PARRAMATTA CITY CENTRE
INTEGRATED TRANSPORT PLAN
2009/10-2014/15

FINAL MAY 2010
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EXECUTIVE SUMMARY

1.1 Introduction
1.1.1 The Parramatta Twenty25 strategic plan identifies the importance of sustainable transport. This plan responds to the need for future strategies to manage road congestion, reduce the reliance on car use, and increase the use of sustainable transport especially for local trips. The sustainable transport objectives for the city centre:
- Promote and support walking, cycling and sustainable travel change.
- Provide a legible city centre with improved access and amenity for pedestrians and cyclists.
- Support and facilitate public transport use.
- Manage traffic to minimise its adverse impacts especially car commuters and through traffic.

1.1.2 This Integrated Transport Plan (ITP) for Parramatta City Centre responds to the Parramatta City Centre Plan (2007) which sets the planning framework for an additional 30,000 jobs and 20,000 residents by 2031. The planned growth will generate significant travel demand to Parramatta city centre. The ITP recommends a strategy plan to manage the existing and future sustainable transportation needs of the city centre.

1.1.3 The key issue for Parramatta city centre is moving away from the reliance of car use towards more sustainable transport of walking, cycling and public transport. This change of travel behaviour will be supported through a range of tools, both soft and hard options to limit increases in traffic congestion (increased car use) and reduce the overall impact of travel on the environment.

1.1.4 Several key elements that support this ITP have already been introduced. The Loop free city bus service was introduced in August 2008 and connects key city centre destinations. Council and GoGet introduced car sharing to Western Sydney. This short period car rental scheme supports reduced car ownership and sustainable transport while offering flexibility and convenience for city centre residents, workers and visitors. Later this year Council will install new pedestrian signage to significantly improve wayfinding within the city centre.

1.1.5 The recommended strategy plan shown in the table below and includes a priority ranking as either High (1 to 2 years), Medium (3 to 4 years) or Low (5 years or more). An annual report will be produced on the strategy plan to report and monitor progress and assess its effectiveness on moving towards the sustainable transport objectives for the city centre.

1.1.6 The key elements are:
- Ongoing lobbying for improved public transport including the Parramatta to Epping Rail Link, Parramatta to Castle Hills Rail Link, and a commuter ferry service from the Inner West to Parramatta.
- A Pedestrian & Cycle Amenity Zone to improve pedestrian and cycle accessibility and safety through new facilities and a lower speed limit.
- City and Regional Ring Roads to better manage traffic flow to more appropriate routes.
- Relocating commuter car parking to the city centre periphery and develop Park & Ride facilities.
<table>
<thead>
<tr>
<th>Strategy Plan</th>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E1</td>
<td>High</td>
<td>Continue <strong>Land Use Planning</strong> techniques including the Residential Development Strategy to create developments that encourage and support sustainable transport use.</td>
</tr>
<tr>
<td>E2</td>
<td>Medium</td>
<td><strong>Increase Transport Efficiency</strong> through the continued promotion and support of car sharing and other economic incentives based initiatives.</td>
</tr>
<tr>
<td>E3</td>
<td>High</td>
<td><strong>Support Environmentally Sustainable Vehicles</strong> through cheaper parking fees for hybrid vehicles</td>
</tr>
<tr>
<td><strong>Travel Behaviour Change</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TB1</td>
<td>High</td>
<td>Consider appointing an officer to <strong>Promote Sustainable Transport</strong> and develop policies and manage projects including an annual Sustainable Transport Month.</td>
</tr>
<tr>
<td>TB2</td>
<td>High</td>
<td>Develop a <strong>Council Travel Plan</strong> to show leadership and corporate social responsibility. Consider making Travel Plans a planning requirement for large developments located near good public transport.</td>
</tr>
<tr>
<td>TB3</td>
<td>Medium</td>
<td>Offer the <strong>Walking School Bus</strong> program to all primary schools within the LGA.</td>
</tr>
<tr>
<td><strong>Walking</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W1</td>
<td>High</td>
<td>Prepare a <strong>Pedestrian Access &amp; Amenity Plan</strong> to upgrade crossings, reduce street clutter, improve lighting, improve lanes and create a network of pedestrian routes.</td>
</tr>
<tr>
<td>W2</td>
<td>High</td>
<td>Investigate a <strong>Pedestrian and Cycle Amenity Zone</strong> to significantly improve pedestrian and cycle road safety and amenity within the city centre.</td>
</tr>
<tr>
<td>W3</td>
<td>Medium</td>
<td>Investigate providing <strong>Information kiosks</strong> to display information covering tourism, public transport, shopping, dining and community events, and <strong>Wi-Fi</strong> at selected public transport locations.</td>
</tr>
<tr>
<td><strong>Cycling</strong></td>
<td></td>
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<tr>
<td>C1</td>
<td>High</td>
<td>Implement <strong>Cycle Routes to the City Centre</strong> while avoiding negative impact on pedestrians, traffic and on-street parking.</td>
</tr>
<tr>
<td>C2</td>
<td>Medium</td>
<td><strong>Provide more Cycle Parking</strong> within the city centre that is secure and weather protected.</td>
</tr>
<tr>
<td>C3</td>
<td>High</td>
<td>Lobby Transport &amp; Infrastructure (T&amp;I) to provide <strong>Cycle Centres at Public Transport Nodes and Integrated Ticketing or Free Travel for Cycles.</strong></td>
</tr>
<tr>
<td>C4</td>
<td>Medium</td>
<td>Investigate the provision of a <strong>City Centre Cycle Centre.</strong></td>
</tr>
<tr>
<td><strong>Integrated Transport</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I1</td>
<td>High</td>
<td>Lobby State &amp; Federal Governments for a <strong>Sydney Integrated Transport Authority</strong> to co-ordinating public transport services including integrated ticketing, timetabling, marketing and long term planning with a strong focus on significantly improving public transport in Western and North Western Sydney.</td>
</tr>
<tr>
<td><strong>Bus</strong></td>
<td><strong>B1</strong></td>
<td>High</td>
</tr>
<tr>
<td><strong>B2</strong></td>
<td>Medium</td>
<td>Lobby the RTA to use their existing CCTV cameras to enforce <strong>Bus Priority</strong> measures.</td>
</tr>
<tr>
<td><strong>B3</strong></td>
<td>Medium</td>
<td>Lobby T&amp;I and bus and coach operators to <strong>Improve Bus Stops Facilities</strong> including timetables, electronic real-time information and higher quality bus stops in key locations.</td>
</tr>
<tr>
<td><strong>B4</strong></td>
<td>High</td>
<td>Establish a <strong>Bus Stop Access Program</strong> to ensure they are 100% accessible by 2021.</td>
</tr>
</tbody>
</table>

| **Rail** | **R1** | High | Lobby State & Federal Governments to **construct the Parramatta to Epping Rail Link**, prepare a feasibility study into the **Parramatta to Castle Hill Rail Link** and restore the **Cumberland Line service**. |
| **R2** | High | Lobby State & Federal Governments to construct the **West Metro** from Sydney to Parramatta. |
| **R3** | Medium | Lobby for improved **Rail Services and Station Facilities** including increased collection of performance data, requesting RailCorp to advertise station car park details and market larger ones as Park & Ride. Work with T&I to provide directional signs to all stations. |

| **Ferry** | **F1** | High | Continue to lobby State Government for a **Commuter Ferry Service to Parramatta** from the Inner West. |

| **Taxis** | **T1** | Medium | Council to lead the establishment of **Secure Taxi Ranks** in the city centre. |

| **Motorcycles** | **M1** | Medium | **Increase Motorcycle Parking Spaces and Remove On-street Parking Fees**. |

| **Road Network** | **RN1** | Medium | Council with the RTA, investigate a **City Ring Road** through signage and intersection improvements including new traffic signals at Wigram Street and Parkes Street. |
| **RN2** | Low | Council with the RTA, investigate a **Regional Ring Road** with improved key intersections. |

| **Car Parking** | **CP1** | High | Council to instigate the **Relocation of Long-Stay Commuter Parking from the City Centre** to new multistorey car parks on the city periphery served by the Loop free bus. |
| **CP2** | High | Council market the Fennel Street car park as **Park & Ride** served by the Loop free bus. |
2 INTRODUCTION

2.1 Introduction

2.1.1 The demand for travel to Parramatta city centre is expected to increase as a result of the predicted growth of an additional 30,000 jobs and 20,000 residents by 2031. To ensure a successful expansion of the city it needs to be supported by a dynamic sustainable transportation system. It is important that there is a plan to meet the growth. Council’s limited role in the provision of public transport is acknowledged.

Planned developments within the city centre

2.1.2 The most significant planned development within the city centre is Council’s proposed Civic Place development which covers an entire city block north of the station. The re-development of this central city block has already started with the Sydney Waters’ new headquarters opening in April 2009. The Civic Place development represents a significant increase in jobs and residents along with new civic facilities including new Council offices, art centre and library. Three additional city blocks, Horwood Place, Erby Place and Riverside all contain Council car parks representing significant areas of re-development potential along with private land owners. In addition, there are numerous privately owned sites that have been mooted for development.

2.1.3 The streetscape improvements to Church Street are planned to continue spreading to the section north of Victoria Road to re-connect this northern part of the city again despite the barrier of the river and Victoria Road. The Design Excellence Review Panel process has already approved significantly better architectural designed buildings in the city centre to re-enforce Parramatta as a regional city with developments planned at 66 Station Street, 111 George Street, Argyle Street and two on Church Street (north).

Planned transport improvements to the city centre

2.1.4 RailCorp along with TIDC (Transport Infrastructure Development Corporation) are delivering the Rail Clearways’ projects across the CityRail network. This will improve passenger rail services and allow the Cumberland Line to re-connect Western Sydney again. The bus reform process has already improved bus services from Parramatta to Bankstown with the other bus contract regions due to implement revised bus services in 2009. This complements the existing North-West and South-West Transit-ways and the new Parramatta Transport Interchange delivered in recent years. In June 2009, the State Government announced a commuter ferry service would operate between Parramatta and Darling Harbour.

2.1.5 The State Government’s Metropolitan Transport Plan released on 22 February 2010 has a significant impact on Parramatta and the ability of the city centre to grow in a sustainable way. The Sydney Metro project, an underground rail system from Sydney to Westmead has been scrapped. The proposed Sydney Metro had the ability to move 30,000 people per hour per direction and therefore had the capacity, combined with minor improvements to existing public transport, to support the planned growth of Parramatta city centre. Work on the Sydney Metro stage 2 (Sydney to Westmead) was programmed to start in 2011 and be complete by 2017.

2.1.6 The Metropolitan Transport Plan contains no significant transport improvement projects for Parramatta. The Western Express is a combination of a new rail line and rail line improvements. The project is planned to start in
2015 with not indication of a completion date. It is estimated that project will deliver additional capacity and journey time savings of 5 minutes between Penrith and Parramatta and 5 minutes between Parramatta and Sydney.

2.2 Scope
2.2.1 The scope of the Parramatta City Centre Integrated Transport Plan (ITP) is to develop a strategy of transport improvements as a response to the planned growth of the city centre of 30,000 additional workers and 20,000 residents by 2031. This is from an estimated base of 45,000 workers and 7,000 residents (Informed Decision 2009). The focus is on movement around Parramatta city centre and transport connection improvements, primarily for journeys to the city centre from the surrounding area. The ITP recognises the importance of the growing dominance of the private car and the important of sustainable transport to meet the planned transport demand in a more mass transit more environmentally sustainable manner.

2.2.2 The recommended strategy plan shown on page 3 including priority ranking as either High (1 to 2 years), Medium (3 to 4 years) or Low (5 years or more). The plan will be reviewed annually to monitor progress and re-assess their impact.

2.3 Aims & Objectives
2.3.1 The main aim of the Integrated Transport Plan is to establish the strategy needed to improve the city centre environment for work and play through reduced car use and increased walking, cycling and public transport. This will be achieved through road network changes within the city centre, improved public transport and sustainable transport initiatives. This is set against a hierarchy of transport users in terms of prioritising their needs and importance within the city centre as shown in table 2.1 below.

<table>
<thead>
<tr>
<th>Transport Mode</th>
<th>Level of Importance</th>
</tr>
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<tbody>
<tr>
<td>Environment</td>
<td>Highest</td>
</tr>
<tr>
<td>Public transport</td>
<td></td>
</tr>
<tr>
<td>Travel Behaviour Change</td>
<td></td>
</tr>
<tr>
<td>Pedestrians</td>
<td></td>
</tr>
<tr>
<td>Cyclists</td>
<td></td>
</tr>
<tr>
<td>Taxis &amp; Motorcycles</td>
<td></td>
</tr>
<tr>
<td>Non-commuter cars</td>
<td></td>
</tr>
<tr>
<td>Commuter cars</td>
<td>Lowest</td>
</tr>
</tbody>
</table>

2.3.2 The sustainable transport objectives for the city centre are to:
- Promote and support walking, cycling and sustainable travel change.
- Provide a legible city centre with improved access and amenity for pedestrians and cyclists.
- Support and facilitate public transport use.
- Manage traffic to minimise its adverse impacts especially car commuters and through traffic.

2.4 Setting the scene
2.4.1 The current number of jobs within the city centre is 40,000 with an estimated 5,500 residents (Australia Bureau of Statistics 2006) and mode split for the journey to work for the Parramatta Inner Statistical District (includes Westmead & Camellia) is as follows:
64.8% car driver
17.0% train
6.5% car passenger
4.1% bus
4.0% walk
0.6% truck
0.5% motorcycle
0.4% bicycle

2.4.2 The ABS population and journey to work data is of limited use and difficult to use. Usually the data is published at least 1 year after it is collected and in addition the area covering the city centre has changed for the last three Censuses making comparisons difficult and based on assumptions.

2.4.3 Broadly the data shows that car uses is the most popular mode of travel for the journey to work with a significant number using the train. There is small number of workers who use the bus or walking with the use of all other modes negligible.

Table 2.2 Summary of Parramatta’s strategic transport connections

<table>
<thead>
<tr>
<th>Strategic roads</th>
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<tbody>
<tr>
<td>M4 motorway (Penrith to the Inner West via Parramatta)</td>
</tr>
<tr>
<td>Great Western Highway (Parramatta to Penrith &amp; Blue Mountains)</td>
</tr>
<tr>
<td>Parramatta Road (Parramatta to Sydney via Leichhardt)</td>
</tr>
<tr>
<td>Victoria Road (Parramatta to Sydney via Ryde)</td>
</tr>
<tr>
<td>Windsor Road/Old Windsor Road (Parramatta to Richmond and Baulkham Hills)</td>
</tr>
<tr>
<td>Cumberland Highway (Hornsby to Liverpool via Parramatta)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rail services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Line connecting Western Sydney to the central Sydney</td>
</tr>
<tr>
<td>Cumberland Line links Western Sydney together</td>
</tr>
<tr>
<td>Blue Mountains Line connecting the Blue Mountains to Sydney</td>
</tr>
<tr>
<td>CountryLink service to regional western NSW</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bus services</th>
</tr>
</thead>
<tbody>
<tr>
<td>North West Transit-way to Rouse Hill</td>
</tr>
<tr>
<td>South West Transit-way to Liverpool</td>
</tr>
<tr>
<td>Strategic bus corridors to Blacktown, Castle Hill, Hornsby, Ryde, Macquarie, Sydney, Burwood and Bankstown</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ferry services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service from Sydney to Parramatta</td>
</tr>
</tbody>
</table>

2.5 Key Targets

2.5.1 The key targets for this plan are the implementation of the recommended actions listed in Executive Summary. Since 2005 Council has undertaken annual Resident Satisfaction surveys to understand the level of satisfaction (perception) across a series of transport measures to guide future programs including:

- Road condition
- Car ownership
- Vehicle road safety
- Effectiveness of Parking restrictions
- Footpath condition
- Pedestrian road safety
- Pedestrian accessibility
- Extent of footpath network
- Cycleway condition
- Measures to increase cycling
• Existing ferry use
• Satisfaction with ferry service Measures to increase ferry use

2.5.2 State Government is responsible for the arterial road network and public transport (bus, train and ferry) which are the main modes of transport. The corresponding State Government transport agencies collect travel data but it is usually centred on the journey to work to central Sydney rather than Parramatta. The State Plan (2009) has established a mode split target for Parramatta of 50% of work trips during the peak hour by public transport by 2016. It is unclear how State Government intends to work towards this ambitious target given there are no plans for significant public transport improvements before 2016.

2.5.3 Council is responsible for some city centre parking and the local road network including the pedestrian and cycle networks which are, to some extent, subservient and limited by the modes of transport covered by State Government. Data for these is already collected as mentioned above.

2.5.4 State Government has set a transport priority (S6) within the NSW State Plan which is to increase the share of peak hour journeys on a safe and reliable public transport system. The targets to measure the achievement of the priority are:
• Increase the share of commute trips made by public transport to and from the Sydney CBD during peak hours to 75 per cent by 2016.
• Increase the proportion of total journeys to work by public transport in the Sydney metropolitan region to 25 per cent.
• Consistently meet public transport reliability targets as follows:
  92% of peak CityRail trains run on time.
  95% of Sydney Buses run on time at departure.
  99.5% of Sydney Ferries run on time.

2.5.5 The targets focus on Sydney CBD and State owned public transport and therefore are poor relevance to Parramatta city centre. The State Plan needs to recognise the metropolitan regional cities and other cities in NSW and also the fact that significant areas of metropolitan Sydney have private bus operators. The public transport reliability targets are discussed in the appropriate Chapters of this Integrated Transport Plan.

2.6 Background policies, strategies and plans
2.6.1 This Integrated Transport Plan (ITP) is guided by several Council and State Government policies, strategies and plans outlined below:

Metropolitan Transport Plan (State Government 2010)
2.6.2 This newly released Plan sets a vision for metropolitan Sydney and links transport planning and land use planning together. The key projects within the plan that impacts on Parramatta city centre are as follows:
• Western Express – Improved rail service and increased capacity with reduced journey times between Penrith and Parramatta by 5 minutes and Parramatta and Sydney by 5 minutes. 1000 extra buses – unclear how many will benefit Parramatta as shared across metropolitan Sydney, Newcastle, Wollongong and Central Coast.
• More bus priority
- Integrated electronic ticketing from 2012.
- Establishment of Sydney Metropolitan Development Authority (SMDA) to drive development in existing areas.

