority movements at signalised intersections. These policies support the movement of more sustainable modes. Prioritise cycle facilities in any redesign. Improve on-road cycle facilities along key corridors to Activity Centres. Prioritise on-road cycling improvements in planning for Regional and Local Activity Centres. Support TransPriority program.	Encourage and facilitate on-road cycling in association with appropriate facilities along roads to be identified in the future Bike Plan Ensure integration of developments with the wider cycle network through the structure planning process. Develop TransPriority Operation Plan, in liaison with DoT, to identify cycle priority measures such as priority at signals along key routes.

Strategy Element Cycling and Walking (Scenario 1—Max. Priority)		Policy / Position	Action / Project
CW4	**Activity Centres (Off-road cycling)**	Ensure that the shared path network is complete. Remedy any gaps in network. Ensure that any development applications include provision for adequate cycling facilities. Support a significant increase in provision of off-road cycle facilities. The increase in these sorts of facilities will encourage more cycling and contribute positively to the outcomes of the ITS. Support provision of high quality off-road cycling links into and through Activity Centres where practical. In addition to the off-road infrastructure.	• Extend the existing shared paths. • Support provision of off-road cycle paths. • Develop schemes to provide cycle lanes / shared paths on key routes to activity centres and stations.
CW5	**Off-road cycling**	Expand shared path network, convert existing footpaths to shared path network linking Activity Centres. Support the extension of the Principal Shared Path network along the urban rail corridor.	• Improve cycling and walking linkage and connectivity from the proposed developments such as: • Bentley Regeneration Project to Centenary Park / Curtin University & John Street. • Welshpool and Canning Vale Industrial Areas. • Install bike lanes along Cecil Avenue as part of the redesign. • Off-road cycle connection along Gerard Street/ Southern Link Road between Orrong Road and Albany Highway.
CW6	**End-of-Trip Facilities**	Support the provision of public EoT facilities within the City, focusing on activity centres. Develop incentive based policies to support developer led EoT facilities. Increase the provision of public EoT facilities in key locations as part of a joint venture. This could potentially be linked to cycle hire opportunities.	• Deliver the recommendations of the City of Canning Bicycle Plan and identify further locations for on-street cycle parking within Regional and Local Activity Centres through the structure planning process. • Undertake a study to investigate the feasibility / viability of providing public EoT facility(s). • Engage with a private operator to develop commercially based EoT facilities in viable locations, informed by the study.

Strategy Element Cycling and Walking (Scenario 1—Max. Priority)		Policy / Position	Action / Project
CW7	**Cycle Parking**	Consider significant increase in cycle parking facilities at key transit stop locations and activity centres. Include more stringent requirements for cycling end of trip facilities in TPS40 or in the new revision of the Scheme.	• Undertake an audit of existing public cycle parking. • Deliver the recommendations of the City of Canning Bicycle Plan, as set out in the detailed works program. • Provide public cycle parking in existing embayed car parking spaces at priority locations near Albany Highway and the City Centre as part of the implementation of the Parking Management Plan. • Develop and deliver an annual cycle parking implementation program, prioritising activity centres and key local destinations with insufficient provision. • Use funding from parking revenue to assist in delivering the annual cycle parking implementation program.
CW8	**Way-finding**	Support a transport network that is accessible for all users. Take into consideration safety of residents and visitors alike when finding their way around the City. Prioritise key locations with a significant amount of pedestrian activity (i.e.: identified preferred pedestrian routes, routes to public transport infrastructure and key local facilities). Improve the legibility of the movement network through wayfinding. Aim to be a benchmark local government for wayfinding throughout Perth. Support pedestrian priority in activity centres, along routes	• Develop a wayfinding strategy, as a component of the proposed walking and cycling plan. • Examine technology based schemes to improve wayfinding. • Require wayfinding criteria in structure plans. • Develop TransPriority Operation Plan, in liaison with DoT, to identify pedestrian priority measures such as priority at signals along key routes and link to the Walking Plan. • Increase safety of Pedestrian Access Ways (PAWS) and other local roads – use of lighting, CCTV, security etc. • Discuss with PTA about locating bus stops closer to intersections to discourage pedestrians from crossing the road in an unsafe manner.

Strategy Element Cycling and Walking (Scenario 1—Max. Priority)		Policy / Position	Action / Project
CW9	**Pedestrian Priority**	Prioritise pedestrians through and around activity centres and key local facilities. Prioritisation is essential for more vulnerable users of the transport network. Give clarity to more localised movements and set out a clear set of guidelines for planning around activity centres and locations of high pedestrian usage.	• Develop a Walking Strategy which prioritises pedestrians in activity centres, consistent with the TransPriority Operational Plan. Consider the addition of new pedestrian/cyclist bridges or at grade facilities in key locations on busy arterial roads. The walking plan could be done in conjunction with the cycling plan. • Improve crossing facilities on Albany Highway and other busy roads. • Deliver schemes to improve pedestrian facilities and amenity along preferred pedestrian routes (TransPriority). These will incorporate place-making principles and provision of passive infrastructure such as seating, drinking fountains, etc.
CW10	**Signalised Intersections**	Look at modifying traffic signals to allow parallel pedestrian/cycle movements with traffic flows.	• Modify traffic signals to allow parallel pedestrian/cycle movements with traffic flows. Consider countdown timers for pedestrians and advanced stop lines or cycle-only lights for cyclists. • Canvas MRWA to undertake study of options.
CW11	**Connecting Schools**	Co-operate with the State Government Connecting Schools initiative which is aimed at improving bicycle access and end-of-trip facilities.	• Improve pedestrian and bicycle access to schools, including end of trip facilities on the school grounds. • Lobby the State Government to include a school in the City of Canning in the pilot project.
CW12	**Connecting Stations**	Improve pedestrian and bicycle access to stations, including end of trip facilities on site. Co-operate with the State Government Connecting Stations initiative.	• Lobby the State Government to include a rail station in the City in the pilot project. (Note that Welshpool station is likely to be removed when grade separation occurs).

Parking Theme—Actions and Projects

The overarching strategy for Parking is:

"Strong focus on the management of parking within the City, including the use of maximums and parking caps for new development and introduction of Controlled Parking Zones; requirement for unbundled parking and limited provision of off-street parking".

The Parking theme includes 11 different strategy elements.

The primary actions developed for the Parking theme are shown in Figure 25.

Parking is a complex and controversial topic and needs further study. One of the recommendations would be the development of a comprehensive parking strategy for the City.

ACROD Parking at Cannington Station

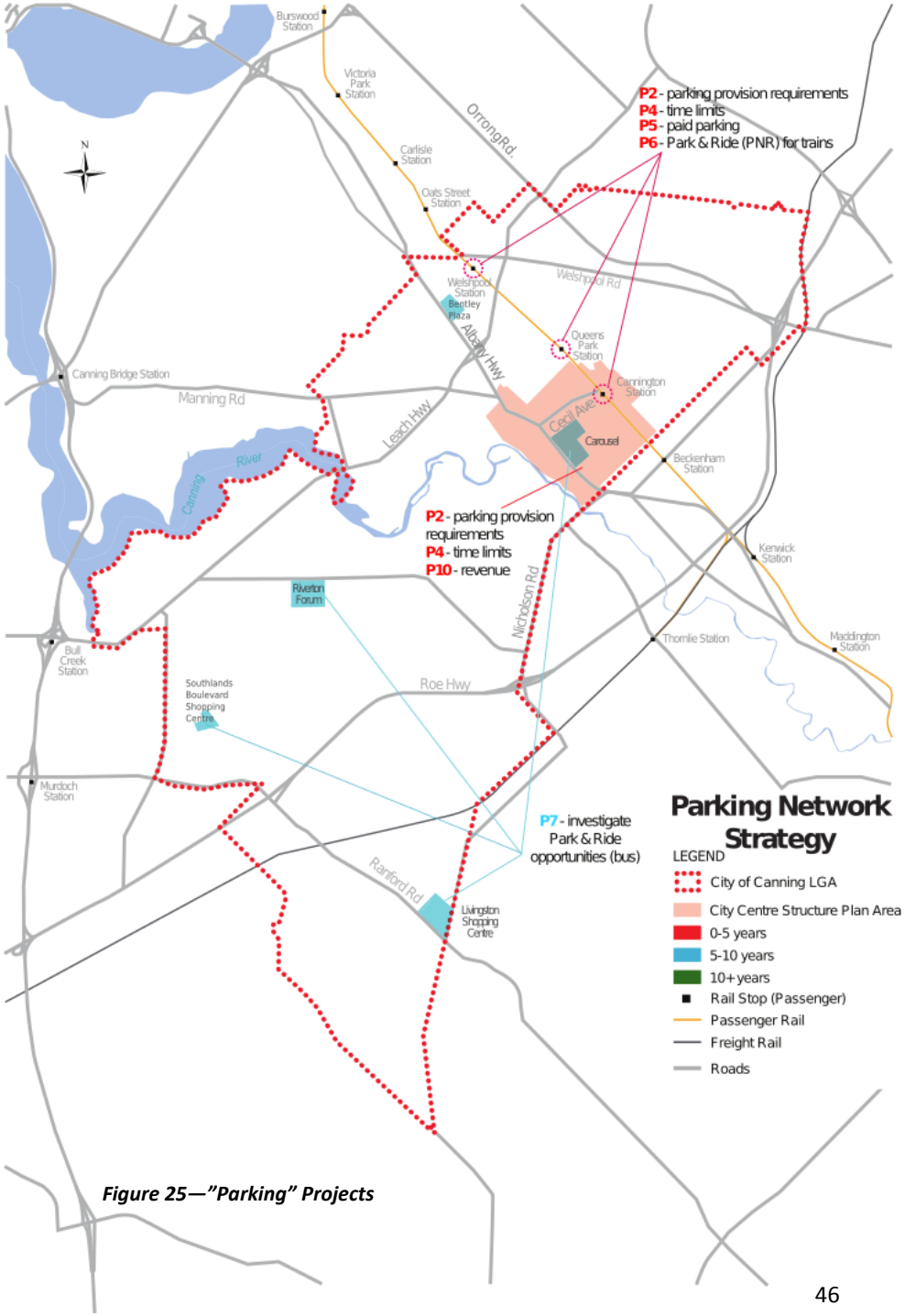


Figure 25—"Parking" Projects

Strategy Element Parking (Scenario 1—Managed Approach)		Policy / Position	Action / Project
P1	**Parking Strategy**	Develop a strategic parking plan to guide decision-making in various locations throughout the city and to ensure that these decisions are consistent with the direction outlined in a parking strategy. Support the implementation of recommendations set out within the Parking recommendations of this Strategy.	• Develop a comprehensive parking strategy and management plan for the City. • Monitor the effectiveness of the future parking management plan in achieving targets set. • Review parking supply based on the monitoring outcomes.
P2	**Parking Provision Requirements**	Limit parking in activity centres and within 800m of frequent PT services.	• Specify the minimum and maximum number of bays for developments with some flexibility for TODs in the future parking strategy. • Parking caps should be considered in activity centres (element 6.1.3 of the Local Housing Strategy).
P3	**Shared Parking**	Include provisions in TPS for shared parking and also requirements take into consideration adjacent parking (on/ off street).	• Investigate planning mechanisms to include provisions for shared parking and adjacent parking.
P4	**Time limits**	Carefully consider imposing time limits for parking bays in the City Centre and within 800m of train stations. Support more stringent parking restrictions for new developments to encourage use of more sustainable modes. There will be major new PNR facilities at two new train stations planned on the Thornlie line extension at Nicholson Road and Ranford Road.	• Consider reducing parking requirements that reflect public transport accessibility, availability of public parking and requirements for EoT facilities. • Amend TPS or use of other planning mechanisms, cash-in-lieu provisions to allow funds to be used for public parking and / or alternative transport modes for developments where mandatory reduced parking requirements do not apply. • Develop and adopt maximum parking standards where parking caps have not been applied.