**NSW State Plan (State Government 2009)**

2.6.3 The State Plan sets priorities and targets for NSW and the transport related actions include:
- Increase the share of commute trips made by public transport to and from Parramatta CBD during peak hours to 50% by 2016.
- Increase the proportion of total journeys to work by public transport in the Sydney Metropolitan Region to 28% by 2016.
- Increase the mode share of bicycle trips made in the Greater Sydney region, at a local and district level, to 5% by 2016.
- Increase the number of people living, through land use planning, within 30 minutes by public transport to regional cities.

Improve the efficiency of strategic roads

2.6.4 There State Government delivery plans to support the State Plan include:
- The Metropolitan Transport Plan.
- Regional Transport Strategies.
- Connecting NSW: The Freight Strategy.
- Bike Plan for NSW.

**Parramatta City Centre Plan (PCC 2007)**

2.6.5 This document sets out the growth of the city centre for 30,000 additional jobs and 20,000 residents by 2031. The plan consists of four documents:
- The Vision - strategic framework.
- Local Environment Plan (LEP) – Statutory planning framework.
- Development Control Plan (DCP) – planning provisions.
- Civic Improvement Plan (CIP) – describes the projects to deliver the vision funded by developer levies.

2.6.6 The Vision document recognises the transport challenge of increased public and active transport (walking and cycling) and reducing private cars trips. The Civic Improvement Plan includes the following strategies:
- reduce parking in the centre and replace with peripheral parking.
- redevelopment of car park sites.
- car park upgrades (completed 2006).
- reduce through traffic.
- return one-way streets to two-way.
- reduce the speed to 40kph with complementary pedestrian measures.
- open Church Street Mall (Macquarie Street to George Street) to traffic (completed in 2007).
- install on-street paid parking (completed 2005).
- widen footpaths.
- improve connections to emerging centres.
- provide for additional city centre bus layover space.
- create a pedestrian link from Civic Place to the river along Horwood Place.
- establishing a pedestrian and cycle amenity zone.
2.6.7 There are future plans to be developed which support the vision. The Integrated Transport Plan represents one of these plans that supports, “Creating a pedestrian friendly city by improving the public transport and reducing the reliance on the car”. It also assists with the action of revitalising the Mall between Argyle Street and Macquarie Street and considers the future traffic and pedestrians movements in conjunction with the Civic Place development.

2.6.8 The Civic Improvement Plan estimates the expenditure of $15m for the enhancement and redevelopment of car parks and $30m for access and transport.

Parramatta Twenty25 Strategic Plan (PCC 2006)

2.6.9 Parramatta Twenty25 is a collaborative effort by the government, business and the community regarding the future aspirations of its diverse communities, as well as the people that live and work here. The document sets the vision for Parramatta LGA in 2025 and addresses the challenges of sustainable environment, social, economic, transport, infrastructure and community. There are seven high level objectives, referred to as “destinations” which set out the future vision.

2.6.10 Under “Destination 6: People and Places that are linked by Sustainable transport and communication networks”, the transport strategies are:

- Facilitate the sharing of information and ideas through remote communications.
- Manage road congestion and safety while reducing the reliance on car use as a primary means of transport.
- Increase the number of people using public transport, particularly for journeys to work.
- Increase the number of people walking and cycling, particularly for journeys within the neighbourhood.

2.6.11 There are various tools available to achieve the transport strategies which are considered later and include:

- Re-allocating road space to buses and the movement of people rather than vehicles (bus priority measures).
- Encouraging peak spreading for car trips to reduce the impact of congestion from peak hour travel (sustainable travel choices and workplace travel plans).
- Reducing the need to travel by car encouraging people to live closer to public transport.
- Creating reduced city centre speed limit and ring roads helps divert traffic away from the centre to peripheral roads improving the amenity of pedestrians and cyclists.

2.6.12 For Parramatta city centre the actions include:

- improving walking and cycling to create friendly environments.
- improving public transport, integrate with other modes and make accessible.
- high density developments near public transport nodes.
- managing road traffic congestion.
• reducing car parking in the city centre and provide park and ride.
• discouraging private vehicle use.
• using technology to reduce the need to travel.

2.6.13 The transport measures will be monitored to assess whether the strategies are helping the city move towards the “destinations”. This will include monitoring public transport services and reliability data.

NSW Metropolitan Strategy (Department of Planning 2005)

2.6.14 This is a broad framework planning document which outlines a vision for Sydney to accommodate expected growth by 2031. Parramatta is identified as a regional city and will be the focus of major redevelopment including Civic Place (2,700 jobs), Justice Precinct (1,500 jobs), Sydney Water (1,400 jobs), Commonwealth Bank (1,100 jobs) and RTA (500 jobs). The city is achieving a variety of ambitious and significant developments that will reshape it as Sydney’s second city, and Australia’s sixth largest city. State Government has already invested in a new Transport Interchange ($239m) and added a second T-way, North-West T-way ($524m).

2.6.15 The broad transport initiatives of the Strategy are:
• Extend the rail and bus network.
• Connect regions.
• Improve reliability of rail services.
• Improve the integration of public transport.
• Improve management of existing transport networks.
• Improve walking and cycling networks.
• Implement a metropolitan parking policy.
• Implement TravelSmart Programs.
• Improve transport planning.

2.6.16 The details of these initiatives are in the State Infrastructure Strategy 2006-07 to 2015-16. This also contains the last mention of State Government’s consideration for Parramatta Rail Line using the Carlingford Line.

Parramatta City Centre Strategic Transport Plan (PCC 2004)

2.6.17 This is a background reference document as it has not been formally adopted by Council. It and outlines the transport vision for Parramatta based on the SREP 28 planned city centre population increases of jobs and residents. The ITP builds upon the recommendations of the 2004 Plan which include:
• Hierarchy or prioritise of transport users.
• Set targets for mode share.
• New link from Civic Place to the river along Horwood Place.
• Establish an inner ring road and convert all roads within to two-way and 30kph.
• Re-route Victoria Road buses along Smith Street from Church Street.
• Open Church Street Mall (Argyle Street to Macquarie Street) to limited traffic.
• Limit total long stay parking to current number and convert existing public parking to short stay as new spaces are created in new developments.
• Close Horwood Place, Erby Place and David Frater car parks.
• Manage parking demand through pricing.
• Install a dynamic parking information system.
• Free shuttle bus.
• Minimise impact of buses while maintaining good public transport.
• Install real-time public transport information throughout city centre.
• Investigate feasibility of converting Carlingford Line to light rail and a line to Strathfield via Sydney Olympic Park.
• Support high speed rail connection to Sydney.

Planning Guidelines for Walking and Cycling (Department of Infrastructure, Planning & Natural Resources 2004)

2.6.18 The aim of document is to assist planners to improve the consideration walking and cycling. The anticipated results are additional walking and cycling infrastructure to increase the overall levels of walking and cycling in neighbourhoods. It provides planners with a source of information to include walking and cycling at every stage of the planning process to implementation.

2.7 Recent transport improvements

2.7.1 Parramatta City Council’s recent and planned transport improvements include:
• Pedestrian improvements on Church Street – ongoing since 2003.
• Re-opening Church Street Mall to traffic including bicycles and buses (2007).
• Car sharing provided by GoGet (2007).
• The Loop free city bus service (2008).
• Bike Plan (2009).
• River foreshore path/Parramatta Valley Cycleway – ongoing with section from Charles Street to Gasworks Bridge complete in 2009.
• Pedestrian wayfinding signs and maps (2009).
• Improved cycle routes to the city centre (from 2010).
2.7.2 The State Government’s recent and planned transport improvements include:

- Rail Clearways (additional capacity on the CityRail network to reduce delays and bottlenecks) – due 2010.
- New trains – ongoing.
- New buses – ongoing.
- Bus Service Reviews – ongoing.
- Strategic Bus Corridors (bus priority) – ongoing.
3 ENVIRONMENT

Policy statement
The economic growth of the city centre will be carefully managed to ensure that the impact on the environment from transport is reduced, with the goal of long term transport sustainability.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>Land Use Planning</td>
</tr>
<tr>
<td>E2</td>
<td>Increase Transport Efficiency</td>
</tr>
<tr>
<td>E3</td>
<td>Support Environmentally Sustainable Vehicles</td>
</tr>
</tbody>
</table>

3.1 Background: Existing policies, plans, strategies and projects


3.1.1 The plans follows the targets set by State Government of returning to 2000 emission levels by 2025 and a 60% reduction by 2050. The greenhouse emissions for the LGA are predicted to increase to 3.67m tonnes of CO2 by 2021 from 3.57m tonnes in 2003. The transport sector’s contribution to greenhouse gas emission is 13%.

3.1.2 The plan highlights three types of action: alternative renewable energy, decrease consumption and adaptation. These actions types are continued in this chapter considering the transport sector. The transport related actions of the plan are:
- Provide a fee shuttle bus – implemented August 2008.
- Pilot a car sharing scheme – introduced October 2007.
- Support Walk to Work day – Annual event.
- Participate in World Car Free Day – future action.
- Walking School Bus – currently working with a school to trial the scheme.

Car Sharing Guidelines (PCC 2009)

3.1.3 These guidelines were produced following a successful trail of the GoGet car sharing scheme that has been operating in Parramatta city centre since October 2007. The guidelines set out how car sharing operators can apply to Council to establish additional car sharing locations across the LGA.

3.2 Sustainable transport

3.2.1 Sustainable transport is generally understood to mean limiting emissions and waste according to the planet’s ability to absorb them, the use of renewable resources below their rate of generation, and the reduction of reliance on non-renewable resources while promoting and developing renewable alternatives, and minimising the impact on use of land. At present sustainable transport is
virtually impossible to achieve as sustainability is defined as progress that meets the needs of the present without compromising the ability of future generations to meet their needs. But we must strive towards the goal of sustainable transport. Generally when the term sustainable transport is used it refers to describe walking, cycling and public transport, as these have lower impacts on the environment than car use.

3.3 Reducing the need to travel

3.3.1 The desire to reduce the need to travel is important as it significantly contributes to greenhouse gas emissions. Other methods of reducing transport related greenhouse emissions are covered in this chapter. There are two basic tools to reduce the need to travel. Land use planning is a long term method by planning the urban fabric to encourage and support sustainable transport and minimise car use. The second and more immediate method is better and wider spread use of communication technology. The other impacts of travel besides greenhouse gas emission are described below.

3.3.2 The direct negative impacts of travel include traffic congestion, vehicle noise, use of fossil fuels which are finite, use of land for transport rather than housing or farming, travel costs and loss of natural habitat.

3.3.3 The indirect negative impacts of travel are often either overlooked or ignored due to a lack of awareness as they are more complex. These can include a decline in physical & mental health (from excessive road vehicle use), social exclusion (generally areas at the low end of the socio-economic scale are outer suburb areas which also have poor public transport and rely on car use while inner city areas enjoy high levels of public transport), time spent travelling as opposed for other uses, increased road accidents, loss of local culture/environment and barriers to movement (human, flora & fauna).

3.3.4 The land use planning techniques that can be used to better plan urban areas to design less travel are described below:

**Residential Development Strategy (RDS)**

3.3.5 Council is reviewing the Parramatta LEP (Local Environmental Plan) and DCP (Development Control Plan) using a Residential Development Strategy. This aims to increase residential densities in existing local centres to make use of the existing community infrastructure, including transport.

3.3.6 As part of the analysis, Council undertook a Public Transport Accessibility Level (PTAL) assessment. This assessment identified existing transport nodes with a good level of service to support the increased residential development. The rationale was to increase residential development while reducing the reliance on private cars.

**Transit Orientated Developments (TODs)**

3.3.7 TODS are high density developments (a mixture of residential and commercial) centred on a public transport node with a high level of service such as a rail station or bus interchange. These developments can be greenfield or they can be retro-fitted once the potential of existing public transport provision is realised.

**Urban Villages**
3.3.8 This policy is usually applied to brown-field sites within the existing urban area that can be easily converted to residential uses maximising the existing buildings, typically former education, hospital, military or light industrial sites. The sites are made permeable and aim to be as self sufficient as possible including medium to high density residential developments, local neighbourhood facilities and small scale employment in the form of live-work units or SOHO (Small Office Home Office).

New Urbanism

3.3.9 This term describes high density mixed use developments that are well designed with architectural elements that encourage and support increased walking through the provision of good pedestrian accessibility and permeability.

Land Use Clusters (or Linked Trips)

3.3.10 This is a less familiar term used to describe a location that supports multiple trip purposes. On a large scale these are town centres with shops, banks, transport and personal business and on a small scale these are supermarkets which include a green grocer, fishmonger, butcher, baker, chemist, liquor shop etc. Caution should be exercised to ensure that cluster trips do not reduce the quality of local community life or viability of the local economy.

Communication technology

3.3.11 In addition to land use planning techniques the need to travel is more immediately replaced or lessened through better use and the rapid development communication technology. This started with the postal service and was followed by the telephone. In recent years the internet has played an increasingly important role in communications including email, video calls and the sharing information. A significant amount of business is now carried out on the internet, including personal business which includes shopping of all types usually combined with delivery (postal and courier), banking, travel, accommodation, social networking, personal services and general information sourcing.

**STRATEGY E1**

Continue Land Use Planning techniques including the Residential Development Strategy to create developments that encourage and support sustainable transport use.

3.4 Efficient use of existing transport infrastructure and vehicles

3.4.1 Governments at all levels have significantly invested in transport infrastructure both road, rail and their associated vehicles. Improving the efficiency of existing transport infrastructure can lead to reduced traffic congestion and improved transport sustainability. There are two areas of possible efficiency gains: road or rail space and vehicles.

Infrastructure capacity

3.4.2 There are various demand management techniques which can increase the capacity of existing infrastructure at peak times to reduce congestion and these include:

- Peak spreading is a term to describe the behaviour of avoiding the peak travel period by travelling before or after the peak. It usually requires the support of employers and the use of flexible working hours. Recently the State Government has introduced a peak spreading initiative on the
Harbour Crossing “time of day tolling” to encourage travel outside of the peak periods. Early figures from the RTA in March 2009 indicate it has worked with a 10% increase in vehicles crossing the harbour before 6.30am, and a 4% reduction in the morning peak.

- Better traffic control has invariably been carried out where possible and desirable. This includes reviewing existing traffic control measures to identify space capacity gains, and covers traffic signals and road signage including variable speed limits.

- Relocating road space from general traffic (private cars) to more sustainable transport modes aims to move more people in a sustainable manner. Widening footpaths encourages and supports walking in pedestrian precincts; providing cycle routes encourages and supports local cycle trips; and converting existing traffic lanes to bus lanes can increase bus reliability and capacity through congested conditions.

3.4.3 Increasing road capacity can lead to a temporary reduction in traffic congestion, but, spare capacity is frequently used up with traffic flow returning to congestion conditions again. If the additional capacity generated is not completely used up then it can lead to increased traffic speeds (and reduced road safety) due to the frustration of using a congested urban road network.

**Vehicles**

3.4.4 There are two ways to increase vehicle efficiency: increase occupancy or increase vehicle use. Generally increasing passenger vehicle occupancy decreases fuel use thereby improving efficiency per passenger. It may also reduce road congestion if occupants switch to an existing travelling vehicle such as car pooling (lift sharing) or bus travel as the number of vehicles on the road decreases while the number of people travelling remains the same.

3.4.5 A second way to increase efficiency is to increase use of existing vehicles. This may at first appear to be contrary to sustainable transport aims but increasing the use of public transport vehicles means more services and can reduce car trips by offering an alternative.

3.4.6 Car sharing is another method that can reduce car trips. The car is owned by an organisation and members hire the car by the hour. It has been demonstrated that membership (and use) of car share schemes can reduce car use (through reduced individual ownership) and increase walking, cycling and public transport use. There are three car share operators (GoGet, Flexicar and Charter Drive) in Sydney providing nearly 140 vehicles in Sydney, Eastern Suburbs, Inner West, Lower North Shore, Northern Beaches and Western Suburbs.

3.4.7 In October 2007, Council, along with GoGet, introduced a 12-month trial car sharing scheme in two locations within the city centre. This was supported by a grant from the Department of Environment and Climate Change to offer free driving credits to new users. Council has adopted a Car Sharing policy to manage the demand for car sharing operations throughout the LGA. In additional Council is developing the inclusion of car sharing spaces within new developments as part of its planning requirements.
**STRATEGY E2**

*Increase Transport Efficiency* through the continued promotion and support of car sharing and other economic incentives based initiatives.

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3.5 **Alternative fuels**

3.5.1 The use of alternatives to fossil fuels can reduce their environmental impact and the table below summaries the main alternatives to traditional fossil fuels. Council already encourages staff to use bio-fuels (E10) where available and suitable.

Table 3.1 Alternatives fuels

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Key comments</th>
</tr>
</thead>
</table>
| Compressed natural gas (CNG) | • Fossil fuel (75% methane) claimed to be more environmentally friendly than diesel, however, EURO vehicle emission standards apply to both.  
• Generally produces fewer nitrogen oxides than diesel but ultra low sulphur diesel is better on other gas emissions with both performing equally on ultra fine particulates (PM10s).  
• Choice of CNG over diesel usually based on cost as it is cheaper. |
| Methane               | • Similar to CNG but can be produced from renewable sources, therefore better for the environment.  
• Biogas is the production of methane by the fermentation of organic matter including manure, wastewater sludge and including landfill. |
| Hydrogen              | • Can be used in a combustion engine or a fuel-cell (hydrogen reacts with oxygen to generate electricity to power a motor).  
• Only emission is water vapour.  
• Hydrogen produced from fossil fuels or by electricity which if from |
<table>
<thead>
<tr>
<th>Source</th>
<th>Description</th>
</tr>
</thead>
</table>
| Bio-fuels  | • Fossil fuel blended with renewable fuel generally 10% ethanol.  
• Still relies on fossil fuels, therefore only marginally better.  
• Debate on environment impact of bio-fuels as primary forest is used to produce palm oil, significantly reducing the planet's ability to absorb CO₂. |
| Electricity| • Produces no gas emissions.  
• If renewable electricity is used then environmentally friendly.  
• Concern with the life span of the batteries and safe disposal. |
| Solar      | • Produced by capturing the sun’s energy and converting it into electricity.  
• Further technological development required before a practical passenger solar powered vehicle can produced. |
| Hybrid     | • Combination of fuel sources, most commonly petrol or diesel with electricity.  
• Combustion engine used to generate electricity to power motor and recharge batteries.  
• Regenerative brakes used to generate additional electricity.  
• Concern with the life span of the batteries and safe disposal. |

3.5.2 It is recommended that Council introduce cheaper parking fees for hybrid vehicles as these vehicles are easily identifiable. This could be rolled out to the paid off-street parking areas initially with consideration of allocating spaces for hybrid vehicles.

**STRATEGY E3**  
Support Environmentally Sustainable Vehicles through cheaper parking fees for hybrid vehicles.
4 TRAVEL BEHAVIOUR

Policy statement

Sustainable transport is encouraged and supported with a focus on active transport to assist with healthy living as alternatives to single occupant car and unnecessary trips.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB1</td>
<td>Promote Sustainable Transport to reduce the impact of travel on the environment and reduce traffic congestion.</td>
</tr>
<tr>
<td>TB2</td>
<td>Council Travel Plan Demonstrate corporate social responsibility by reducing Council single occupant car trips and encourage others to follow.</td>
</tr>
<tr>
<td>TB3</td>
<td>Walking School Bus Reduce unnecessary car trips and establish early sustainable travel behaviour.</td>
</tr>
</tbody>
</table>

4.1 Background: Existing policies, plans, strategies and projects

4.1.1 Sustainable travel choices are the tools or measures that can be used to change travel behaviour through promotion and awareness of more sustainable or alternative transport. The purpose is to reduce the reliance on car trips, particularly single occupant trips, and increase active transport (walking and cycling) and public transport to reduce the impact on the environment. It is also about reducing unnecessary travel where alternatives exist. There is a strong focus on the journey to work and education trips as these are big generators of trips during peak periods and severely affect the efficiency of the transport system, resulting in congestion. It is acknowledged that the usefulness of this tool is limited by where people live (origin) and where they would like to travel to (destination).

Parramatta Twenty25 Strategic Plan (PCC 2005)

4.1.2 Council’s corporate vision statement envisages Parramatta becoming a sustainable city in the future. The vision states that Parramatta should be accessible to people who walk, ride or use public transport. Parramatta Twenty25 Strategic Plan will steer Council for the next 15 years and includes Sustainable transport as one of the seven “destinations” described as people and places that are linked by sustainable transport and communication networks. The goal of this destination is ‘Giving priority to responsive public transport, walking and cycling’.

Parramatta Sustainable Transport Barriers Assessment (PBAI 2007)

4.1.3 This was a grant (Department of Environment and Climate Change) funded study which examined the barriers to sustainable transport. The study is a reference document as it has not been adopted by Council. The recommended actions of the study are listed in the table below.
Table 14.1 Summary Actions and their Aims

<table>
<thead>
<tr>
<th><strong>Recommended Action</strong></th>
<th><strong>Response</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Employ a Sustainable Transport Officer</td>
<td>Current financial position of Council does not allow this to occur. Federal grant application lodged.</td>
</tr>
<tr>
<td>Complete the Parramatta City Centre Integrated Transport Plan</td>
<td>This document is the Integrated Transport Plan.</td>
</tr>
<tr>
<td>Reduce parking spaces</td>
<td>Identified in Integrated Transport Plan.</td>
</tr>
<tr>
<td>Offer Park &amp; Ride</td>
<td>Identified in Integrated Transport Plan.</td>
</tr>
<tr>
<td>Increase cost of parking</td>
<td>This needs further consideration and needs to be linked to overall transport improvements with the city centre.</td>
</tr>
<tr>
<td>Offer incentives for car pooling</td>
<td>To be further investigated.</td>
</tr>
<tr>
<td>Cities for Climate Protection</td>
<td>Program finished with measures included in the Integrated Transport Plan.</td>
</tr>
<tr>
<td>Work with State Government on information provision</td>
<td>To be further investigated.</td>
</tr>
<tr>
<td>Publish public transport reliability information</td>
<td>Already publish by public transport providers – note very limited information for Sydney Buses and not available for private buses.</td>
</tr>
<tr>
<td>Develop car sharing</td>
<td>Car sharing operates in Parramatta and policy has been adopted to allow it to operate throughout the LGA.</td>
</tr>
<tr>
<td>Submit a proposal to the MoT for funding and co-operation of</td>
<td>To be further investigated.</td>
</tr>
<tr>
<td>Transport Management Association</td>
<td></td>
</tr>
<tr>
<td>Council Travel Plan</td>
<td>Under development.</td>
</tr>
<tr>
<td>Seek a State Government partner for a Travel Plan</td>
<td>Council is working with businesses in Camellia aiming for a selection of them to adopt and implement a Travel Plan.</td>
</tr>
<tr>
<td>Free shuttle bus</td>
<td>Started in August 2008</td>
</tr>
<tr>
<td>Lobby State Government for planned infrastructure</td>
<td>Continually lobbying State Government.</td>
</tr>
</tbody>
</table>

**State Plan (2009)**
The State Plan has established a mode split target for Parramatta of 50% of work trips during the peak hour by public transport by 2016.

4.2 Promote Sustainable Transport
4.2.1 It is recommended that Council consider employing a Sustainable Transport officer to promote and develop sustainable transport policies and actions, and contribute to the State Plan’s mode split target for the city centre. A key part of this role is an annual Sustainable Transport Month to promote and raise awareness of sustainable transport. The key event is a Commuter Challenge which challenges car commuters to walk, cycle or use public transport for two weeks. Suggested additional events include Walk to Work Day, Ride to Work Day, World Car Free Day and Sydney Spring Cycle.

**STRATEGY TB1**
Consider appointing an officer to Promote Sustainable Transport and develop policies and manage projects including an annual...
Transport Access Guide

4.2.2 Council published a Sustainable Travel Access Guide for the city centre in 2007 and again in 2008 using Department of Environment and Climate Change funding. The guide contains comprehensive sustainable transport information based around a map of the city centre. The guide deliberately does not show car parking information. It is recommended that a Guide be produced for Westmead, Epping and Granville and that they be review and produced every 2 to 3 years.

![Sustainable Transport Access Guide for Parramatta city centre](image)

Figure 4.1 – Sustainable Transport Access Guide for Parramatta city centre

4.3 Travel plans

4.3.1 A Travel Plan aims to reduce single occupant car trips for the journey to work and the impact of business travel on the environment through policies, specific measures and awareness campaigns. It is recommended that Council develops a Travel Plan to demonstrate corporate social responsibility.

4.3.2 The Travel Plan is monitored through annual travel surveys. The initial travel survey sets the benchmark for the organisation or if available, similar businesses. The success of a Travel Plan is measured against the baseline data to assess whether there is a reduction in single occupant car use. For the journey to work, it is a measure of change from single occupant car trips to multiple occupant car trips, walking, cycling, public transport and working at home. For business trips the additional measure is the reduction in greenhouse gas emissions from business related trips.

4.3.3 In the UK they are a common requirement for new development and existing large employers and increasingly a requirement within Australia. In addition, many large organisations are recognising the value of Travel Plans as part of their corporate social responsibility and as a tool to reduce their operating costs, increase staff productively and attract and retain staff as an employee.
of choice. It is recommended that the draft Parramatta DCP include the requirement of a Travel Plan for large developments located near high frequency public transport such as rail stations and T-way bus stops.

4.3.4 They are 3 basic types of Travel Plans based around with their own distinct travel needs and behaviour: Work (employees’ journey to work and business vehicle emissions) school (children’s journey to school), and residential (local trips). However, they can also be prepared for any development that needs to manage the impact of travel demand (shopping centres, transport nodes, visitor attractions and public events).

4.3.5 Preparing travel plans generally consists of four basic steps:
1. Travel survey to identify existing travel behaviour.
2. Identifying opportunities and tools to support and encourage travel behaviour change.
3. Adoption and implementation of the actions within the Travel Plan.
4. Monitoring including annual travel survey to ensure the actions in the Travel Plan are effective.

4.3.6 The actions or tools considered for a Travel Plan can include any in the table below.

Table 14.2 Tools for a Travel Plan

<table>
<thead>
<tr>
<th>Measures to support Walking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct sealed footpaths within the site to the front door from the surrounding pedestrian network and local public transport stations/stops.</td>
</tr>
<tr>
<td>Walking school buses – escorted walking journeys for younger children.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measures to support Cycling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct sealed cycle routes within the site to cycle parking from the surrounding cycle network</td>
</tr>
<tr>
<td>Provision of secure and weather protected cycle parking/storage for both long stay and short stay</td>
</tr>
<tr>
<td>Showers and change rooms.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measures to support Public Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discuss service improvement with public transport operators (reliability, frequency, vehicles, stations/stops, availability of information, ticket products etc).</td>
</tr>
<tr>
<td>Discuss partnerships agreements or negotiate corporate discounts/deals.</td>
</tr>
<tr>
<td>Business supported bus service to place or precinct of employment.</td>
</tr>
<tr>
<td>Business supported shuttle bus to rail station.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measures to support Multiple Occupant Car Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support and encourage car pooling*. Provision of marked car pooling spaces to encourage and support it’s use.</td>
</tr>
<tr>
<td>Provision of marked car share parking spaces within publicly accessible areas to allow Car Share operators to provide the service.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measures to support the reduction of the impact of business travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased use of more environmentally friendly fuels** and vehicles.</td>
</tr>
<tr>
<td>Company bicycles.</td>
</tr>
<tr>
<td>Group travel e.g. use one company vehicle.</td>
</tr>
<tr>
<td>Establishing criteria for selecting the most sustainable mode of transport particularly regular trips to common destinations.</td>
</tr>
<tr>
<td>Use of telephone and video conference calls.</td>
</tr>
</tbody>
</table>

| General Measures to support the key measures |
Notes
* Car pooling is the shared use (and costs) of a private car by mutual agreement between driver and passenger(s). It is most commonly used by workers and students with the same destination. It is frequently arranged informally; in addition commercial software and internet matching services are available.
** "environmentally-friendly" fuels are not necessarily more environmentally friendly than fossil fuels when the whole lifecycle is considered. See Chapter 3 Environment for more details.

STRATEGY TB2
Develop a Council Travel Plan to show leadership and corporate social responsibility. Consider making Travel Plans a planning requirement for large developments located near good public transport.

4.4 Walking school bus
4.4.1 A walking school bus is a pre-arranged walking route to a school led by a responsible adult, usually a parent, with “bus stops” along the way for children to join the “bus”. It aims to create an opportunity for children to walk to school rather than be driven which can impact on road safety around schools and the local community which is the reason often cited by parents as the reason why children are driven to school.

4.4.2 It offers a viable alternative for children who live within walking distance of the school and is a useful education tool to encourage a healthy lifestyle and establish sustainable travel behaviour. It is generally accepted that children of high school age are beyond the need of a walking school bus as they have the skills to walk to school alone and unaided. Walking School Buses can form part of a School Travel Plan but equally work well as a stand-alone tool for primary schools.

4.4.3 Council has developed guidance to establish and operate Walking School Buses. Currently Council is working towards establishing the first Walking School Bus in the Westmead area. It is recommended that the scheme continue to develop and that the tool be rolled out to all primary schools.

STRATEGY TB3
Offer the Walking School Bus program to all primary schools within the LGA.
5 WALKING

Policy statement
The Parramatta city centre environment will encourage and promote walking. Pedestrians will enjoy a legible city centre that is safe and attractive with high levels of access and amenity.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>W1</td>
<td>Pedestrian Access &amp; Amenity Plan</td>
</tr>
<tr>
<td>W2</td>
<td>Pedestrian and Cycle Amenity Zone</td>
</tr>
<tr>
<td>W3</td>
<td>Information kiosks and Wi-Fi</td>
</tr>
</tbody>
</table>

5.1 Background: Existing policies, plans, strategies and projects

5.1.1 Walking is the most sustainable form of transport. It is also equitable as almost everyone can walk. Those with mobility issues such as the very young, the elderly and those with mobility impairments require a higher standard of pedestrian infrastructure.

5.1.2 The basic requirements of pedestrian areas are:
- Level surfaces in a good state of repair.
- Direct routes following desire lines.
- Lighting for safety as well as vision.
- Shallow gradients.
- Kerb ramps of sufficient width for road crossings.
- Tactile paving to assist the visually impaired.
- Pedestrian crossings both controlled and uncontrolled.
- Seating and shade for rest.
- High quality streetscape design with unimpeded path.
- Comprehensive wayfinding systems.

Baseline Movement Economy Model (Space Syntax 2006)

5.1.3 This spatial analysis study assessed the pedestrian movements and how changes to the spatial layout could increase economic and social benefits. The study identified that the city centre has huge potential to become easily legible and accessible. The summary findings were:

- Busiest area is Church Street and around the Transport Interchange, then area north of Interchange and east of Church Street.
- The employees are around Smith Street and George Street with locals around Church Street.
- The fine urban grain promotes pedestrian activity.
- Westfield shopping centre reduces accessibility.
- Parramatta Park is a barrier to Westmead.
- Parramatta River is poorly connected with the city.
• Improve pedestrian accessibility by extending Horwood Place to Macquarie Street.

• Victoria Road and Parramatta Road are two of the most accessible routes in Sydney but disconnected in the city centre because of the Mall.

• Opening the Mall to traffic has a very significant increase on accessibility and legibility.

• The existing one-way traffic system limits access of vehicles.

• The bus routes correspond with pedestrian movements, however, introducing them into Church Street would increase accessibility.

5.1.4 The study found that Victoria Road and Parramatta Road are two of the most accessible routes in Sydney but are disconnected in Parramatta’s city centre due to the Mall. Opening Church Street Mall to traffic will improve the legibility of the entire of the city centre and enliven the streets.

5.1.5 The last remaining section of Church Street Mall (Argyle Street to Macquarie Street) is proposed to receive pedestrian amenity improvements as part of the Civic Place development. The Mall should be designed to create a high quality urban landscape and be a vibrant and welcoming place for pedestrians to meet, dine, shop and promenade. Church Street will once again perform its function as the main artery through the heart of the city.

Pedestrian Accessibility & Mobility Plan (PAMP)(ARUP 2001)

5.1.6 The aim of the PAMP is to improve the pedestrian network outside the city centre within the Parramatta Local Government Area (LGA) by providing additional footpaths and crossing facilities. The plan was developed using accident data, community consultation, identification of pedestrian generators and attractors to produce an LGA pedestrian network. The currently annual funding for the PAMP $1m with an estimated 10 years worth of works. Council maintains a community request list of pedestrian facilities which are reviewed and inserted in to the PAMP program.

Civic Improvement Plan (Dept. of Planning PCC 2007)

5.1.7 This is document is part of the City Centre Plan. The Civic Improvement Plan includes a list of public domain projects including:

• Pedestrian and cycle amenity zone
• New and existing pedestrian networks
• Footway widening
• Pedestrian signage
• Upgrade public domain
• Upgrade street lighting
• Information points

Development Control Plan (DCP) (Dept. of Planning PCC 2007)

5.1.8 This is document is part of the City Centre Plan. The DCP sets out the development controls and including the elements that contribute to creating and improving the public domain for pedestrians.

Small Spaces & Lane Ways (EDAW 2008)

5.1.9 This is an urban design strategy to improve the pedestrian environment on lightly trafficked streets, such as rear lanes or service roads and off-street pedestrian links throughout the city centre such as footpaths between and
through development including shopping arcades. These existing and potential future pedestrian links or lanes are identified and penetrate nearly all city centre blocks.

5.1.10 The document provides a set of design principles to improve both existing and planned pedestrian spaces and covers both the public and private domains. It highlights the importance of activating spaces, creating interest or character and making use of pedestrian areas for commercial activities through the use architecture and streetscape design.

5.1.11 To improve the general level of pedestrian amenity in the city centre it is recommended to undertake three studies. To identify pedestrian crossing and footpaths improvements and to reduce unnecessary street clutter it is recommended to undertake a Pedestrian Accessibility Audit. To upgrade high pedestrian activity areas to the required pedestrian level of lighting rather the standard for vehicles a City Centre Street Lighting Strategy is called for. Finally a Parramatta City Centre Lane Strategy is recommended to identify an action plan to enhance pedestrian links across the city centre to create an active network of pedestrian routes and areas.

<table>
<thead>
<tr>
<th>STRATEGY W1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepare a Pedestrian Access &amp; Amenity Plan to upgrade crossings, reduce street clutter, improve lighting, improve lanes and create a network of pedestrian routes.</td>
</tr>
</tbody>
</table>

5.2 Pedestrian and cycle amenity zone
The Parramatta City Centre Plan (2007) recommendations include a pedestrian and cycle amenity zone. The aim is to reduce traffic speed, change traffic flows and behaviour to improve pedestrian and cyclist road safety, also to increase pedestrian accessibility by providing more safe crossings. The cycle improvements include increased cycling parking provision and the implementation of additional cycle routes to the city centre. The proposed 40kph zone improves the road environment for cyclists and reduces the need for specific cycle route facilities within the city centre. See Chapter 6 Cycling for more details.