Strategy Element Parking (Scenario 1—Managed Approach)		Policy / Position	Action / Project
P5	**Paid parking**	Consider paid parking in the short to medium term as a demand management technique. Revenue can be used to improve PT.	• The revenue returned from the paid parking can be utilised for other sustainable transport initiatives such as a CAT service.
P6	**Park' n Ride (Rail stations)**	Reduce number of PNR bays in City Centre (Cannington Station). Use land for TODs instead. Provide as many bays as possible at other railway stations.	• Several changes to PNR bays are expected in the City in the next 10+ years. • Investigate additional (400-500) bays at Thornlie Station, in conjunction with the City of Gosnells.
P7	**Park & Ride (Bus)**	Identify PNR opportunities at selected locations including shopping centres.	Consider facilitating meetings with shopping centre management and PTA to discuss more opportunities for Bus PNR at selected centres.
P8	**Intelligent Transport Systems**	Develop the Intelligent Transport Systems as part of the comprehensive parking strategy. Add signage to indicate parking availability.	• Develop a parking strategy with availability indication.
P9	**Enforcement**	Enforcement of parking would discourage informal and illegal parking and would be funded by the parking revenue.	Review the funding enforcement officers from parking revenue.
P10	**Revenue**	Use revenue for improved PT and for Intelligent Transport Systems projects and operations. Use revenue collected from parking management policies (permits and fines revenue) to implement Intelligent Transport Systems policies.	• Annual funding allocation from parking revenue. • Publicise annual funding allocation for Intelligent Transport Systems programmes from parking revenue.

Travel Demand Management

The strategies and policies to guide the Travel Demand Management theme of the ITS are based around a "Travel Demand Management Focus" approach. The overarching strategy for Travel Demand Management is:

"A balanced strategy which dedicates more resources to education and marketing programs in the hopes of shifting mode split in favour of walking, cycling and public transport."

Strategy Element Travel Demand Management (Scenario 2—Balanced		Policy / Position	Action / Project
T1	**Resources**	The City employs a TravelSmart officer. Utilise existing staffing resource to deliver Travel Demand Management initiatives to encourage increased travel by more sustainable and active modes. A dedicated resource such as a TravelSmart Officer is also an important pre-requisite for local governments to participate in the "Your Move" program.	• It is recommended that the City gives serious consideration to the recruitment of a TravelSmart Officer (even if only part time or if shared with another local government). The officer would look at integrating programs to help solve local transport and access issues and improve the health and liveability of the community. • Work with State Government to deliver travel demand management schemes and initiatives. • Develop a local community education program to improve understanding of parking and transport issues. Potential for this to be linked to TravelSmart Households / LivingSmart Household initiative. • Seek funding from State Government to update and re-run TravelSmart programs.
T2	**TravelSmart - "Your Move" program**	Undertake the TravelSmart "Your Move" program in the City. Roll out the program to a large sample of households subject to funding constraints. The City of Canning TravelSmart Households project was conducted within areas of Wilson, Bentley, Cannington, Welshpool and Queens Park with the target population defined as 14,000 persons (6,667 households). Of these households 6,129 were contacted and offered the program.	• Highly recommended that the City works with the Department of Transport to deliver the "Your Move" program to as many households as possible, subject to funding constraints.

Strategy Element Travel Demand Management (Scenario 2—Balanced Approach)		Policy / Position	Action / Project
T3	**TravelSmart Workplace**	Expand the existing TravelSmart Workplace program in the City by including more employers. The program assists employers/site managers to make changes to workplace facilities, policy and culture to influence travel behaviour of staff and customers.	• The City is already demonstrating leadership for local business through the development of a workplace travel plan for its own Administration Office along with several other local employers including Skilled (Welshpool), Diabetes WA (Bentley) and the Department of Commerce (Cannington). • There is potential to extend this program to many other workplaces in the City of Canning Municipality. This might also include investigating provisions for its town planning scheme and/or related policies to require and/or encourage travel plans as part of the planning process.
T4	**TavelSmart to Schools**	Introduce TravelSmart to Schools to a selected group of schools in the City (subject to funding constraints). Support the delivery of physical measures to provide safer routes to schools. Support State Government travel demand management schemes and initiatives. Improve street design through the application of place-making principles for example will improve the attractiveness and ambience of pedestrian and cycle routes and will thus have a significant role to play in encouraging and facilitating active travel. Travel Demand Management measures are to be used to positively contribute to the management of the transport network and support economic development. The City had undertaken an extensive TravelSmart program in 2006/2007 which forms a baseline for future change in travel behaviour of residents and visitors.	• There is potential to extend this program to schools within the City. and join the 16 local governments that already employ a TravelSmart Officer or have a position that performs a similar role supported by DoT. • Seek to influence travel choices for “soft” initiatives such as education programs. • Build infrastructure to provide improved facilities and create more pedestrian and cycle-friendly streets. • Develop safety schemes along key routes to schools as part of Traffic Management Plans. • Develop a Walking Plan. • Prioritise cycling improvements in the City’s Cycle Plan for capital works programs. • Prioritise localised pedestrian schemes to improve accessibility, safety and amenity through the City Traffic Management Plan. • Develop a policy on funding for safety schemes around schools. • Work with State Government to deliver travel demand management schemes and initiatives as part of the TravelSmart Schools program.