The proposed Pedestrian and Cycle Amenity Zone consists of the following schemes:
- 40kph city centre speed limit and 50kph speed limit on Church Street north and south (as pedestrian activity increases).
- Provide pedestrian crossing refuge islands across the side roads on Church Street north & south.
- New traffic lights including pedestrian crossings and new diagonal pedestrian crossings.
- Convert one-way streets to two-way.
- Complete the Riverside path/Parramatta Valley Cycleway in the city centre.
- Lobby the RTA to review signal controlled pedestrian crossings.
- Investigate measures to reduce pedestrian-vehicle conflicts at driveways.
- Investigate widening footpaths through the reallocation of road space.
Figure 4.1 – Proposed Pedestrian and Cycle Amenity Zone
5.2.1 There are already several streets within the city centre with a 40kph speed limit including Church Street and Philip Street. It is recommended that the Pedestrian and Cycle Amenity Zone is implemented in stages starting the “quieter” where the average traffic speed is low. The latter stages of the Zone need to be co-ordinated with the relocation of the long-stay commuter parking.

**STRATEGY W2**
Implement the Pedestrian and Cycle Amenity Zone, to significantly improve pedestrian and cycle road safety and amenity, in co-ordination with the relocation of the city centre parking.

5.3 Pedestrian wayfinding
5.3.1 In 2009 by a pedestrian wayfinding system based on best practice was introduced. This includes heads-up-maps where the map is orientated to the viewer rather than north, 3D images of landmark buildings and travel times.

![Figure 4.2 – Pedestrian wayfinding system implemented in 2009](image)

5.4 Visitor and community information kiosks
5.4.1 Visitor and community information kiosks are recommended to complement the pedestrian wayfinding signage and are a future action of the Parramatta City Plan. These touch-screen information kiosks display live and relevant information about the city and can include news & weather, tourist information, public transport information including real-time, local shopping & dining guide, community events and email. The kiosks make use of the internet and could also be used to provide Wi-Fi broadband throughout the city centre. It is also recommended to provide Wi-Fi at selected public transport locations. This would provide increased access to the internet as part of Council’s e-Parra program.
STRATEGY W3
Investigate providing Information kiosks to display information covering tourism, public transport, shopping, dining and community events, and Wi-Fi at selected public transport locations.
6 CYCLING

Policy statement
Cyclists will have a legible city centre that is safe and attractive. The access and amenity of the city centre encourages and promotes cycling.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Cycle routes to the city centre</td>
</tr>
<tr>
<td>C2</td>
<td>More cycle parking</td>
</tr>
<tr>
<td>C3</td>
<td>Cycle Centres at transport nodes</td>
</tr>
<tr>
<td>C4</td>
<td>City Centre Cycle Centre</td>
</tr>
</tbody>
</table>

6.1 Background: Existing policies, plans, strategies and projects

6.1.1 The provision of regional cycle routes within Parramatta Local Government Area is mainly the responsibility of Council, with the Roads and Traffic Authority (RTA) also providing cycle routes. The RTA provides significant funding for both local and regional cycle routes.

6.1.2 There are several regional cycle routes that either lead to the city centre or vicinity including:
- Parramatta Valley Cycleway (partially complete) – linking Parramatta Park, Rydalmere, Ermington, Meadowbank to Putney.
- M4 Motorway – Strathfield to Penrith.
- Liverpool to Parramatta Rail Trail – adjacent to the rail line.
- Liverpool to Parramatta T-way - follows the T-way via Prairiewood and Bonnyrigg.
- North-West T-way – follows the T-way from Rouse Hill to Old Toongabbie with remaining sections to Parramatta to be implemented.
- Parramatta to Bankstown – on-street route through Granville.
- Parramatta to Epping and Eastwood – on-street route via Telopea.

6.1.3 Cycle routes and facilities should follow the internationally accepted planning and design principles of safety, coherence, directness, attractiveness and comfort.

6.1.4 The NSW State Government are preparing the NSW Bike Plan which is due to be released in 2010.

Parramatta Bike Plan 2009 (PCC)

6.1.5 The 2009 Plan follows the earlier 2001 Plan and sets out the bicycle routes to be implemented to create a comprehensive cycle network across the LGA. Council has in the past few years concentrated on implementing the Parramatta Valley Cycle route along the Parramatta River from Putney. This has resulted in a high quality off-road route and the balance needs to be
shifted towards implementing cycle routes that lead to the city centre to encourage and support cycling for the journey to work.

*Master Plan for the Parramatta Valley Cycleway (2005)*

6.1.6 This plan details and prioritises the actions required to complete the Parramatta Valley Cycleway, linking Parramatta Park, Rydalmere, Ermington, and Meadowbank to Putney. The route is a key route to the city centre from the east.

6.1.7 The main barrier to implementing the route is acquiring land as the remaining sections are privately owned. The implementation strategy recognises this and recommends that groups of sections are constructed together rather than isolated sections to maximise the benefits of providing a continuous route.

*North-West T-way cycle route*

6.1.8 The North-West T-way included a plan for a continuous off-street cycle route from Rouse Hill to Parramatta. The route implemented effectively terminates on the Westmead side of Parramatta Park with the most crucial link, to Parramatta missing. The original route was proposed along Park Parade adjacent to the T-Way and this route remains the preferred alignment.

6.1.9 The route through the park is unacceptable as it is circuitous, following the one-way road system and is not available between 6pm and 6am when the park is closed. Council will continue to work with the RTA and Parramatta Park Trust for a direct high quality cycle route from the city centre to Westmead via Park Parade.

6.2 Pedestrian and cycle amenity zone

6.2.1 It is proposed that the road network within the city centre be altered to enhance pedestrian and cycle amenity and road safety. The proposals include a 40 kph city centre zone, converting one-way streets to two-way, completing the Parramatta Valley Cycleway in the city centre and increasing and improving pedestrian crossing facilities. See the Walking Chapter for more details.

6.2.2 The benefit of the zone for cyclists is reduced traffic speeds which create a more conducive environmental to encourage and support cycling. The conversion of one-way streets to two-way will make the city more accessible and more attractive for cyclists.

6.2.3 It is recommended that cycle routes to the city centre be implemented to support cycling in the city and that routes highlighted in the Bike Plan planned be rolled. These cycle routes need to avoid a negative impact on pedestrians, traffic and on-street parking and it is suggested that in the first instance surplus road or pedestrian space be considered for allocation to cycling.

**STRATEGY C1**

*Implement Cycle Routes to the City Centre while avoiding negative impact on pedestrians, traffic and on-street parking.*

6.3 Bicycle racks

6.3.1 Within the city centre, Council provides 22 bicycle parking racks accommodating 44 bicycles. There is evidence of unmet demand by the daily
observation of cycles locked to street furniture throughout the city centre. There are some bicycle parking facilities unused which indicates that they are located in an undesirable location – it could be too distant from destination, poor weather protection or lack of passive surveillance to assist security. It is recommended that Council provide more cycle parking that is secure and weather protected.

6.3.2 It is suggested that to dramatically increase the provision of cycle parking that at least one cycle parking rack is provided on each side of every city centre block. Some of these could be combined with public art to produce interesting, yet functional street furniture. It proposed that Council develop a standard cycle rack as public art and also consider individual art designs for a few selected high profile locations within the city to raise the profile and acceptance of cycling.

Figure 6.1 – An example of a Bike Racks as Public Art

<table>
<thead>
<tr>
<th>STRATEGY C2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Provide more Cycle Parking</strong> within the city centre that is secure and weather protected.</td>
</tr>
</tbody>
</table>

6.4 Secure cycle parking

6.4.1 The department of Transport & Infrastructure (T&I) provides 22 bike lockers near Parramatta station aimed at rail commuters. This is part of a Sydney-wide program to provide lockers at rail stations and ferry wharves. Providing lockers at transport nodes allows cyclists to use public transport as distance (or time) is a key factor in cycle use.

6.4.2 T&I administers the locker scheme and charges $50 for three months use and a $50 deposit, in contrast RailCorp provide car drivers with free car parking supporting car use over cycling. It is recommended that Council lobby T&I to scrap the cycle locker fee and introduce secure cycle parking for casual users. Other States provided free secure cycle use to support cycling to stations as shown below:

- Victoria - free secure bike locker use at rail stations (Metro) and cycle cages at rail stations (Bicycle Victoria)
- Queensland - free secure bike locker use at rail stations (Queensland Rail) and at T-way stations (Queensland Transport)
- South Australia - free secure bike locker use at rail stations, tram stops and bus stops (Adelaide Metro)
- Western Australia - free secure bike storage use at rail stations, tram stops and bus stops (Transperth)

6.4.3 In recent years RailCorp have adopted a policy to relocate secure cycle lockers to be not within 100m of station entrances as a response to a potential terrorist threat. The result of this policy is lockers located some distance away from stations, often involving cross a road, making their use less attractive. The policy needs to be reviewed as there is a significantly greater terrorist threat from car bombs than cycle lockers but there is has been no measures implemented to control this. It is suggested that this policy be reviewed and cycle parking be re-located close to rail stations.

6.4.4 Council has a secure bicycle parking project to install a total of 43 secure cycle parking spaces and change room facilities within Horwood Place and Erby Place car parks. These facilities are programmed to open in mid-2010.

6.4.5 It is recommended that Transport & Infrastructure (T&I) provide Cycle Centres at public transport nodes to support cycling and public transport use. It is also recommended that rail ticketing integrated the cost of cycle travel or allow free travel for cycles.

<table>
<thead>
<tr>
<th>STRATEGY C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lobby Transport &amp; Infrastructure (T&amp;I) to provide Cycle Centres at Public Transport Nodes and Integrated Ticketing or Free Travel for Cycles.</td>
</tr>
</tbody>
</table>

6.5 Cycle centre

6.5.1 It is recommended that Council investigate a cycle centre facility within Civic Place to serve the needs of those who cycle to Parramatta city centre for employment, tourism, shopping, personal business, pleasure or to use public transport. Many towns and cities offer some form of publicly-access secure cycle parking.

6.5.2 Cycle centres (also called Bike Stations) in comparison have additional facilities and services which can include personal lockers, showers (including a towel service), repair service, cycle shop, café and cycle hire. There are several examples including Brisbane’s Cycle2City, Auckland’s Bike Central along with examples in The Netherlands, USA (Chicago, Long Beach, Minneapolis, Santa Barbara, Seattle, Washington DC), Spain (Barcelona) and England (Bristol).

<table>
<thead>
<tr>
<th>STRATEGY C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigate the provision of a City Centre Cycle Centre.</td>
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</tbody>
</table>
Figure 6.2 – A Cycle Centre in Seattle, USA
7 INTEGRATING PUBLIC TRANSPORT

Policy statement
An integrated public transport system is highly desirable.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I1</td>
<td>Lobby for an Integrated Transport Authority</td>
</tr>
<tr>
<td></td>
<td>Deliver an effective public transport network with integrated ticketing, services, interchanges and promotion.</td>
</tr>
</tbody>
</table>

7.1 Background: Existing policies, plans, strategies and projects

7.1.1 The purpose of integrated public transport is to make the entire door to door journey as easy and as seamless as possible. It includes access to public transport, ticketing, physical interchange between different services and modes, increasing integration of organisations which provide public transport to improve coordination and transport delivery, information and services. It also includes, to some extent, the integration of other organisational policy objectives such as health, education, social, environment and economic. Poor integration of public transport is a barrier to use and can lead to poor service provision and low patronage.

7.1.2 The Department of Transport & Infrastructure is the lead public transport agency of the NSW Government and is responsible for transport coordination, policy and planning and manages the budget allocation for rail, bus, ferry and taxi services and related infrastructure in NSW. It is noted that the existing transport agencies remain and that the new agency does not include roads.

7.2 Improving public transport in Western and North Western Sydney

7.2.1 Parramatta has a good level of public transport but a significant increase is required in Western and North Western Sydney to Parramatta to support the future growth of Parramatta, see chapters on bus, rail and ferry.

7.3 Bus ticketing

7.3.1 The Bus Reform process has resulted in harmonisation of bus fares between private and State Transit Authority (STA) services. Multi-trip tickets are only currently available on Sydney Buses' services, however the disparity with private bus operators will be removed when the MyZone ticketing regime is introduced in April 2010. It will provide a standard multi-trip ticketing for all public transport modes in Sydney, except the light rail service. It is a significant step towards a smartcard integrated ticketing.

7.3.2 The benefits of pre-paid tickets (such as monthly and multi-trip tickets) for bus operators are quicker boarding times and reduced journey times. Sydney Buses has identified that the average time taken for a passenger to pay a cash fare is 11 seconds, while using a pre-paid ticket takes 3 seconds. This equates to a saving of 6 minutes based on passenger number of 50 passengers.

7.3.3 The reliability of Sydney Buses Pre-Pay only bus services has undoubtedly increased. However there are many shortcomings of the existing scheme:
anecdotal evidence that services on the same corridor have become more unreliable as passengers have switched services rather than switch to Pre-Pay, particularly casual users.
- no customer support with ticket sales from retail outlets.
- no ticket dispensing machines.
- not available on non Sydney Buses services.
- confusion with which services and stops are pre-pay only.
- existing ticketing structure, based on sections (distance travelled), is complex and confusing.

7.4 Integrated Ticketing

7.4.1 Integrated ticketing is when a single ticket can be used for multiple trips either by the same mode or different modes. This is essential in large cities to allow and encourage residents and visitors to move about as easily as possible using the different types of public transport. Adelaide, Brisbane, Melbourne and Perth all have integrated ticketing and simplified ticketing based on zones rather than distance. Sydney’s MyZone ticketing system due to be implemented in April 2010 is a significantly step towards integrated ticketing but still falls short. Light rail is excluded from MyZone and there is still a fare penalty for changing modes and changing from bus to bus and ferry to ferry services. When integrated ticketing was introduced in South East Queensland in 2004, patronage increased by 10% within the first year.

7.5 Smartcard Ticketing

7.5.1 Smartcard ticket is a contact-less card for use for use on all modes of public transport and avoids the need to buy separate tickets. Smartcards can be used as period travel tickets for regular commuter trips and or act as a stored value card for occasional trips. To use the smartcard, it is swiped or passed near a reader when using public transport. For stored value cards the fare is automatically calculated based on the cheapest fare over a period of time.

7.5.2 Smartcard integrated ticketing is used in Hong Kong, Singapore, London and South East Queensland. Perth uses a contact-less smart card as a stored value card. Perth, Brisbane, Christchurch all use smartcard ticketing but as a stored value card only.

7.5.3 The Public Transport Ticketing Corporation (PTTC) was created in 2006 and is responsible for establishing and managing an electronic ticketing system for public transport in Sydney.

7.5.4 State Government has been developing smartcard integrated ticketing for over 10 years. The last failed attempt was excessively delayed, mainly due to the State Government’s requirement to incorporate the existing overly complex fare structures. The new MyZone ticketing system due to be introduced will make a future integrated ticketing easier to deliver. The Metropolitan Transport Plan indicates that an integrated electronic ticketing system will be introduced from 2012.

7.6 Integrate public transport services

7.6.1 Providing connecting services allows increased travel opportunities by reducing waiting time between different services and modes. When public transport operates at high frequency, around 10 minutes or less, then need for passengers to rely on timetables becomes unnecessary and usage increases as public transport becomes attractive.
7.7 Increase interchange capability between transport modes

7.7.1 It is important that all stations and stops are designed to reduce the walk time and distance for passengers accessing and interchanging between services. Parramatta Transport Interchange is a good example of integrated transport with rail, bus, long distance coach, taxis, cycling and key destinations all within close proximity to each other.

7.7.2 Pedestrian access to rail stations, bus stops and ferry wharves with direct and safe routes is highly important. Cycle parking at railway stations is critical if rail passengers are to be encouraged to cycle. It is also important to consider the need for car passengers to be picked up and dropped off, referred to as Kiss & Ride. It is acknowledged that car parking at stations and stops is useful, but it is important to consider whether providing parking results in increased trips at the expense of walking, cycling and car passenger trips.

7.7.3 The use of Park & Ride should be limited to stations where the surrounding area has low public transport provision and the station is beyond the normal walking and cycling catchment area for most local residents. It should not be considered within heavily urbanised areas or local centres as it is a waste of valuable development land adjacent to good public transport. In addition, it limits the number of parking spaces available for local businesses and services.

7.7.4 T&I is undertaking a series of Rail Station Interchange studies to better integrate access to rail stations within Sydney including Granville, Pendle Hill and Toongabbie stations. See Chapter 8.

Figure 7.1 Parramatta Transport Interchange

7.8 Transport Info 131500

7.8.1 Transport Info is a State Government transport information service that focuses on providing public transport information for Sydney, Central Coast and the Illawarra regions. It also contains information on secure cycle lockers, taxi services, the arterial road network and public transport in country areas.
7.8.2 The service is predominately internet based with telephone access. The public transport information provided includes timetables, maps, ticketing, journey planner and service updates. The website is supported by a telephone helpline and a simplified website for mobile phone access. The mobile phone content provides basic information but does include a useful next available service function. Other cities around the world have a more developed mobile service including a personalised timetable service for commuters.

7.9 Organisational integration

7.9.1 Integrating transport organisations can lead to better integrated transport solutions. In NSW there are multiple State Government agencies responsible for transport including Department of Transport & Infrastructure (T&I), Roads & Traffic Authority (RTA), Department of Planning (DoP), Public Transport Ticketing Corporation (PTTC), Transport Infrastructure Development Corporation (TIDC), Department of Environment & Climate Change (DECC), Premiers Council for Active Living (PCAL), RailCorp and Sydney Ferries.

7.9.2 It is recommended that the transport related agencies are consolidated to deliver better integrated outcomes strategic planning and ultimately integrated service delivery.

7.9.3 Organisational integration does not necessarily include the privatisation of publicly owned public transport. The consideration of privatisation of public transport is concerned with delivering the best possible public transport for the community considering the funding or subsidy available. An integrated transport authority’s role to purchase public transport services regardless of whether it is privately owned and operated or publicly in a similar way bus services are provided.

7.9.4 A city like Sydney needs a transport co-ordinating authority to ensure the existing public transport infrastructure delivers the best possible services for the community. Public transport operates better in cities with a transport authority acting as a co-ordinating organisation. The integration of organisations can also include input from other key stakeholder such as health and education. This helps to provide a consistent message on transport use, particularly on the benefits of walking, cycling and public transport use. Metropolitan Australian cities that have public transport authorities include TransAdelaide, Transperth, Translink in South East Queensland, Metlink in Melbourne, Metlink in Wellington, MAXX in Auckland and Metro in Christchurch.