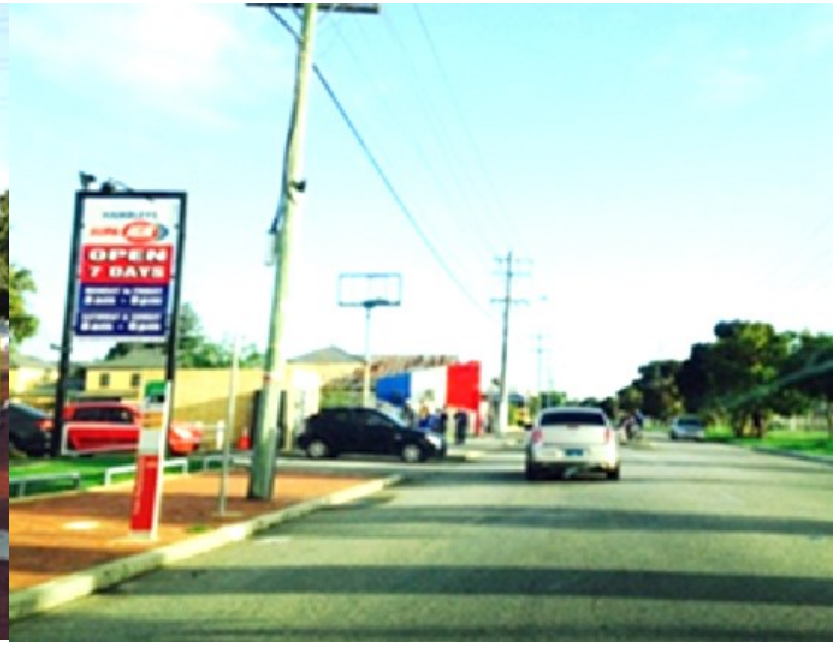
Monitoring and Feedback

The strategies and policies to guide the Monitoring and Feedback theme of the ITS are based around a "proactive and comprehensive focus" approach. The overarching strategy for Monitoring and Feedback is:

"A proactive strategy designed to set measurable targets and to collect the necessary data to monitor progress towards mode split targets. A proactive approach is taken for the planning for future problem areas and implementing strategies to address them using state-of-the-art traffic models".

Strategy Element Monitoring (Scenario 1—Proactive)		Policy / Position	Action / Project
M1	**Data collection**	Develop a comprehensive data collection programme to capture traffic flows, pedestrian and cycle movements on key routes, and parking utilisation in key areas.	• Recommended to develop a comprehensive data collection programme to capture traffic flows, pedestrian and cycle movements on key routes and parking utilisation in key locations, subject to funding constraints. • Capture the data and ensure its availability to the transport and planning agencies as well as the general public through its intramaps service. As technological interfaces improve, the City should seek to make best practical use of sharing relevant information captured for the ITS. • As the City collects data from the statutory planning process, it should capture the inputs and outputs within a database for trip generation. • Communication with MRWA should be maintained to ensure compatibility of counts and to avoid the double-counting of count locations in the same year.
M2	**Monitoring & Evaluation**	M2 supports M1 and an active support assessment of future development within the City. The effectiveness of the ITS will only be known if the system is regularly monitored and evaluated.	• Set mode split targets in 5-year intervals. Monitor progress through an annual "report card" showing mode split, traffic volumes, crash statistics, PT patronage, cycling and walking volumes. Report progress against targets.
M3	**Planning**	Use dedicated transport planning resources. Proactive approach in determining future problem areas and formulating strategies to address them.	• Require submission of travel plans for new development within activity centres. Travel plans should be subject to a series of thresholds that focus on reducing the impacts of significant trip generating development within the City. The enforcement of travel planning should be made within the TPS or other relevant policies/regulations.

Strategy Element Monitoring (Scenario 1—Proactive)		Policy / Position	Action / Project
M4	**Transport Modelling**	Having a transport model is useful for Local Government to examine strategies to address traffic congestion, to monitor progress towards ITS targets and to examine the impact on the transport system of different future land use scenarios and network changes. The vast majority of elements within the ITS focus on addressing existing or developing issues related to the transport network. Most of the issues which are current in the City today are consistent with those current at least a decade ago. The potential for changing travel patterns and infrastructure demands in the future means that the ITS must be agile enough to respond, and "future proof", the City of Canning. Some of these potential changes and responses are discussed in the next section.	• Recommended that the City develops a transport model, or continues to operate a model such as the 2015 Canning City Centre modelling work (Canning City Centre Movement and Parking Strategy).



INTEGRATED TRANSPORT STRATEGY

Implementation

Implementation

The projects and actions proposed to deliver the strategies, and ultimately the ITS objectives, have been grouped into several broad categories:

- Capital works projects (projects where construction activity will be required);
- Programs (such as TravelSmart and monitoring activities);
- TPS amendments or alternative planning mechanisms (alterations necessary to the Town Planning Scheme provisions / regulations in relation to development control);
- Further specific studies / projects (recommendations for further work to be undertaken by the City to inform future capital works projects, programs and TPS amendments); and
- Liaison and support (ongoing liaison with State Government agencies and other stakeholders and support for the delivery of capital works to be funded by others).

The implementation plans, which were developed following consultation on the first draft of the ITS, provide detail in relation to timeframe for progression / implementation and relative scale of cost for actions / projects.

The priority for progression / implementation of actions / projects has been considered based on the following timeframes:

- **Short term—0-5 years;**
- **Medium term—5-10 years; and**
- **Longer term—10+ years.**

The relative scale of costs for each of the actions / projects is based on the following orders of magnitude:

- **$ = Less than $1m**
- **$$ = $1m-$10m**
- **$$$ = $10m+**
- **O = No direct cost to the City other than time spent by City staff.**

The indicative costs consider the potential cost of the action / project to all parties involved in delivery, not just the proportion of the cost to be potentially borne by the City.

An asterisk (*) denotes where the costs would be shared with, or predominantly borne by, other parties with primary responsibilities for implementation.

Where multiple projects are included within the same action the potential costs are considered as the average per scheme.

Potential Funding Sources

Potential funding sources include state and federal road grants, blackspot grants and developer contributions or implementation of ITS actions / projects include:

- Perth Bicycle Network Local Government Grants (DoT administered scheme)—For improvements to bicycle routes, minor works and end of trip parking facilities in the Perth Metropolitan area;
- Cycle Instead Sponsorship Program (DoT) - Small grants to support community-based events in WA that promote cycling;
- Walk There Today (DoT) - Small grants for planning, implementation and evaluation of community based events and programs that promote walking;
- Connecting Schools Grant Program (DoT) - Matchfunding for delivering improved bicycle access and end-of-trip facilities for schools;
- TravelSmart Officer Seed Funding (DoT)—Funding assistance when available to assist with employment costs. Professional development opportunities are also provided;
- Existing or future budgeted projects, plans and policy development being pursued by transport agencies (MRWA, DoP, DoT, PTA) as well as other Government Agencies and Departments; and
- Other potential future funding sources that may become available such as TravelSmart Program grants.