7.9.5 A further step towards integration is the model used in London where Transport for London (TfL) is responsibly for the arterial road network. This includes the Congestion Charge Zone (covering central London), Low Emission Zone (covering greater London), developing the London Cycle Network and major pedestrian improvement schemes.

**STRATEGY I1**

Lobby State & Federal Governments for a Sydney Integrated Transport Authority to co-ordinate public transport services including integrated ticketing, timetabling, marketing and long term planning, with a strong focus on significantly improving public transport in Western and North Western Sydney.
8 BUS

Policy statement

Bus service usage is actively encouraged to reduce the reliance on car trips to the city centre. Environmentally friendly and fully accessible buses and infrastructure should be provided.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Cross-city centre bus services</td>
</tr>
<tr>
<td>B2</td>
<td>Bus priority</td>
</tr>
<tr>
<td>B3</td>
<td>Improve bus stops facilities</td>
</tr>
<tr>
<td>B4</td>
<td>Bus Stop Access Programme</td>
</tr>
</tbody>
</table>

8.1 Background: Existing policies, plans, strategies and projects

8.1.1 Parramatta city centre is serviced by approximately 40 bus routes provided by six bus operators (Veolia, Hopkinsons, Westbus, Hillsbus, Sydney Buses and Western Sydney Buses).

8.1.2 The Department of Transport & Infrastructure (T&I) department (formerly the Ministry of Transport) is responsible for the provision and regulation of bus services, while the RTA is responsible for the provision of bus priority measures. Council is responsible for bus zones (signage to reserve road space for bus stops) and providing bus shelters. Bus stop signs and timetable information is the responsibility of bus operators and T&I.

8.1.3 The Parramatta Transport Interchange (see Figure 7.1) opened in February 2006, integrating the bus and rail stations. All bus services terminate at the interchange except Hopkinsons’ services, which currently terminate in George Street. These are expected to terminate at the interchange as a result of the service planning review process which started in December 2008.
8.1.4 The plan indicates that 1000 additional buses will be provided shared between Sydney, Newcastle, Central Coast and Wollongong. There is no indication of the allocation or delivery time frame. The plan also promises to complete the Strategic Bus Corridor Network by 2012, however there are no as to which corridors are complete and which are to be completed.

**Review of Bus Services in New South Wales (Unsworth 2004)**

8.1.5 This report recommends major reforms in the provision of bus services. The key elements are 15 new bus contract regions in Sydney (Figure 8.2) consolidating to 8 by 2012 and 43 strategic bus corridors (Figure 8.3). These form a bus priority network across Sydney, including the T-ways. Parramatta is at the edge of 5 of these regions with 9 strategic corridors serving Parramatta.

8.1.6 Service Planning Reviews are recommended to deliver better bus services with a focus on quality. The report also recommended a feasibility study into a free shuttle bus for Parramatta city centre. There are details on both these recommendations within this chapter.

**8.2 Bus Regions**

8.2.1 There are five bus contract regions that cover Parramatta LGA and are shown in figure 8.2. The current bus contracts have very few overlapping services or connectively between regions. In Parramatta city centre this results in passengers needing to interchange between bus services for nearby destinations such as Westmead, University of Western Sydney (UWS) and to some extent Granville and Merrylands.
8.2.2 There is an increasing demand for bus layover within Parramatta city centre as the number of services grows. The existing layover space on Station Street is already at capacity. The RTA has a short term agreement with Council to use Charles Street as an additional layover area which acts as an overflow.

8.2.3 It is suggested that some Sydney Buses’ services be extended to Westmead and some Hillsbus’ services be extended to UWS to attempt to balance the revenue (patronage). The proposal is shown below in the figure 8.3

8.2.4 Additional bus services from North West (Hillbus) were introduced in late 2009 and new services for Region 3 due March 2010. This is likely to further decrease the ability of the eastern layover on Station Street to operation effectively.
8.3 Service Planning Reviews

8.3.1 As part of the roll-out and implementation of the new bus contract regions the T&I with bus operators has been undertaking a review of services to significant improve services. The table below summarises the progress of these reviews. The area covered by the regions are shown in figure 8.2

Table 8.1 Summary of bus operators and service planning reviews

<table>
<thead>
<tr>
<th>Region</th>
<th>Operators</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Hillsbus</td>
<td>New services introduce May 2008</td>
</tr>
<tr>
<td>6</td>
<td>Sydney Buses (STA)</td>
<td>Reviewed September 2009. Impacts on one route already reviewed under Region 7.</td>
</tr>
<tr>
<td>7</td>
<td>Sydney Buses (STA)</td>
<td>New services introduce Oct 2009</td>
</tr>
<tr>
<td>13</td>
<td>Veolia</td>
<td>New services introduce December 2007.</td>
</tr>
</tbody>
</table>

8.4 Bus lane enforcement

8.4.1 Bus priority measures are traffic devices which give buses priority over other traffic to enable them to maintain the bus timetable and deliver a reliable service with minimum delays. The NSW Police does not actively enforce bus or transit lanes, as stopping a vehicle for an offence in a bus or transit lane as it impacts on bus journeys and is thus counter-productive. The RTA use roadside cameras with a fixed view, similar to speed cameras. The long term effectiveness of this method is questionable as it is widely accepted that speed cameras are becoming ineffective as drivers avoid speeding within sight of the cameras only.

8.4.2 A secondary issue with fixed view cameras is that they cannot be used in locations where there is frequent access and ingress points, as vehicles are permitted to use a bus lane for 100m before and after turning left. A local example is Church Street, between Victoria Road and Windsor Road, where the bus lane cannot be enforced by cameras leaving it open to abuse.

8.4.3 Transport for London, in the UK, moved away from fixed view cameras due to ineffectiveness and now predominately uses CCTV cameras which offer
significantly improved vision. CCTV cameras require operators to monitor the cameras and the additional cost is off-set by increased revenue from additional offences detected. The CCTV cameras are often shared with other agencies to maximise resources and therefore reduces costs. CCTV cameras in London monitor bus lanes, parking, traffic flow conditions and civil order.

8.4.4 The RTA has more than 700 CCTV cameras across Sydney to monitor traffic flow to assist traffic control and incident management. It is strongly recommended that State Government investigate amending legislation to allow the RTA to use their existing CCTV camera network, where possible, to include bus lane enforcement to maximise the CCTV camera investment and effectively control all aspects of traffic movements. The RTA has advised that it does not support this recommendation as the current legislation does not allow it and that the CCTV camera was not designed to enforcement bus lanes.

8.5 Strategic Bus Corridors

8.5.1 T&I through the RTA, is developing 43 strategic bus corridors to create a bus priority network across Sydney. There are 8 strategic bus corridors radiating from Parramatta. The map below (Figure 8.4) shows the existing and funded bus lanes along with possible future schemes being investigated by the RTA along with the recommendations for additional bus lanes. The proposed strategic bus corridor to Burwood, along Parramatta Road, has been dropped as there are no bus services along Parramatta Road east of Granville. The full details, including the detailed recommendations, are contained in Appendix 2.
8.5.2 It is also suggested that strategic a bus corridor is developed along Kissing Point Road as an alternative Pennant Hills Road for journeys between Parramatta, Chatswood, Macquarie Park and Epping. Also a corridor is developed along Pitt Street between Merrylands and Parramatta.

**STRATEGY B2**
Lobby the RTA to use their existing CCTV cameras to enforce **Bus Priority** measures

8.6 **Bus service reliability**

8.6.1 STA (Sydney Buses and Western Sydney Buses) has a Customer Service Commitment with targets for punctuality and reliability as set out below:
- 95% of services - depart within 5 minutes of timetabled departure
- 95% of services - operate according to the timetable

8.6.2 The table below shows the reliability achieved for the last 3 years. It is noted that Sydney Buses’ services as a whole meet their reliability targets. However it is suspected that the services operated at peak times are not meeting the targets and some routes may be performing poorly. The reliability information should be broken down into routes and by time period.

<table>
<thead>
<tr>
<th>Year</th>
<th>% of services departed within 5 minutes of timetable</th>
<th>% of timetabled services operated</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008/09</td>
<td>96%</td>
<td>99.4%</td>
</tr>
<tr>
<td>2007/08</td>
<td>95.6%</td>
<td>99.4%</td>
</tr>
<tr>
<td>2006/07</td>
<td>95.2%</td>
<td>99.4%</td>
</tr>
</tbody>
</table>

Source: State Transit Authority Annual Reports

8.6.3 Hillsbus, Hopkinsons and Veolia all have a Customer Charter however none include any bus service reliability targets.

8.7 **Bus stop information**

8.7.1 Bus operators are responsible for providing bus service information at bus stops, including timetables and maps. There is a coach stop on Fitzwilliam Street however there is no information provided at the stop. T&I’s transport information service, “Transport Info” is covered in Chapter 6.

8.7.2 Sydney Buses provide bus service information at selected bus stops (usually the busier ones), while private bus operators do not provide bus service information at the vast majority of bus stops. The quality and quantity of information provided needs to be significantly improved to encourage and support more bus trips.

8.7.3 Real time information provides a level of certainty of service and allows potential passengers to choose the most appropriate service depending on the status of current services. This is especially important when bus passengers have a choice of alternative services. All bus stops on the Liverpool to Parramatta T-way excluding Parramatta Interchange, have real-time bus service information. It is also suggested that real-time information be provided on the North-West T-way and key bus stops, particularly those in local centres where there are multiple bus services. The State Government
has invested in information panels suitable for bus journey real-time within the Parramatta Transport Interchange, however, T&I has no plans to roll this out.

8.8 **Transit-ways (T-ways)**

8.8.1 Transit-ways or T-ways is the brand name of Western Sydney’s rapid bus transit network. The Department of Transport’s Action for Transport 2010 (1998) identified seven Transit-ways to be constructed by 2010. The Liverpool to Parramatta T-way ($346m) was opened in 2003 and the North West T-way ($524m) opened in March 2007. The North-West T-way comprises two sections: Parramatta to Rouse Hill and Blacktown to Parklea. Other proposed T-ways (including Parramatta to Strathfield and Parramatta to Blacktown) have long since been abandoned and been replaced in part with Strategic Bus Corridor programme (bus lanes) which is significantly cheaper and still offers significant benefits for buses.

8.8.2 T-ways are dedicated bus infrastructure corridors. The majority of the routes are on segregated bus-only roads with some sections on road with bus priority. The result is faster and a more reliable bus corridors allowing a high frequency service. The T-ways bus stops have a higher quality passenger environment than traditional bus stops and include real-time information (Liverpool T-Way only), bus shelters, help points, good lighting and CCTV cameras for passenger safety. It is recommended that initially T-way style bus stops are rolled-out to suburb centres that are served by T-way services to Parramatta including:

- Bella Vista on Bella Vista Drive, near local shops.
- Castle Hill on Old Northern Road, near shopping centre.
- Norwest on Norwest Boulevard, near shopping centre.
- Kellyville on Wrights Road, shopping centre.
- Kings Langley on James Cook Drive, shopping centre.
- Stanhope Gardens on Sentry Drive, shopping centre.

**STRATEGY B3**

Lobby T&I and bus and coach operators to **Improve Bus Stops Facilities** including timetables, electronic real-time information and higher quality bus stops in key locations.

8.9 **Commonwealth Disability Discrimination Act (DDA) 2002**

8.9.1 The DDA covers all aspects of access to bus services. The State Government produced a Accessible Transport Action Plan for NSW Transport, Roads and Maritime Agencies in June 2005 which is regularly updated. The document is focused towards ensuring that State Government agencies follow a plan to meet the DDA requirements and it not a whole of State Accessible Transport Plan.

**Bus vehicle accessibility**

8.9.2 Bus vehicle accessibility means passengers of limited physical ability being able to board, alight and travel on buses. The following targets have been set for bus accessibility: 55% by 2012, 80% by 2017 and 100% by 2022. The percentage of bus fleets meeting the accessibility standards are as follows:

- 54% (June 2009) STA (including Sydney Buses, Newcastle Buses & Western Sydney Buses)
- 40% (October 2009) CDC (Hillsbus and Westbus)
- 39% (2007) Veolia
8.9.3 The table below (Table 8.3) summarises the use of accessible buses on the strategic bus corridors.

Table 8.3 Rostered use of accessible buses on the strategic bus corridors

<table>
<thead>
<tr>
<th>Corridor</th>
<th>Bus operator</th>
<th>% of Accessible Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Blacktown</td>
<td>Hillsbus</td>
<td>35% (Route 700)</td>
</tr>
<tr>
<td>9 Sydney via</td>
<td>Sydney Buses</td>
<td>99% (Route 548)</td>
</tr>
<tr>
<td>Macquarie</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Sydney via</td>
<td>Sydney Buses</td>
<td>90% (Routes L20/520,523 &amp; 524)</td>
</tr>
<tr>
<td>Ryde</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Liverpool</td>
<td>Western Sydney</td>
<td>100% (Route T80)</td>
</tr>
<tr>
<td>Buses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Bankstown</td>
<td>Veolia</td>
<td>52% (Route 910)</td>
</tr>
<tr>
<td>40 Castle Hill</td>
<td>Hillsbus</td>
<td>30% (Routes 600 603 &amp; 604)</td>
</tr>
<tr>
<td>41 Hornsby</td>
<td>Sydney Buses</td>
<td>95% (Route 548)</td>
</tr>
<tr>
<td>42 Rouse Hill</td>
<td>Hillsbus</td>
<td>28% (Routes T61,T62,T63,T64,T65 &amp; T66)</td>
</tr>
</tbody>
</table>

Source: Percentage of Monday to Friday services with a wheelchair accessible bus rostered taken from bus operator timetable January 2010.

8.9.4 Bus stop accessibility means passengers of limited physical ability being able to board, alight and walk to bus stops. Under the Disability Discrimination Act (DDA), Council is responsible for ensuring that bus stops comply with the standards. The Act sets targets for all bus stops of: 55% by 2012, 90% by 2017 and 100% by 2022.

8.9.5 Council is responsible for 835 bus stops of which 245 have bus shelters. Adshel provides and maintains 230 bus shelters under contract to Council in return for advertising rights. Under the contract Council can request that bus shelters be relocated, so as to meet bus passenger needs. Council owns and maintains the remainder of the shelters.

8.9.6 Council has completed an initial audit of all marked bus stops within the LGA and is developing a bus stop access program to identify and prioritised the necessary works. It is essential the Council provides accessible bus stop infrastructure along bus routes where accessible buses are used, otherwise bus passengers will not be able to use those accessible buses which are operated.

**STRATEGY B4**

Establish a **Bus Stop Access Program** to ensure they are 100% accessible by 2021.
8.10 Environment impact of buses

8.10.1 The Australian Design Rules sets the standards for vehicle noise emissions including buses. New standards took effect in 2005 which reduced the level by 4-7dB (a 10dB reduction is approximately half the current noise level).

8.10.2 The air emission standards for new Australian buses are based on the high standards set by the European Union. (The higher the Euro number the lower the emissions).
- All existing buses must conform to Euro1 (Adopted 1990).
- Euro3 (from July 2002) – equivalent to Compressed Natural Gas (CNG) buses. It should be noted that CNG vehicles are nosier than Euro 4 diesel buses.

8.10.3 The noise and air emission standards apply to new buses, and in addition, T&I apply age restrictions to overcome the use of older buses. Individual buses must be less than 25 years old and the average fleet age must be 12 years old or less. The average age of the State Transit Authority’s (STA) fleet (which includes Sydney Buses, Western Sydney Buses and Newcastle Buses) is 12.96 years old according the 2007/08 Annual Report.

8.11 The Loop - Free city centre bus

8.11.1 One of the recommendations from the Review of Bus Services in New South Wales (Unsworth 2004) was a feasibility study into a free city centre shuttle bus in Parramatta. Parson Brinkerhoff undertook the Parramatta CBD Shuttle Bus Feasibility Study (2005) which was followed by a more detailed study, Parramatta CBD Shuttle Bus (ARRB 2006), into the proposed operation of the service.
8.11.2 On 29 August 2008 Council started “the Loop” free city bus service based on the successful similar schemes operating in Perth, Brisbane and Adelaide. The Loop bus:

- Reduces the walking distances and journey times for pedestrians.
- Provides a fully accessible bus service around the city centre.
- Connects significant destinations – Interchange, ferry wharf, Justice Precinct, NSW Police Headquarters, Jessie Street Centre (Commonwealth Offices).
- Integrates with bus services as all services will terminate at the Interchange rather than circulate around the centre.
- Provides an alternative to moving around the city centre in a car.
- Increases visibility of businesses around the city.
- Helps to re-connect the area north of Victoria Road with the heart of the city.
- Promotes economic growth.
8.11.3 Council purchased 3 new buses to operate a one-way service on a 10 minute frequency as shown on the map below. The operating cost of “the Loop” is met by Council and corporate sponsorship contributions from Westfield and Parramatta Leagues Club who both directly benefit from the service. State Government declined to fund Council’s free shuttle bus and the proposal has been scaled back to make best use of available Council and local business funding commitments. State Government has since funded a free city bus service for central Sydney and Wollongong.

8.11.4 Patronage on the service has increased steadily from 40,000 in September 2008 to 67,000 in March 2009. It currently carries approximately 70,000 passengers per month. A review of the service (The Loop Review PCC 2009) was conducted including a passenger survey whose findings are below. As a result of the review the route of the service has been amended to better respond to the demands of passengers.

- 98% were satisfied with the service.
- 38% use it to connect with train services.
- 23% use it to connect with other bus services.
- 78% either utilise the service daily or several times a week.
9 RAIL

Policy statement

Fully accessible rail services to reduce the reliance on car trips to the city centre. State Government to integrate rail services with other modes and establish certainty on the future of the Carlingford Line.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>Construct the Parramatta to Epping Rail Link, investigate the Parramatta to Castle Hill Rail Link and restore the Cumberland Line service. Increase direct rail services to Parramatta.</td>
</tr>
<tr>
<td>R2</td>
<td>West Metro Increase rail services between Parramatta and Sydney.</td>
</tr>
<tr>
<td>R3</td>
<td>Rail services and stations facilities Support and encourage rail use.</td>
</tr>
</tbody>
</table>

9.1 Background: Existing policies, plans, strategies and projects

9.1.1 RailCorp (which includes CityRail) has recently changed from a State owned corporation to a statutory authority and now takes direction from the Transport & Infrastructure (T&I), formerly Ministry of Transport, rather than a commercial board of directors to improve performance.

9.1.2 City Rail provides the suburban and intercity rail services in the Sydney Metropolitan region. There are 15 rail stations within Parramatta LGA of which Parramatta is the 4th busiest with over 50,000 passengers daily (2007 Barrier Counts RailCorp).

Metropolitan Transport Plan (2010)

9.1.3 This plan deferred the Sydney Metro and Parramatta to Epping Rail Link until 2020. It proposes a Western Express rail service which is basically rail link
improvements between Penrith and Parramatta and a new rail tunnel under Sydney city. It is estimated to deliver additional capacity and journey time savings of 5 minutes between Penrith and Parramatta and 5 minutes between Parramatta and Sydney. Work is due to start on the required infrastructure in 2015 with no indication of a completion date, which is unlikely to be before 2020.

**Rail Clearways Program**

9.1.4 This $1.8 billion joint TIDC (Transport Infrastructure Development Corporation) RailCorp project was announced by State Government in 2004. The aim is to remove congestion points and increase capacity by untangling the rail lines. The project is due for completion by 2010 and is running behind schedule with several projects cancelled or deferred indefinitely.

9.2 Rail services to Parramatta

9.2.1 Parramatta station is served by North Shore, Western, Cumberland and Blue Mountains Lines as shown in the figure below. There are good connecting services to Parramatta provided by the South Line (at Granville) and Northern Line (at Strathfield), however, the journey time to stations north of Epping to Hornsby will increase with full integration of the Epping to Chatswood Rail Link. The table below shows the journey times from local and regional stations. The table also shows the number of passengers using the stations within the LGA. Parramatta station has nearly 10,000 passengers existing in the morning peak.

![Figure 9.2 Extract of CityRail map](image-url)
Table 9.1 Journey times to Parramatta & Passenger numbers

<table>
<thead>
<tr>
<th>Local stations</th>
<th>Peak hour journey time to Parramatta (minutes)</th>
<th>Passengers entering &amp; exiting (6am – 9.30am)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toongabbie</td>
<td>12</td>
<td>1230</td>
</tr>
<tr>
<td>Pendle Hill</td>
<td>9</td>
<td>2070</td>
</tr>
<tr>
<td>Wentworthville</td>
<td>7</td>
<td>1640</td>
</tr>
<tr>
<td>Westmead</td>
<td>4</td>
<td>4710</td>
</tr>
<tr>
<td>Parramatta</td>
<td>N/A</td>
<td>15440</td>
</tr>
<tr>
<td>Harris Park</td>
<td>2</td>
<td>820</td>
</tr>
<tr>
<td>Merrylands</td>
<td>15*</td>
<td>3110</td>
</tr>
<tr>
<td>Guildford</td>
<td>18*</td>
<td>1720</td>
</tr>
<tr>
<td>Granville</td>
<td>4</td>
<td>4150</td>
</tr>
<tr>
<td>Epping</td>
<td>35*</td>
<td>6070</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional stations</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Penrith</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Blacktown</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Fairfield</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Liverpool</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Campbelltown</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Bankstown**</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Burwood</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Town Hall</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Hurstville**</td>
<td>55</td>
<td></td>
</tr>
</tbody>
</table>

*Source: RailCorp 2007 Barrier Counts.  ** Requires change of train

**North Shore & Western Line**

9.2.2 This service connects Berowra, via Sydney to Emu Plains with a branch to Richmond. The Western Line refers to the section from Emu Plains and Richmond to Sydney.

**Cumberland Line**

9.2.3 The Cumberland Line provides direct services from South Western Sydney (Liverpool) to Western Sydney (Blacktown) via Parramatta. It is a very limited peak hour service with two northbound services in morning and three southbound services in the evening. When the service was introduced in 1996 there was a half-hourly service and it was dramatically reduced to its current peak hour service in 2004. State Government promised to restore the line to a half-hourly service by 2010, however RailCorp has advised that an increased service will not be considered until new trains (Oscars and Waratahs, due 2010) are available in sufficient numbers. The Cumberland Line is important as it provides a direct service for Western Sydney and avoids the need change trains at Granville, the alternative which adds 10 to 15 minutes to trips.

9.2.4 It is recommended that Council lobby State Government to reinstate the Cumberland Line to a half-hourly by 2010 as promised. The Line provides a direct service between Campbelltown, Liverpool, Parramatta and Blacktown and avoids the alternative of changing trains at Granville; this adds 10 to 15 minutes to each journey.

**Blue Mountains Line (Intercity)**

9.2.5 This service connects Lithgow and the Blue Mountains to Sydney. The service offers fast services between Penrith, Blacktown, Parramatta, Granville, Strathfield and Sydney.
South Line
9.2.6 This service connects Macarthur to Sydney. Granville provides passengers with connections to Parramatta.

Northern Line
9.2.7 The Epping to Chatswood rail link opened in March 2009 with a service from Hornsby to Sydney via Epping and Macquarie Park from October 2009. Passengers from north of Epping need to change at Epping and Strathfield or at Central for a connecting service to Parramatta. The rail link has released capacity on the Western Line.

Carlingford Line
9.2.8 This branch line connects Carlingford to Clyde, where there are limited connections on the Western Line to Parramatta. The Carlingford Line is of limited use for journeys to Parramatta due to convenience of a direct bus service where as the rail service requires a change at Clyde. The Rail Clearways project (a passing loop) was scraped in 2008 and would have allowed a half-hourly service.

CountryLink
9.2.9 CountryLink provides two long distance rail services via Parramatta: a daily service to Dubbo via Orange and a weekly service to Broken Hill via Orange. While they play a minor role in terms of the travel to the Parramatta city centre, they do provide an important alternative to car based transport.

Parramatta to Epping Rail Link
9.2.10 The plan to extend the Carlingford Line to Parramatta and Epping was deferred in 2003 and the future of the Carlingford Line is uncertain. The Metropolitan Transport Plan (2010) indicates that the project is further deferred until at least 2020.

9.2.11 The Carlingford Line represents a significant transport infrastructure asset but has no agreed future vision. The Line needs to be integrated into the public transport network with direct links to significant destinations with Parramatta and Macquarie Park/Sydney (via Epping) being logical.

9.2.12 The current doing-nothing position is slowly eroding the cost-benefit ratio of operating the service. The Line has low patronage with limited potential to increase it as neither Clyde nor Carlingford are significant destinations. The concern is that the Line will be considered for closure as cost-benefit ratio reaches a tipping point without significant investment. The Casino to Murwillumbah Line, on the Far North Coast, closed in 2004 under similar circumstances. The line had increasing costs and falling patronage as it terminated in the Far North Coast hinterland instead of being considered for extension to the Gold Coast which would have increased patronage.

9.2.13 It is recommended that Council lobby State and Federal Governments to construct the Parramatta to Epping Rail Link. This will directly link Parramatta and Western Sydney to jobs in Macquarie Park and North Sydney, as well as connect commuters from the Central Coast and North Sydney to Parramatta.

Other possible future rail links and services to Parramatta
9.2.14 The Christie Report (2001) identified a rail based public transport link to Castle Hill from Parramatta via Windsor Road. This could form a future stage
of the North West Rail Link and create rail access from the North West growth sector to Parramatta the nearest regional city. It is suggested that a service operate from Rouse Hill to Leppington via Castle Hill, Parramatta and Liverpool. This will directly link residents in the North West to jobs in Parramatta and Western Sydney, as well connect residents in the South West to Parramatta.

![Figure 9.3 Parramatta to Epping and Parramatta to Castle Hills Rail Links](image)

9.2.15 The suggestion to operate light rail on the streets of Parramatta needs careful consideration as it will have a significant impact on traffic flows. Any city centre on-street running would need a degree of segregation from traffic to ensure journey reliability. A Western Sydney light rail network could be developed from Parramatta to Chester Hill and then to Bankstown using the existing rail line. A second line could be considered from Cabramatta to Lidcombe via Bankstown using the existing rail line with an on-street extension to Olympic Park.

**STRATEGY R1**
Lobby State and Federal Governments to construct the Parramatta to Epping Rail Link, prepare a feasibility study into the Parramatta to Castle Hill Rail Link and restore the Cumberland Line service.
9.3 **Rail service reliability**

9.3.1 CityRail has a Customer Service Commitment with targets for punctuality and reliability as set out below:

- at least 99 out of every 100 peak services operate.
- at least 92 out of every 100 peak services arrive at their terminus within 5 minutes of their scheduled arrival time (6 minutes for intercity services).
- less than 1% of stations per day skipped during peak service to maintain on-time running.

9.3.2 The table below shows the combined percentage of peak services arriving in the morning peak and those departing in the evening peak as measured in the Sydney CBD. Information relating to performance at Parramatta station is not recorded and therefore the information below is only an indication of likely reliability of services to Parramatta in the morning and leaving in the evening. Note RailCorp does not collect reliability figures for the Cumberland or Carlingford Lines as there services do not travel to or from the Sydney CBD. It is recommended that the Council for service improvements and more performance data be collected including the Carlingford and Cumberland Lines and services to Parramatta.

<table>
<thead>
<tr>
<th>Line</th>
<th>Target</th>
<th>2008-09</th>
<th>2007-08</th>
<th>2006-07</th>
<th>2005-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Line</td>
<td>92</td>
<td>91.5</td>
<td>85.7</td>
<td>85.5</td>
<td>84.5</td>
</tr>
<tr>
<td>South Line</td>
<td>92</td>
<td>94.9</td>
<td>92.2</td>
<td>90.2</td>
<td>86.9</td>
</tr>
<tr>
<td>Western Line</td>
<td>92</td>
<td>92.0</td>
<td>88.4</td>
<td>86.2</td>
<td>84.9</td>
</tr>
<tr>
<td>Carlingford Line</td>
<td></td>
<td>Not collected</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumberland Line</td>
<td></td>
<td>Not collected</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue Mountains</td>
<td>92</td>
<td>93.7</td>
<td>90.4</td>
<td>91.5</td>
<td>89.0</td>
</tr>
</tbody>
</table>

Source: RailCorp performance data

9.4 **Sydney Metro**

The proposed Sydney Metro project has been deferred until 2020. The project included the West Metro from Central to Westmead with stations at Camellia and Parramatta.
**Figure 9.4 Proposed West Metro**

**STRATEGY R2**  
Continue to lobby for the West Metro proposal from Sydney to Parramatta.

9.5 Station Facilities  
9.5.1 Providing rail passengers with facilities to interchange with other modes increases the effective catchment of rail stations as well as making rail more attractive and feasible. T&I’s public transport information service, "Transport Info" is covered in Chapter 7.

9.5.2 The interchange facilities at rail stations within Parramatta LGA vary. The Parramatta Transport Interchange opened in February 2006 following a $239m upgrade of the rail and bus stations including full accessibility standards. The facilities at each station in the LGA are detailed in the table below and covered in the following sections.
Table 9.3 Station Interchange Facilities

<table>
<thead>
<tr>
<th>Station</th>
<th>Wheelchair Accessible</th>
<th>Bus stop</th>
<th>Taxi rank</th>
<th>Bicycle parking</th>
<th>Car parking spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toongabbie</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>Pendle Hill</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>200</td>
</tr>
<tr>
<td>Wentworthville</td>
<td>✓</td>
<td>✓</td>
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<td></td>
<td>160</td>
</tr>
<tr>
<td>Westmead</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>75</td>
</tr>
<tr>
<td>Parramatta</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>None</td>
</tr>
<tr>
<td>Harris Park</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merrylands</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>225</td>
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<tr>
<td>Guildford</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>160</td>
</tr>
<tr>
<td>Granville</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>None</td>
</tr>
<tr>
<td>Epping</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>None</td>
</tr>
<tr>
<td>Rosehill</td>
<td></td>
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<td>Camellia</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
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<td>Rydalmere</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Dundas</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>31</td>
</tr>
<tr>
<td>Telopea</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

Source: CityRail website and car parking from site observations

Planned station improvements

9.5.3 T&I has an Easy Access Programme to ensure all stations become complaint with the DDA Act, this includes the provision of lifts and ramps.

Bus services

9.5.4 T&I is currently undertaking a programme of Interchange Improvement Studies which reviews measures to improve access, by all modes, to railway stations. Granville, Pendle Hill and Toongabbie stations are part of this programme.

Bicycle lockers

9.5.5 Bicycle lockers are provided by T&I at a cost of $50 to use the locker for three months plus a $50 deposit. In comparison, in Victoria, Western Australia and Queensland secure bicycle lockers are provided free of charge to support cycling to rail stations. In addition commuter car parking at rail stations is provided free.

9.5.6 RailCorp policy locates bicycle lockers at least 60m away from station entrances and exits due to the threat of terrorist attack. This is due to the fully enclosed design of the lockers. However this policy direction is out of proportion as there has been no action taken against other more likely possible terrorist threats, such as a car bomb. It is also noted that redesigned litter bins are returning to rail stations after an absence of 10 years due to the possible terrorist attacks. It is recommended that the design of cycle lockers be reviewed with a view to providing secure cycle parking closer to stations than currently provided.
**Car parking**

9.5.7 State Government has a Commuter Car Park program to deliver 7,000 car parking spaces. The principle of Park & Ride is supported where it can intercept car trips on the urban fringe but within existing urban areas it is questionable as free station parking can induce additional car trips and undermine walking, cycling and public transport use, which is opposition to the State Government’s objective to increase sustainable transport use.

9.5.8 CityRail no longer advertises the number of parking spaces at stations and nor does identify whether there is an actual station car park. It is recommended that RailCorp advertise these stations with car parks as Park & Ride stations as in Victoria.

**Kiss & Ride**

9.5.9 Kiss & Ride is the drop-off and pick-up of passengers at a public transport stations or stops. Kiss & Ride occurs informally at nearly all rail stations and many bus stops. Formal facilities, including a dedicated length of kerb with signage, are often provided to support significant demand either due to convenience or lack of parking. It is recommended that RailCorp with Council, implement Kiss & Ride facilities at stations.

**Directional signage to stations**

9.5.10 There are very few railway stations with directional signage for pedestrians, cyclists or vehicles. It is recommended that directional signage to all rail stations be provided.

**STRATEGY R3**

Lobby for improved *Rail Services and Station Facilities* including increased collection of performance data, requesting RailCorp to advertise station car park details and market larger ones as Park & Ride. Work with T&I to provide directional signs to all stations.
10  FERRY

Policy statement

Ferry services to Parramatta are integrated with other public transport services and provide a level of service that is attractive to tourists, commuters and general visitors as an alternative to car use.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Commuter ferry service to Parramatta</td>
</tr>
<tr>
<td></td>
<td>Provide a direct commuter ferry service to Parramatta from the Inner West riverside suburbs.</td>
</tr>
</tbody>
</table>

10.1 Background: Existing policies, plans, strategies and projects

10.1.1 In late 2008, Sydney Ferries changed from a State owned corporation to a statutory authority and now takes direction from the Ministry of Transport rather than a commercial board of directors to improve performance. Sydney Ferries provides 11 ferry services within Sydney Harbour of which two operate on Parramatta River.

![Parramatta RiverCat service leaving Parramatta](image)

Figure 10.1 Parramatta RiverCat service leaving Parramatta

10.1.2 The Parramatta ferry service was rebranded in November 2009 as the River Express (previously known as the Parramatta Rivercat). The new service now includes peak period services and still links Parramatta and Rydalmere to Circular Quay (Sydney). The service is still primarily aimed at tourists as it
takes 55 minutes from Sydney to Parramatta compared to 25 minutes by train. The Parramatta service is not to be confused with the Rydalmere service which connects Rydalmere and Circular Quay (Sydney) stopping at all wharves in-between. Other agencies involved with ferry services are NSW Maritime, which is responsible for the majority of ferry wharves and department of Transport & Infrastructure, which regulates ferry services.

![Figure 10.2 Parramatta ferry service](image1)

![Figure 10.3 Rydalmere ferry service](image2)

**Special Commission of Inquiry into Sydney Ferries Corporation (Walker 2007)**

10.1.3 The purpose of “The Walker report” inquiry was to identify actions to improve Sydney Ferries Corporation’s (SFC) performance in providing a safe, efficient and customer-focussed service. One of the primary issues that affect SFC is the lack of accountability to Government and to passengers.

10.1.4 Council has reviewed the Walker report and rejected the key recommendation effecting Parramatta, which is for the ferry service between Rydalmere and Parramatta to be discontinued. Council has submitted several submissions to State Government between November 2007 and to date. The key Council recommendation to State Government is that the ferry service be retained and expanded to include a commuter service. Council has suggested two services to Parramatta; one, primarily aimed at commuters during the peak, from King Street Wharf stopping at Drummoyne, Abbotsford, Cabarita and Meadowbank; and a second, off-peak service, primarily aimed at tourists and leisure travellers from Circular Quay calling at Cockatoo Island and Sydney Olympic Park. Other key points of Council’s submission on the Walker report include:

- The Parramatta ferry service patronage is not available.
- The report fails to acknowledge that the ferry operates at off-peak periods to Rydalmere and Circular Quay only.
- The growing of suburbs along Parramatta River need public transport services to regional centres and the river is the logical mode.
- The existing ferry service contributes to increased public transport use reducing the impact on the environment (emissions & traffic congestion).
- A Parramatta ferry service supports the planned growth of Parramatta of 30,000 jobs and 20,000 residents.
- The existing value of the existing Parramatta ferry service to tourism market is estimated as $8m per year.
- All navigable waterways need regular maintenance.
- Newer ferries can reduce the impact of wash action on the banks of the Parramatta River.
- Scraping the Parramatta services wastes infrastructure investment in the service and along the river.
- The environmental impact of the ferry on the river can be better managed.
- The Parramatta service is an important element in the transport network.
- Information supplied following Freedom of Information requests to State Government demonstrates the lack of information and poor quality information available to the Special Commission of Inquiry raising issues with validity of the report's recommendations.