Roads

The actions / projects to deliver the strategy for Roads have been grouped into the categories as shown in the Implementation Action Plan below. It will be essential for the City to work with State Government to deliver schemes to address congestion and safety issues on the regional road network.

Category	Action / Project	Short Term	Medium Term	Longer Term
Capital Works Projects	Sevenoaks Street – dual carriageway. Widen to 4 lanes divided (various).	$$	$$	
	Welshpool Road – widen to 4 lanes divided (various).	$$	$$	$$
	Centenary Avenue – Stage II—2 lanes plus 2 bus lanes.		$$	
	Ranford Road – construct reserved bus lanes (Vahland Avenue to Nicholson Road).	$$		
	Mills Road/Kewdale Road realignment.		$$	
	Cecil Avenue (Albany Highway – Sevenoaks Street) improvements.	$$		
	Liege Street (Albany Highway – Grose Avenue).	$$		
	Pattie Street (Wharf Street – Cecil Avenue).	$		
	Gerard Street extension to Welshpool Road.	$$		
	Southern Link Road (Liege Street-Gerard Street).	$$		
	Lake Street improvements (Cecil Avenue – Southern Link Road).	$		
	Lake Street Extension (Wharf Street – Cecil Avenue).	$$		
	Carousel Road improvements (Cecil Avenue – Grose Avenue).	$		
	Carousel Road Extension (Wharf Street - Cecil Avenue).	$$		
	Hamilton Street bridge over railway.			$$$
	Welshpool Road bridge over railway.			$$$
	Eastern Link Road, Ranford Road and Clifton Road.			$$$
	Acourt Road—Johnson Road, Eastern Link Road to existing Acourt Road.			$$
	Widen Manning Road if indicated in the Light Rail feasibility study (PT7).			$$
	Continue to monitor and target improvements at 'Black Spot' locations. Develop and maintain appropriate LATM schemes to improve safety.	$	$	$

Category	Action / Project			
Capital Works Projects (cont.)	Liege Street (Albany Highway—Grose Avenue)	$$		
	Southern Link Road (Grose Avenue - Lake Street)		$$	
	Gerard Street extension to Welshpool Road		$$	
	Continue to undertake streetscape enhancement works within the Canning City Centre.	$	$	$
Programs including Monitoring	None	N/A	N/A	N/A
TPS Amendments	None	N/A	N/A	N/A
		Short Term	**Medium Term**	**Longer Term**
Further Specific Studies / Projects	Review signal timings for intersections in City with MRWA to examine introduction of parallel pedestrian phases. Support introduction where beneficial.	**O**		
	Maintain/develop local traffic model to better assess and manage the likely impacts of proposed developments.	**$**	**$**	**$**
Liaison / Support	Advocate the widening of Shelley Bridge to 6 lanes + pedestrian/cyclist paths.	**O**		
	Work with State Government to widen Roe Highway to 6 lanes (Kwinana Freeway to Tonkin Highway).		**O**	
	Support the grade separation of Leach Highway/Welshpool Road.		**O**	
	Support the widening of Orrong Road from 4 lanes to 6 lanes (Roe Highway to Leach Highway).		**O**	
	Support the grade separation of Nicholson Road over the freight railway and upgrade the Nicholson Road bridge and approaches to accommodate a bus priority lane.	**O**		
	Support the grade separation of William Street over the Armadale Line railway.	**O**		
	Work with the PTA to deliver grade separated pedestrian crossings as part of station redevelopment works.		**O**	
	Support the grade separation of Leach Highway/ Manning Road		**O**	

Public Transport

The actions / projects to deliver the strategy for Public Transport have been grouped into the categories as shown in the Implementation Action Plan below.

A significant number of actions / projects for this ITS theme are under 'Liaison / Support' as delivery is dependant on State Government agencies and departments who are responsible for the public transport networks.

Category	Action / Project	Short Term	Medium Term	Longer Term
Capital Works Projects	Centenary Ave – Phase II (Leach Highway to Manning Road). 2 traffic lanes plus 2 bus lanes.		**$$**	
	Build reserved bus lanes on Ranford Road (Vahland Avenue to Nicholson Road).	**$$**		
	Construct a new one lane bus bridge linking Ferndale to Canning City Centre or upgrade of Nicholson Road bridge		**$$**	
	Welshpool Road/Armadale line grade separation (and elimination of Welshpool train station).			**$$$**
	Manning Road—Convert 2 lanes to peak period bus lanes reserved lanes		**$$**	
	Extend MAX LRT from Curtin University to Canning City Centre.			**$$$**
	Cecil Avenue bus lanes to be constructed as part of the redesign.	**$$**		
	Albany Highway southbound bus priority lane between Cecil Avenue and Liege Street.	**O**		
	Gerard Street extension to Welshpool Road.	**$$**		
Programs including Monitoring	Promote increased densities along key public transport routes based on transport accessibility index.	**O**	**O**	**O**
TPS Amendments	Amend local TPS and other planning mechanisms to ensure all land within the City is given a formal public transport accessibility rating which should be considered during development applications (higher densities and lower parking requirements in highly accessible areas).		**O**	
	Develop tool to measure public transport accessibility and link to further detailed planning, such as LDP for appropriate sites.	**$**		
	In exchange for higher densities and lower parking requirements, work with the developers and the PTA for local bus services such as the CAT services.		**$**	

Public Transport

Category	Action / Project	Short Term	Medium Term	Longer Term
Further specific studies / Projects Required	Investigate the feasibility of reserved bus lanes (future Light Rail) on Manning Road between Centenary Avenue and Albany Highway. Consider Fleming Avenue link between Manning Road and Canning City Centre/ peak period bus reserved lane.	**$**		
	Investigate the feasibility (with PTA) of a new one lane bus bridge linking Ferndale to Canning City Centre (costs and benefits, funding, timeframe) or upgrade the Nicholson Road bridge and approaches to accommodate a bus priority lane.	**$**		
	Redesign and rebuilding of the Queens Park Station and Cannington Station (with PTA).			**$$$**
	Work with the PTA to develop a formal bus priority strategy to identify, prioritise and implement bus priority measures. Strategic locations include: • Centenary Avenue between Leach Highway and Manning Road. • Ranford Road between Nicholson Road to Vahland Avenue. • Manning Road between Albany Highway to Centenary Avenue.	**$**		
	As a pre-curser to the introduction of LRT from Curtin University to the Canning City Centre, transit priority measures should progressively be introduced along Manning Road.	**$**	**$**	**$**
Liaison / Support	Lobby with the State Government to revive the MAX LRT and advocate an extension from Curtin University to Canning City Centre.	**O**	**O**	
	Lobby the State Government for more carriages for the Armadale / Thornlie Line.	**O**	**O**	**O**
	Lobby the State Government to extend the Thornlie Line to Cockburn Central.	**O**	**O**	**O**
	Work with PTA and DoT to progressively introduce signal priority for buses in peak periods from Curtin University to Canning City Centre (Bus Rapid Transit).	**O**		
	Work with the PTA to improve frequencies and reliability of services by investigating reserved bus lanes, signal priority and queue jump lanes.	**O**		

Cycling and Walking

The actions / projects to deliver the strategy for Cycling and Walking have been grouped into the categories as shown in the Implementation Action Plan below.

Category	Action / Project	Short Term	Medium Term	Longer Term
Capital Works Projects	Revise the City's Bike Plan. Work with the DoT to implement cycling improvements identified in the plan.	**$**	**$**	**$**
	Improve cycling and walking linkage and connectivity from the proposed developments such as: • Bentley Regeneration Project to Centenary Park / Curtin University. • Canning City Centre to Welshpool Road on Gerard Street alignment. • Improve access to the Welshpool and Canning Vale Industrial Areas.	 **$** **$** **$**	**$$**	
	Improve pedestrian/cycling crossing facilities on major roads such as Albany Highway.		**$$**	
	Construct a walking and cycling connection through the Canning Vale industrial area to connect residents to the south. Willeri Drive, Bannister Road and Baile Road connection to Waratah Blvd. Likely to include a short pedestrian/cycling tunnel under the railway line.			**$$**
Programs including Monitoring	Work with the DOT to increase connectivity of the Perth Bicycle Network (PBN).		**$**	
TPS Amendment	Update TPS No. 40 to include end of trip facilities as a requirement in both public and private developments.	**O**		

Cycling and Walking (Continued)

Category	Action / Project	Short Term	Medium Term	Longer Term
Further specific studies / Projects Required	Update Canning Bike Plan 1999 and identify missing links in the Canning Bike Plan.	$		
	Investigate the feasibility of a walking and cycling connection through the Canning Vale industrial area to connect residents to the south to Willeri Drive via Mordaunt Circuit and Baile Road.		$	
	Identify further locations for on-street cycle paths.	$	$	$
	Develop a walking plan, in line with the TransPriority Operational Plan.		$	
	Increase safety of Pedestrian Access Ways safer (PAWs) safer – use of lighting, CCTV, security etc.	$		
	Develop more cycle routes on shared paths that don't cross the Canning River.			$
	Develop a wayfinding and legible signage strategy.	$		
Liaison/ Support	Advocate the construction of pedestrian/cyclist path on Shelley Bridge (when widened).	O		
	Promotion of cycling in the City. Initiatives such as 'Bike Week' and 'Walk to Work'.	O		
	Work with the DOT to create an online journey planner for the best cycle / walking routes & way finding.	$		
	Work with the DOT to provide more advanced EoT facilities such as showers, lockers into both the public and private sector.		O	O
	Work with the PTA to review bus stop locations - closer to intersections may discourage pedestrians from crossing the	O	O	
	Work with the DOT to improve cycle and walking routes to the local schools and public transport – 'Connecting Schools		$	$
	Work with the PTA to include marketing and branding of active transport.	O		

Parking

The actions / projects to deliver the strategy for Parking have been grouped into the categories as shown in the Implementation Action Plan below.

Due to the nature of this theme, a number of amendments will be required to the TPS in the short term to support achievement of the strategy.

Category	Action / Project	Short Term	Medium Term	Longer Term
Capital Works Projects	Work with the PTA to construct an adequate number of new PNR bays at Nicholson Road and Ranford Road stations when they are built.	**O**	**O**	**O**
Programs including Monitoring	Develop a comprehensive parking strategy.	**$**		
TPS Amendments	The City should specify both a minimum and a maximum number of parking bays for each land use type and there should be flexibility for TOD developments allowing them higher densities and lower parking requirements in areas of high public transport accessibility.		**O**	
	Include provision in the TPS for reciprocal use.		**O**	
Further specific studies / Projects Required	Investigate using parking revenue to fund the CAT service or equivalent.		**$**	
	Work with the PTA on innovative funding sources for public transport.	**O**	**O**	
	Develop a strategy for mitigating a reduction in PNR bays at Welshpool Station (when it is grade separated) and Queens Park and Cannington Stations (when they are rebuilt).	**$**		
	Investigate the management of paid parking.	**$**		
Liaison/ Support	Advocate more PNR bays at non-city centre locations.		**O**	**O**

Travel Demand Management

The actions / projects to deliver the strategy for Travel Demand Management have been grouped into the categories as shown in the Implementation Action Plan below.