**Parramatta RiverCat Service (OWL 2008)**

10.1.5 Council commissioned comprehensive independent research on current ferry users and potential users of the Parramatta RiverCat service. The survey team interviewed 915 people and the research concluded that a commuter service was a viable option which had strong community support. In summary the findings were:

- 72% of those surveyed would consider using the Parramatta ferry service if operated from 6am to 7.30pm.
- Passenger number for existing service – weekends 2,000 and weekdays 1,915.
- 90% of people surveyed the community’s call in maintaining the service to Parramatta.
- 70% of those surveyed would use the ferry if there was an extended evening service.
- 81% of those surveyed would use the Parramatta ferry service for pleasure/tourists activities.

**10.2 Parramatta Commuter Ferry service**

10.2.1 State Government indicated in June 2009 that the new commuter ferry service would operate between Parramatta and Darling Harbour which unfortunately would not deliver Council’s position of service from the Inner West to Parramatta. However the new service launched in November 2009, River Express, is the same as the previous RiverCat with additional peak period services. It is quicker and cheaper to use the train between Parramatta and Sydney. There are benefits to the existing commuters joining at Rydalmere who gain a few faster services during the peak. A new commuter service is needed to connect the residents of the Inner West riverside suburbs to jobs in Parramatta.
**Strategy F1**
Continue to lobby State Government for a **Commuter Ferry Service to Parramatta** from the Inner West.

10.3 Ferry service reliability
10.3.1 Sydney Ferries has a Customer Service Commitment with targets for punctuality and reliability as shown in the table 10.1 below. It is noted that Sydney Ferries, as a whole, meets its reliability targets. The value of the target is low as it only relates to departures rather than the international standard of arrivals. It additional, data is published for individual routes.

<table>
<thead>
<tr>
<th></th>
<th>% of services that departed Circular Quay within 5 minutes of timetable</th>
<th>% of scheduled services that actually ran</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Target</td>
<td>Actual</td>
</tr>
<tr>
<td>2009/10 to Nov</td>
<td>99.5</td>
<td>97.4*</td>
</tr>
<tr>
<td>2008/09</td>
<td>99.5</td>
<td>97.0</td>
</tr>
<tr>
<td>2007/08</td>
<td>99.5</td>
<td>96.0</td>
</tr>
</tbody>
</table>

Source: Sydney Ferries. * Adjusted figure excludes force majeure (incidents outside Sydney Ferries' control) and includes weather and tidal conditions.

10.4 Wharf Facilities
10.4.1 Sydney Ferries’ fleet is already 100% wheelchair accessible, including Parramatta wharf. NSW Maritime has a Disability Action Plan (2005) to upgrade the other wharfs along Parramatta River and Sydney Harbour.

10.4.2 The Loop (Parramatta’s free city bus service, see Chapter 8) provides a direct service from Parramatta wharf to Parramatta Transport Interchange (for local bus and rail services). There is bicycle parking provision at both wharfs. Rydalmere wharf has a park & ride facility (70 car parking spaces) for passengers to Sydney. Parramatta wharf does not have any parking, as it is easier to access Rydalmere wharf by car and the service to Sydney is quicker.

10.4.3 T&I’s transport information service, “Transport Info” is covered in Chapter 7.
11 TAXIS

Policy statement

Taxis provide a valued service, and sufficient ranks in Parramatta city centre will assist in reducing the number of car trips entering the city centre and provide an additional transport option.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>Provide secure taxi facilities. Increase taxi driver and passenger safety and security.</td>
</tr>
</tbody>
</table>

11.1 Background: Existing policies, plans, strategies and projects

11.1.1 Taxis make up a small proportion of trips within the Parramatta city centre. Taxis are often more useful than public transport for short to medium trips as they are demand responsive, quicker and more direct (no immediate stops) to the destination. They are particularly useful for business and shopping trips. Taxis can contribute to reducing the number of car trips entering the city centre when combined with public transport.

11.1.2 The advantage of taxis over cars is that there is no need to park the vehicle at the end of the journey. However, the downside of taxis is that they often only carry one passenger and sometimes circulate seeking business. The one-way streets and banned turns in Parramatta city centre can increase journey lengths, however, taxis can take advantage of "bus lanes" as opposed to "bus only lanes" which they are not permitted to use.

11.2 Taxi Ranks

11.2.1 Taxi ranks help to reduce unnecessary circulating traffic and assist potential passengers to find a taxi. These are normally located in places where pedestrians normally congregate, such as rail stations, shopping areas, and large publicly accessible buildings. They also play an important role in the night time economy of city centres as alternative to car travel for groups and individuals who decided to drink alcohol.

11.2.1 There are 4 full-time taxi ranks in Parramatta city centre
- Philip Street outside Crown Plaza.
- George Street corner of Church Street.
- Church Street corner of Aird Street.
- Fitzwilliam Street outside the railway station including a shelter.

11.2.2 In addition, there are a small number of part-time taxi ranks catering to night-time economy, particularly on Friday and Saturday evenings.

11.3 Disability Discrimination Act

11.3.1 Taxis and taxi ranks need to comply with the Disability Discrimination Act and Council is responsible for ensuring that taxi ranks stops comply with the standards. In June 2007 only 8% of taxis in the Sydney Metropolitan area were DDA compliant. The DDA target for taxi ranks to be accessible are in line with the service and as the level of DDA compliant taxis is extremely low.
there is no current action for Council, however the situation should be monitored.

11.4 Secure taxi rank scheme

11.4.1 In 2006 the Ministry of Transport successfully trialled Secure Taxi Ranks including Sydney, Manly, Albury, Wagga Wagga, Griffith and Tamworth. These ranks use security guards to patrol and supervise ranks to improve taxi safety which has resulted in increased passenger safety, increased patronage, more ‘multiple’ hirings and fewer anti-social incidents including vandalism, violence and assaults. Local councils, police, taxi networks and community groups can apply to the Transport & Infrastructure (formerly Ministry of Transport) to establish secure ranks in their towns.

11.4.2 One of the recommendations of the Parramatta City Centre Crime Prevention Plan 2007-2012 is to review the Parramatta Liquor Accord and adequacy of late night transport options. It is recommended that this review consider establishing secure taxi ranks in the city centre. Currently there is a proposal to investigate relocating the Fitzwilliam Street taxi rank to within the interchange between early evening and early morning. This would provide the city’s first secure taxi rank.

**STRATEGY T2**

Council to lead the establishment of Secure Taxi Ranks in the city centre.

![Figure 11.1 Taxi rank in Parramatta](image-url)
12 MOTORCYCLES

Policy statement

Motorcyclists’ safety and convenience in the city centre is supported to assist in reducing the number of car trips entering the city centre.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>Increase motorcycle parking spaces and remove parking fee.</td>
</tr>
</tbody>
</table>

12.1 Background: Existing policies, plans, strategies and projects

12.1.1 Motorcycles make up a small proportion of trips within Parramatta city centre. Motorcycles are useful in city centre locations as they require less parking space than cars and are significantly more fuel efficient than single person car trips and thus less impact of the environment. There are road safety issues with motorcycling, mainly due to poor driver behaviour of cars and trucks (this equally applies to cycling).

12.2 Motorcycle parking

12.2.1 A key issue for motorcycles is parking within the city centre. Motorcycle parking is rarely primarily designed with motorcycles in mind. Motorcycles cannot use on-street spaces that require a parking ticket as it is not possible to display the ticket securely and therefore it is recommended to remove the fee.

12.2.2 There are limited numbers of on-street spaces in the city centre which are free and most are usually on awkwardly shaped areas of road and often in back alleys. These remote areas have low personal security, especially after dark and for women in particular. As well as this these types of spaces are more prone to theft and damage due to lack of passive surveillance. The same often applies to off-street car parks.

12.2.3 There are 26 free motorcycle parking spaces within the city centre as follows:

- Erby Place (rear laneway) 2 spaces
- Macquarie Lane (rear laneway) 7 spaces
- Civic Place 4 spaces
- Parkes Street (Wentworth Street car park) 3 spaces
- Fennell Street car park 6 spaces
- Macquarie Street car park 4 spaces

12.2.4 There are also 15 motorcycle parking spaces within both Erby Place (8 spaces) and Wentworth Street (7 spaces) car parks. The normal car parking fees are applicable to these spaces despite the motorcycles using less space than a car. The fee should be reduced in line with the space motorcycles use, which is generally about a quarter that of a car.

12.2.5 It is recommended is to implement additional dedicated motorcycle parking bays by using existing road space particularly the end of parking areas which are too small as car spaces. This method is used in Perth as shown in figure 13.1.
Figure 12.1 Dedicated motorcycle parking in Perth.

**STRATEGY M1**

Increase Motorcycle Parking Spaces and Remove the Parking Fee.
13 ROAD NETWORK

Policy statement

The road network within the city centre balances the needs of users in the following priority order: pedestrians, cyclists, public transport, goods & servicing, non commuter car use and finally commuter car use.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RN1</td>
<td>City Ring Road</td>
</tr>
<tr>
<td>RN2</td>
<td>Regional Ring Road</td>
</tr>
</tbody>
</table>

13.1 Background: Existing policies, plans, strategies and projects

13.1.1 The road network within the city centre has a well-defined block pattern dissected by the railway line and Parramatta River, both of which run east-west. Parramatta Park on the western edge forms a barrier to through westbound movement. There are three significant roads that lead to the Parramatta city centre: Great Western Highway from Penrith and Blacktown and Victoria Road from central Sydney along the north side of Parramatta River and Parramatta along the south side. In addition, the M4 motorway from Strathfield to Penrith passes the southern fringes of the city centre.

13.1.2 Council manages regional roads with RTA funding and local roads with limited RTA funding. The RTA manages State Roads including National Highways, Regional Roads and Metro Roads. The M4 motorway recently passed to the RTA with the removal of the toll. The full implications of the toll removal on traffic flows are yet to be established.

Parramatta City Centre Strategic Transport Plan (2004)

13.1.3 The recommendations of the Plan include:
- New link from Civic Place to the river along Horwood Place.
- Establish an inner ring road.
- Within the ring road convert all roads to two-way and 30kph.
- Open Church Street Mall to limited traffic.
- Complete the planned Charles Street, Parkes Street intersection including pedestrian crossing facilities.

Traffic & Transport Analysis for Church Street North (GHD 2006)

13.1.4 This traffic analysis of Church Street between Victoria Road and Pennant Hills Road was part of the planning framework and redevelopment of the area. The report recommended a shift from a traffic-dominated street to a more pedestrian-friendly environment, see the Walking Chapter.
**Parramatta City Centre Plan (2007)**

13.1.5 The Plan recommends a range of measures to minimise the impacts of increasing car usage due to the growth of the Parramatta city centre. The recommendations from the Vision and Civic Improvement Plan are:

- City ring road.
- Gateways treatments.
- Pedestrian and cycle amenity zone.
- Reduce car parking in city centre and replace with peripheral parking.
- Reduce thought traffic.
- Return streets to two-way traffic.
- Reduce the speed limit to 40kph.

**Church Street North Improvement – Street Improvement Strategy (2009)**

13.1.6 This urban design strategy is a reference document which sets out the street improvement design principles for Church Street between Victoria Road and Pennant Hills Road. It builds upon the GHD work mentioned above and in summary suggests:

- Reducing the speed limit on Church Street from 60kph to 50 kph.
- A cycle route on Church Street in the long term.
- Extending the pedestrian wayfinding signage to cover this precinct.
- Improving pedestrian crossing facilities.

**13.2 City Ring Road**

13.2.1 The proposed city ring road will allow destination traffic to better circumnavigate the city centre rather than cross it. This will help shift the balance of traffic from through traffic to destination traffic, allowing the city to function more effectively. As part of the city road it is recommended to implement traffic signals at the intersection of Wigram Street and Parkes Street to create an additional short to medium term access pedestrian and vehicular access point to the city centre including direct access to the proposed Macquarie Street multi-storey car park.

13.2.2 To implement the city ring road, signage needs to be installed to influence driver behaviour and may require minor intersection improvements. The existing directional signage in and around the Parramatta city centre needs to be reviewed to consider the city ring road and driver their wayfinding information requirements. It is suggested that a signage review consider the following:

- Opportunity to reduce street clutter, rationalise and remove redundant signs.
- New signs for the proposed city and regional ring roads.
- Identify tourist attractors and key local destinations within the city centre (ferry wharf, stadium, rail station etc) to ensure they are signed adequately.
- Car park signage – new signage was installed a few years ago but old signage remains.
- Consider a new family of Council vehicle directional signs to ensure they are distinct from road name signs to improve driver wayfinding ability.
Figure 13.1 Proposed City Ring Road and Pedestrian and Cycle Amenity Zone
13.3 **Pedestrian and Cycle Amenity Zone**

13.3.1 It is proposed to implement a Pedestrian and Cycle Amenity Zone, see the Walking Chapter for details. As part of the Pedestrian and Cycle Amenity Zone it is suggested to implement the following:

- 40 kph speed limit within the city ring road.
- 50 kph speed limit on Church Street north and south.
- New traffic signals at George Street and Horwood Place, Victoria Road and Elizabeth Street, Parkes Street and Wigram Street in short to medium term and Parkes Street and Wigram Street/Charles Street in the long term and Church Street and either Fennel Street or Harold Street.
- Converting George Street and Macquarie Street (from O’Connell Street to Macarthur Street) and Church Street (from Macquarie Street to George Street) to two-way in the long term.

13.3.2 The aim of the proposed Zone is to increase pedestrian, cyclists and vehicle driver accessibility and legibility within the city centre and support the proposed 40 kph city centre zone (two-way traffic is generally slower than one-way traffic). There are already several streets within the city centre with a 40kph speed limit including Church Street and Philip Street. The Zone needs to be implemented in stages with the latter stages to be co-ordinated with the relocation of the long-stay commuter parking.

**STRATEGY RN1**

Council with the RTA, investigate a City Ring Road through signage and intersection improvements including new traffic signals at Wigram Street and Parkes Street.

13.4 **Regional Ring Road**

13.4.1 It is proposed to create a regional ring road, shown in Figure 13.1 below, utilising the existing road network to allow through traffic to avoid the city centre. This will help regional traffic avoid passing close to the city centre allowing traffic whose destination is the city centre less congested conditions.

13.4.2 It is proposed that the regional ring be implemented after the city ring road and be subject to traffic investigation work in association with the RTA. It is proposed to James Ruse Drive, M4 and Cumberland Highway as the regional ring road of which James Ruse Drive was originally planned as the Parramatta ring road. To ensure the regional ring is used as the route of choice for regional traffic and to accommodate additional traffic, it is recommended that the following key intersections are investigated to improve access to and around the city of Parramatta:

- Grade separation of Briens Road at Kleins Road.
- Grade separation of Briens Road at Redbank Road.
- Grade separation of Hart Drive at Old Windsor Road.
- Grade separation of Emert Street at Great Western Highway.
- Additional on-ramp and off-ramps between Church St/Woodville Rd and the M4 (eastern arm).
- Additional on-ramp from James Ruse Drive (southern arm) and the M4 (western arm) and off-ramp from M4 (western arm) to James Ruse Drive (southern arm).
• Grade separation of James Ruse Drive at Hassall Street/Parkes Road.
• Additional on-ramp from Victoria Road to James Ruse Drive (southern arm) and off-ramp from James Ruse Drive to Victoria Road (western arm).

Figure 13.2 Proposed Regional Ring Road

13.4.3 One of the recommendations from Council’s Granville Town Centre Pedestrian Movement, Parking and Transport Study (GTA 2008) is to investigate the construction of additional access to the M4 at James Ruse Drive and Church Street in the Granville, which Council supports.

13.4.4 The limited access to the M4 due to the ramp arrangements at the intersection at James Ruse Drive and Church Street which creates additional traffic flow on Parramatta Road Granville. Regional traffic heading north-south (or vice-versa) between Woodville Road and James Ruse Drive is unable to use the M4 through Granville. In addition traffic travelling east from Parramatta has to join the M4 at James Ruse Drive rather than Church Street. Likewise traffic from Auburn and Clyde has to join at Church Street rather James Ruse Drive.

**STRATEGY RN2**
Council with the RTA, investigate a **Regional Ring Road** with improved key intersections.

13.5 M4 Motorway
13.5.1 The toll, which applied between James Ruse Drive and Silverwater Road, was removed when the ownership of the M4 motorway passed to the RTA in February 2010. The full implications of the toll removal are yet to be
determined. The Auditor General estimated that 2,000 additional cars will use the M4 adding an extra 6.5 minutes to the eastbound peak hour journey.

13.5.2 The presence of the toll on the M4 created avoidance and additional use of parallel corridors, notably Parramatta Road, Granville. The RTA operated a subsidy for privately owned cars through the RTA Cashback.

13.5.3 Tolling is a useful tool to manage traffic demand as is the case with the Sydney Harbour Bridge toll that is based on the time of day (demand). Electronic toll collection is a more efficient method of toll collection and would remove any congestion around toll collections points. Charging per km (distance based tolls) is also a more equitable toll application and can reduce toll avoidance.
14 CAR PARKING

Policy statement

Council’s off- and on-street car parking within the city centre is managed to accommodate the expected economic growth while limiting traffic congestion due to the provision of parking. Car parking is rationalised through pricing. Alternatives to car parking within the city centre are promoted and long stay car parking within the city centre is discouraged with city centre edge parking and park and ride developed as alternatives.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP1</td>
<td>Relocate long-stay commuter parking from the city centre to periphery and served by the Loop free bus. Encourage commuters to consider sustainable transport and reduce city centre traffic (congestion).</td>
</tr>
<tr>
<td>CP2</td>
<td>Market Fennel Street car park as Park &amp; Ride served by the Loop free bus. Reduce need for city centre parking.</td>
</tr>
</tbody>
</table>

14.1 Background: Existing policies, plans, strategies and projects

14.1.1 There are approximately 25,000 car parking spaces in the Parramatta city centre, compared to 38,000 in central Sydney. In Parramatta city centre there are approximately:

- 2,200 on-street metered spaces.
- 4,400 off-street Council car park spaces.
- 4,650 spaces in Westfield car park (open to the public).
- 5,200 major private off-street parking.
- 9,000 other private off-street parking including residential.