Category	Action / Project	Short Term	Medium Term	Longer Term
Capital Works Projects	N/A			
Programs including Monitoring	Seek funding from the State Government to run the TravelSmart (Your move) program.	**$***	**$***	**$***
	Seek funding from the State Government to participate in the TravelSmart to Schools program.	**$***	**$***	**$***
	Expand the existing TravelSmart Workplace program.	**$***	**$***	**$***
	In liaison with DoT, develop guidelines on the preparation of Travel Plans for developers.	**$**		
	Develop, implement and monitor a Travel Plan for the City of Canning Administration Centre.	**$**	**O**	**O**
	Develop, implement and monitor Travel Plans for key City run facilities.	**$**	**O**	**O**
TPS Amendments	Include thresholds and scope for Travel Plan requirements in TPS 40.	**O**		
	Require monitoring of travel plans and the provision of data to the City, through the TPS 40.	**O**		
	Amending the TPS or other relevant policies/regulations to require employers of a certain size to develop travel plans as part of the process of gaining development approval.		**O**	
Further specific studies / Projects Required	Recruit a TravelSmart Officer (part time or full time).	**$**	**$**	**$**

An asterisk (*) denotes where the costs would be shared with, or predominantly borne by, other parties with primary responsibilities for implementation.

Monitoring and Feedback

The actions / projects to deliver the strategy for Monitoring and Feedback have been grouped into the categories as shown in the Implementation Action Plan below.

Due to the nature of this theme, the actions / projects are predominantly grouped under 'Programs'.

Category	Action / Project	Short Term	Medium Term	Longer Term
Capital Works Projects	None.	N/A	N/A	N/A
Programs including Monitoring	Maintain a database of traffic counts and develop a comprehensive data collection programme • Traffic flows • Pedestrian movements • Cycle movements • Parking utilisation.	**$**	**$**	**$**
	Build and maintain traffic model of the City .	**$**	**$**	**$**
TPS Amendments	None.	N/A	N/A	N/A
Further specific studies / Projects Required	None.	N/A	N/A	N/A
Liaison Support	Support State Government data collection programmes (PTA, MRWA, DoP).	**O**	**O**	
	Work with State Government to formalise an Memorandum of Understanding (MOU) or similar arrangement for the ongoing sharing of data to support monitoring of the effectiveness of the ITS.	**O**		

INTEGRATED TRANSPORT STRATEGY

Performance Monitoring and Review

Performance Monitoring and Review

Monitoring progress in delivering the ITS, is critical and data collection is essential to for this which has been recognised by the inclusion of the Monitoring & Feedback theme. The actions / projects proposed under that theme will provide the mechanism for ensuring robust data is collected as a key input to the performance monitoring and review process. Data provided by third parties will also be essential to supplement the City's data collection program (Refer to Figure 26).

Key Performance Indicators (KPIs)

KPIs allow measurement against agreed outcomes and a consistent approach to reporting back on progress to decision makers, stakeholders and the wider community. The ITS will not only continue to contribute to the achievement of transport outcomes for the City but also for the state. As such, there are two levels of KPI's:

- Strategic; and
- Locally specific.

The Perth Metropolitan Transport Strategy 1995-2029 set targets related to:

- Safety;
- Efficiency;
- Effectiveness;
- Environmental responsibility;
- Social responsibility; and
- Robustness.

The ITS objectives are broadly consistent with these principles.

It is understood that the Moving People Network Plan (MPNP), which is being developed by the DoT, will establish four (4) key principles which successful outcomes for the MPNP will be based on:

- Mobility;
- Resilience;
- Integration; and
- Capacity.

Performance measures for each of these principles are expected to be developed in consultation with key partners (including State and Local Government). The City will work closely with other stakeholders to agree on a series of strategic KPIs. Following this process, this section of the ITS can be updated to reflect the agreed strategic KPIs.

A series of draft locally specific indicators have been identified to enable monitoring of the performance of the ITS in achieving its objectives (presented in the table overleaf). These will be developed further through consultation with State Government agencies.

Once a robust baseline has been established for each KPI and data is available for a couple of years to allow trends to be determined, appropriate targets will be established.

Review

A high level review of progress in delivering the actions / projects as set out in the implementation plans will be undertaken on an annual basis.

In order to ensure that the ITS keeps pace with the rapidly changing land use, demographic and economic trends that influence travel demands and patterns, the actions / projects and timings as set out in the implementation plans will be reviewed and updated as appropriate every five years. This will allow elements from the "future proofing" actions to also be integrated.

Whilst it is unlikely that the overall strategies and policies / positions will change significantly, updates will be made to these elements if deemed necessary in the five year review cycle for the implementation plans.

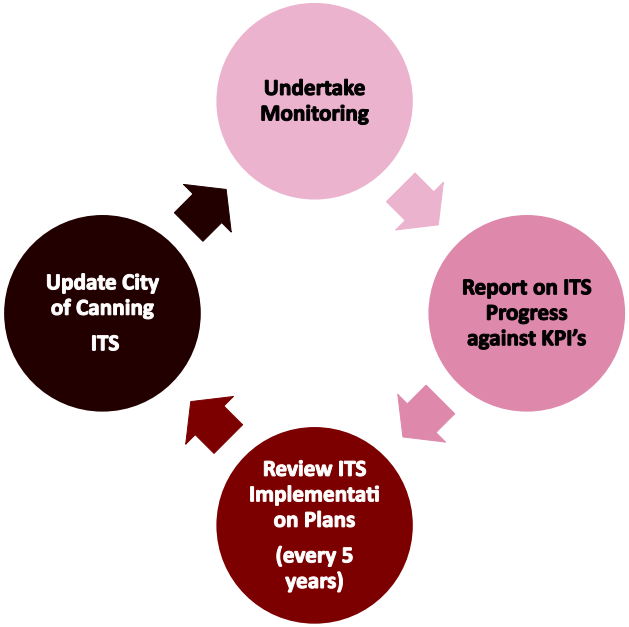


Figure 26—ITS Monitoring & Review Process

Monitoring Framework

Outcome	Draft KPI	Data Source
Improved road efficiency (including congestion management, safety, reallocation of road space)	Community perception of the City's performance in providing services: • Traffic management • Road maintenance • Maintaining footpaths, shared paths and cycle ways	City of Canning Community Survey (not available annually)
	Proportion of journeys to work by each mode for the: • Resident population • Workplace population	ABS (available in Census years)
	Fatalities and serious injuries from traffic accidents	MRWA CARS database
	Average peak period travel time for selected origin-destinations on key routes through the City	MRWA and RAC
	Average vehicle delays at key signalised intersections in peak periods	MRWA (SCATS)
Economic growth and Improved access	Community perception of City's performance in providing services related to: • Providing easy access for pedestrians in commercial districts. • Providing access for pedestrians in residential area and around schools. • Encouraging access and inclusion for people with disabilities.	City of Canning Community Survey
	Community perception of safety: • Waiting at the train station or bus stop during the day. • Waiting at train station or bus stop at night.	City of Canning Community Survey
	Level of pedestrian activity along key pedestrian routes through the City	City of Canning counts
	Number of cyclists on key cycle routes	City of Canning counts and DoT counts
	Number of daily trips made by public transport modes originating and terminating in the City	PTA (SmartRider data)
	Estimated mode split for trips with origins and/or destinations in the City	PARTS (household travel survey data), Travelsmart data & PTA (Smart Rider data)

Monitoring Framework

Outcome	Draft KPI	Data Source
Economic growth and improved access	Public transport accessibility KPI (for example, a measure of the number of jobs within a 10 minute walk of each high frequency public transport stop) to be developed in consultation with PTA.	STEM output or an accessibility model
Enhanced urban environment & amenity and healthier community	Community perception of safety when travelling by public transport, walking & cycling: • During the day; and • At night	City of Canning Community Survey
Improved parking management	Performance measures could include: • Occupancy rates in all paid parking • Increase in public transport use in area • Business and resident satisfaction with parking measures • Business and resident perception of parking enforcement activities • Vehicle turn-over rates • Offence rates	• Parking enforcement technology • Business and resident survey

INTEGRATED TRANSPORT STRATEGY

Acknowledgements,

Abbreviations & Glossary

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Abbreviations

ABS—Australian Bureau of Statistics

CBD—Central Business District

CoC or the 'City'—City of Canning

DoT—Department of Transport

DoP—Department of Planning

EoT—End of Trip

ITS—Integrated Transport Strategy

LRT—Light Rapid Transit

MAX—Metro Area Express

MCA—Multi-Criteria Assessment

MRWA—Main Roads Western Australia

PBN—Perth Bicycle Network

PTA—Public Transport Authority

PWG—Project Working Group

ROM—Regional Operations Model

STEM—Strategic Transport Evaluation Model

TDM—Travel Demand Management

TPS —Town Planning Scheme

TOD—Transit Orientated Development

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Glossary of Terms

ACROD Parking—Mobility parking bays located in on-street and off-street locations to improve access to key destinations such as shopping centres for persons with mobility disabilities.

Activity Centres—Strategic and locally important centres identified in SPP4.2 where commercial and other land use growth is concentrated, which support the development of TODs.

Census—The Census of Population and Housing is the largest statistical collection undertaken by the ABS every 5 years – the most recent Census was undertaken in 2011. Everyone in Australia is legally required to complete a Census form. The Census data is used by individuals and organisations in the public and private sectors to make informed decisions on policy and planning issues.

Community—Local residents, businesses and other organisations with an interest in the City.

ITS— Integrated Transport Strategy.

EoT Facilities—Showering, changing and storage facilities for cyclists. These may be public (e.g. located within the public realm or in car parks) or private (located within commercial buildings for use by employees).

PWG—City of Canning Working Group comprising community representatives and City officers.

LRT— Light Rail Transit.

MCA— Framework process for the assessment of solutions; the purpose of which is to identify a preferred option(s) which best contributes to a range of environment, social and economic criteria (known as the "Triple Bottom Line").

Mode—A method of travel (e.g. car, bus, train, walk, cycle).

Mode Share—The proportion of all trips which is made by a particular mode of transport.

Parking Management—Various policies and programs to deliver the most effective and efficient use of parking resources (e.g. maximum parking standards for new developments, shared parking, paid parking).

PBN—A metropolitan-wide network of cycle routes which is developed by State Government agencies and local authorities.

Policies—The priorities for the ITS which will guide future actions and projects pursued by the City in relation to the ITS themes.

Public Transport Accessibility—A measure of the ease by which an area or specific location can access the public transport network (e.g. proximity to bus stops or rail stations).

Project Working Group (PWG)—Comprising of representatives from the DoP, DoT, MRWA, PTA and also the Project Team who participated in the development of the City of Canning ITS.

Stakeholders—Parties with an vested interest in the ITS, namely State Government agencies (e.g. DoT, DoP, MRWA and PTA) and departments internal to the City.

Strategies—Guiding principles for the policies set out for each ITS theme.

TDM—Measures and initiatives to encourage a shift from single occupancy car to more sustainable modes of travel in an effort to help manage traffic congestion, parking demands and deliver environmental and health benefits.

Theme—ITS focus area – Roads, Public Transport, Walking & Walking, Parking, Travel Demand Management and Monitoring.

TOD—A mixed-use development / area which is compact and designed to be centred around public transport.

Traffic Model—A mathematical model that seeks to replicate traffic demands and characteristics in a current year to allow future year demands and travel patterns to be predicted or forecast. These models typically use data from other strategic models relating to land use and multi-modal trips to forecast the future situation.

TransPriority—More commonly known as SmartRoads, this process will be introduced by the emerging Moving People Network Plan currently being developed by the DoT. It is an approach that manages the competing interests for limited road space by giving priority use of the road to different transport modes at particular times of the day. All road users will however continue to have access to all roads but certain routes would be managed to work better for the priority modes during the times when the priority applies.

TravelSmart—Programs delivered by the government departments and local authorities to provide the community, workplaces and schools with the information, tools and resources needs to become healthier in their travel choices and reduce the impact on the environment.

Travel Plan—A plan prepared for a specific development, workplace, school or area to better manage the travel needs and habits, encouraging and facilitating travel by more sustainable and active modes. These plans include a packages of “physical” (e.g. improved cycle facilities) and “soft” (e.g. materials advertising the health benefits of cycling) measures and incentives.

Walking Plan—A plan setting out key walking routes and improvements to be delivered, in the context TransPriority and the TMP.

Wayfinding—The ability of users to navigate the movement networks.

Universal Access—Adequate access for persons of all abilities.