14.1.2 The State Government operates a Parking Space Levy in Parramatta and generates approximately $5m per annum. The Levy will increase in July...
2009 from $470 to $710 per annum per non-residential off-street parking space. It was introduced to discourage car use in business districts by imposing a levy on off-street commercial and office parking spaces, including parking spaces in car parks. The levy is used to finance, develop and maintain infrastructure that facilitates access to and encourages the use of public transport to and from the business districts where the levy applies.

14.1.3 The volume of car trips within the city centre (and thus the level of congestion) is directly related to availability and number of parking spaces provided. Parking supply and demand needs to be managed carefully. Too much can lead to traffic congestion, however, too little can also have the same impact as there is an expectation of parking. Congestion has a negative impact on economic development. Regulating the demand for parking can occur through the use of time restrictions, a fee or a combination of both. There needs to be a variety of parking opportunities to cater for most trip purposes.

14.1.4 Restricting the duration of stay can increase parking turnover or availability; however, it can lead to increased traffic and congestion. Short stay parking of between 1 and 4 hours favours shoppers, visitors and those on personal business and tends to distribute the impact of generated traffic. Long stay parking favours commuters and concentrates the impact of generated traffic at peak periods.

14.1.5 Introducing a fee for parking makes the user pay for the limited resource available. Fees are normally linked to duration of stay and adjusted to favour one type of user as described above.

Parramatta City Centre Plan (Department of Planning/PCC 2007)

14.1.6 This recommends a range of measures to minimise the impacts of increasing car usage due to the growth of the Parramatta city centre. It is worth noting the parking rates within the LEP are interpreted by Council as maximum parking rates to limit future parking supply and hence the potential for traffic congestion.

14.1.7 The Plan recommends reducing car parking in the city centre and replace it with peripheral parking on the edge of the city centre. The introduction of on-street paid parking is also part of that strategy and was implemented in December 2005. It also recommends a new pedestrian link from Civic Place to Philip Street by closing Horwood Place car park and redeveloping the site.

CBD Car Park Study (Glazebrook & Associates 2005)

14.1.8 This is a Council background document which provides advice for the asset management of Council car parks within the city centre while considering future demand. The main recommendation was to maintain the current level of parking within the city centre at 25,000 spaces including on-street and all off-street, both public and private. It recommended removing the Horwood Place car park (780 spaces) as the Civic Place development (2,500 spaces) occurs in the next 5 to 10 years. It also suggested that either Erby Place or David Frater Reserve should be removed after 2011.

14.2 On-street parking

14.2.1 In December 2005, on-street parking fees were introduced to approximately 2,200 spaces. The method used is pay and display with kerbside parking ticket machines (referred to as parking meters). There are three levels of fee
with a high level in the city centre core, then medium, low and free in the outlying areas. There is a resident parking permit scheme around the city centre to manage and limit any parking overspill. The revenue from the parking meters funds improvement projects in the city centre: this includes the Loop free city bus.

14.3 Off-street

14.3.1 There are approximately 9,300 off-street spaces open to the public (Table 14.1 and Figure 14.1). Council owns four key multi-story car parks in the city centre at Wentworth Street, Horwood Place, Erby Place and Hunter Street. New car park directional signage was introduced in 2006 for all Council car parks. The operation of Council’s multi-story car parks are through a management rights contract which gives Council more control over the pricing structure.

Table 14.1 City centre car parks open to the public

<table>
<thead>
<tr>
<th>Car Park</th>
<th>Map ref</th>
<th>Type</th>
<th>Spaces</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wentworth Street</td>
<td>1</td>
<td>Multi-storey</td>
<td>1163</td>
<td>Council</td>
</tr>
<tr>
<td>Horwood Place</td>
<td>2</td>
<td>Multi-storey</td>
<td>780</td>
<td>Council</td>
</tr>
<tr>
<td>Erby Place</td>
<td>3</td>
<td>Multi-storey</td>
<td>559</td>
<td>Council</td>
</tr>
<tr>
<td>Hunter Street</td>
<td>4</td>
<td>Multi-storey</td>
<td>550</td>
<td>Council</td>
</tr>
<tr>
<td>Fennel Street</td>
<td>5</td>
<td>At-grade</td>
<td>126</td>
<td>Council</td>
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<tr>
<td>Lennox Bridge</td>
<td>6</td>
<td>At-grade</td>
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<tr>
<td>David Frater</td>
<td>7</td>
<td>At-grade</td>
<td>60</td>
<td>Council</td>
</tr>
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<td>Leabeater</td>
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<td>Civic Place</td>
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</tr>
<tr>
<td>Macquarie Street</td>
<td>10</td>
<td>At-grade</td>
<td>197</td>
<td>Council</td>
</tr>
<tr>
<td>Marion Street West</td>
<td>11</td>
<td>At-grade</td>
<td>112</td>
<td>Council</td>
</tr>
<tr>
<td>Westfield</td>
<td>12</td>
<td>Multi-storey</td>
<td>4650</td>
<td>Private</td>
</tr>
<tr>
<td>Valentine Avenue</td>
<td>13</td>
<td>Multi-storey</td>
<td>188</td>
<td>Private</td>
</tr>
<tr>
<td>Brandsmart *</td>
<td>14</td>
<td>Multi-storey</td>
<td>535</td>
<td>Private</td>
</tr>
<tr>
<td>Parramatta Park</td>
<td>15</td>
<td>At-grade</td>
<td>71</td>
<td>Private</td>
</tr>
<tr>
<td>Parramatta Stadium</td>
<td>16</td>
<td>At-grade</td>
<td>120</td>
<td>Private</td>
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</tbody>
</table>

*Council owned car park on long lease
Figure 14.2 Map of city centre car parks open to public
14.4 Future of long stay car parking within the city centre

14.4.1 Generally within the city centre, the length of stay at car parks should be reduced to shift the balance from commuters to short stay visitors. This will better serve the retail, dining and service sectors and reduce the pressure on the road network at peak times. It is recommended that Council consider relocating some of long stay parking from the city core to the fringe where access to the arterial road network is better. In addition this will allow the city to grow by releasing car park spaces (and road network capacity) to support the planned future commercial development.

14.4.2 It is recommended that Council establish four key multi-storey car parks to serve the city centre in the long term. These should be located adjacent or near to the proposed city ring road and therefore have good access to the surrounding regional road network. The four proposed key car parks are outlined in the table below showing the areas that they are intended to serve.

<table>
<thead>
<tr>
<th>Location</th>
<th>Type</th>
<th>Area served</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fennel Street</td>
<td>Proposed</td>
<td>North – future growth area connected to city centre by the Loop free city bus</td>
</tr>
<tr>
<td></td>
<td>multistorey</td>
<td></td>
</tr>
<tr>
<td>Macquarie</td>
<td>Proposed</td>
<td>East – office district and ferry wharf</td>
</tr>
<tr>
<td>Street</td>
<td>multistorey</td>
<td></td>
</tr>
<tr>
<td>Wentworth</td>
<td>Existing</td>
<td>South – retail precinct and transport interchange (local and long distance bus &amp; rail)</td>
</tr>
<tr>
<td>Street</td>
<td>multistorey</td>
<td></td>
</tr>
<tr>
<td>Hunter Street</td>
<td>Existing</td>
<td>West – Government precinct</td>
</tr>
<tr>
<td></td>
<td>multistorey</td>
<td></td>
</tr>
</tbody>
</table>

14.4.3 It is recommended that Horwood Place (780 spaces) and Erby Place (559 spaces) car park sites are re-developed for other primary uses and parking spaces on the periphery of city centre created to continue to meet the needs of visitors to the city. It is suggested that new multi-storey car parks are developed on Council’s existing at-grade car parks at Fennel Street and Macquarie Street served by the Loop free bus. The locations of the proposals are shown in the figure below. The proposed car parks should adhere to current urban design principles of creating active street frontages so the new car parks should contain some type of commercial development at ground level.

14.4.4 The proposed Civic Place development includes significantly amount of short-stay parking an estimated 2,000 spaces and therefore reduces the need for Horwood Place car park.

14.4.5 A Masterplan for Horwood Place block is currently being developed and it is suggested that one be prepared for Erby Place. In addition, a Masterplan has been prepared for Riverbank which includes the David Frater Reserve multi-storey car park (535 spaces) and the surrounding at-grade parking (60 spaces). The Masterplans for these sites consider an element of short stay public parking, as opposed to long stay commuter parking.

**STRATEGY CP1**

Council to instigate the **Relocation of Long-Stay Commuter Parking** from the City Centre to new multi-storey car parks on the city periphery served by the Loop free bus.
14.5 Park & Ride

14.5.1 Park and ride is the combined use of a car and public transport. It consists of car park some distance from town or city and public transport service providing the connection to the town or city. The public transport can be either a normal service or a dedicated park and ride service. The North-West T-way has two park and ride bus stops, one at Riley and one at Burns, each with 200 free car parking spaces. Wentworthville railway station has 160 space free car parking spaces.
14.5.2 Park and ride offers an alternative to car trips to the centre of towns and cities and contributes to reducing traffic congestion. Park and ride facilities can increase the catchment (and patronage) of existing public transport and are
aimed at commuters, shoppers and day trippers. Park and ride facilities need to offer a comparable journey time and cost to be feasible.

14.5.3 Council commissioned a Park & Ride Feasibility Study in 2006 which recommended a car park site at Grand Avenue, Camellia. Council decided not to progress the scheme following detailed financial consideration of the purchase of the land and the operation of a connecting bus service. The study identified additional sites which need further investigation and review along with possible other sites.

14.5.4 It is recommended that Council further investigate park and ride facilities near the proposed regional ring road to specifically serve the city centre as part of the process of reducing commuter car parking within the city centre. Suggested Council owned sites include Pine Street car park, Rydalmere and Fennel Street car park Parramatta. It is suggested that Fennel Street is marketed as a Park & Ride served by the Loop free bus as an initial stage.

**STRATEGY CP2**
Council market Fennel Street car park as Park & Ride served by the Loop free bus.

14.6 Permit Parking
14.6.1 Council operates a resident permit parking scheme in the residential areas that surround the city centre including the suburbs of Harris Park and North Parramatta to manage commuter car parking in residential streets which still allows residents to park near their dwellings. See the Environment Chapter for details of the recommendation to link the cost of the permit to the environmental impact of the vehicle.

14.7 Disabled (Mobility) Parking
14.7.1 The RTA operates a Mobility Parking Scheme (MPS) for NSW residents and organisations. The MPS cards offers dispensation from parking restrictions for people with limited physical mobility and it can also be used in specially marked bays. A valid MPS card must be displayed to be entitled to parking concessions listed. Note that there is no charge in metered or ticket parking areas. Council and the RTA regularly monitor the scheme in Parramatta city centre to limit any abuse.

14.8 Loading – servicing needs
14.8.1 Most businesses within the city centre have their own on-site servicing areas. Council provides on-street loading zones throughout the city centre to assist businesses and organisations without off-street servicing facilities or for short stay use. Most of the loading zones are ticket controlled which are free, as the RTA does not permit Councils to charge. Light commercial vehicles are allowed to stay for 15 minutes, and trucks for 30 minutes. The loading zones are continually monitored to ensure Council responds to supply and demand as appropriate. In addition, Council is considering the servicing arrangements of the Horwood Place block (bounded by Smith Street, Macquarie Street, Church Street and George Street) and the Riverbank block (bounded by Wilde Avenue, Philip Street, Church Street and Parramatta River) as part of a Masterplan process.
APPENDIX 1 WALKING

DETAILS OF THE PEDESTRIAN AND CYCLE AMENITY ZONE

14.8.2 The proposed zone consists of the following schemes:

- **40kph city centre speed limit** bounded by Great Western Highway, O’Connell Street, Victoria Road, Wild Avenue, Parramatta River, Harris Street and Parkes Street. Two planned stages include: City Centre South - Church Street (Argyle St to Parkes St), Fitzwilliam Street, Wentworth Street and Valentine Avenue, and West of Smith Street - Charles Street (Philip St to Hassall St), Macquarie Street (Smith St to Harris St), Little Street and Smith Street/Station Street (Macquarie St to Hassall St).

- **50kph speed limit on Church Street north & south.** The aim is to refocus the function these key approach roads from arterial to city centre. north (Albert Street to Victoria Road). Consider a similar speed reduction on Church Street south (Parkes Street to Boundary Street) as the area re-develops to more intensive pedestrian use.

- **Provide pedestrian crossing refuge islands on the side roads with Church Street north & south.** This will improve the pedestrian route along Church Street north and south, a key approach to the city centre and an area of future growth.

- **New traffic controlled pedestrian crossings**
  - Victoria Rd and Brickfield St/Elizabeth St to connect with the Elizabeth Street footbridge.
  - George Street and Horwood Place
  - Parkes Street and Wigram Street in the short to medium term and Parkes Street and Wigram Street/Charles Street in the long term
  - Church Street and either Fennel Street or Harold Street

- **New diagonal pedestrian crossings at traffic light controlled intersections.** It is suggested that diagonal crossings be investigated at the following of which most have existing traffic signals:
  - Marsden Street & George Street
  - Marsden Street & Macquarie Street
  - George Street & Horwood Place (new traffic signals)
  - Fitzwilliam Street & Church Street
  - Charles Street & George Street
  - Charles Street & Macquarie Street

- **Convert one-way streets to two-way.** It is recommended that George Street, Macquarie Street and Church Street (Macquarie Street to George Street) are converted to two-way. Converting the one-way streets to two-way streets reduces traffic speed as opposing vehicles are travelling towards each other and reduces the ease of passing other vehicles. A two-way street is better understood by pedestrians crossing the road as they very are significantly more common and thus have a better level of road safety. Two-way streets are also increase legibility of cities for pedestrians as they are easier to read and most pedestrians are also car drivers and therefore remember the street layout as a car driver.
• **Complete the Riverside footpath/Parramatta Valley Cycleway through the city centre.** There are two missing sections between Charles Street Wharf and the Gasworks Bridge and under Church Street, through Lennox Bridge, as a portal.

• **Lobby the RTA to review pedestrian crossings facilities at signal controlled intersections.** A review should include
  - inclusion of a pedestrian crossing across on all arms
  - eliminate pedestrian and vehicle conflicts whereby by both have a green signal
  - audit to ensure the existing design conforms to current standards

• **Reduce vehicle and pedestrian conflicts.** Investigate measures to reduce the severity of vehicle conflicts with pedestrian across the footway in particular vehicles access to car parks and services areas. Campbell Street is a prime example with a high number of conflicts locations due to the car park and loading dock ingress and egress points.

• **Reallocate road space to pedestrians.** It is suggested that the following locations are investigated:
  - Valentine Avenue at Parkes Street
  - Parkes Street at Wentworth Street car park
  - Horwood Place at Erby Place car park
  - Barrack Lane
## APPENDIX 2 BUS

### Bus priority measures on the Strategic Bus Corridors

#### Corridor 4 Blacktown

<table>
<thead>
<tr>
<th>Existing</th>
<th></th>
<th>RTA Funded</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argyle St east and westbound bus lanes</td>
<td></td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Pitt St north and southbound bus lanes with B-signals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Great Western Highway east and westbound bus lanes with Bus signals</td>
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#### Corridor 9 Sydney via Macquarie Park & Corridor 41 Hornsby

<table>
<thead>
<tr>
<th>Existing</th>
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<th>RTA Funded</th>
<th>Recommendations</th>
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<tbody>
<tr>
<td>City centre</td>
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<td>None</td>
<td></td>
</tr>
<tr>
<td>Station St and Smith St north and southbound bus lanes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Church St</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northbound bus lanes - Market Pl to Victoria Rd, Ross St to Albert St</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southbound bus lanes - Albert St to Ross St</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pennant Hills Rd</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northbound bus lanes - approach to Jenkins Rd, right turn lane to Coleman St</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southbound bus lanes - approach to Marsden Rd</td>
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</table>

#### Corridor 10 Sydney via Ryde

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<th>Existing</th>
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<th>RTA Funded</th>
<th>Recommendations</th>
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<tbody>
<tr>
<td>City Centre</td>
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</tr>
<tr>
<td>Station St and Smith St north and southbound bus lanes</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Victoria Rd - westbound bus lane</td>
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<td></td>
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</tr>
<tr>
<td>Patricia St, Rydalmere to Park Rd,</td>
<td></td>
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</tr>
<tr>
<td>Victoria Rd eastbound bus lane</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Murdoch St to Kissing Point Rd, University of Western Sydney to Pemberton St</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| RTA Under investigation                                                   |               |            |                 |
| Victoria Rd - eastbound bus lanes                                         |               |            |                 |
| Silverwater Rd to Murdoch St                                             |               |            |                 |
| Victoria Rd - westbound bus lanes                                         |               |            |                 |
| Bridge St to Myrtle St                                                   |               |            |                 |
| Pemberton St to Wandsworth Rd                                            |               |            |                 |
| Park Rd, Rydalmere to east of Euston St                                  |               |            |                 |

| Recommendations                                                           |               |            |                 |
| Victoria Rd - eastbound bus lanes                                         |               |            |                 |
| Clyde St to Myrtle St                                                    |               |            |                 |
| Park Rd to Silverwater Rd                                                |               |            |                 |

#### Corridor 11 Liverpool

<table>
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<th>Existing</th>
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<tbody>
<tr>
<td>Argyle St east and westbound bus lanes</td>
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<td>Pitt St north and southbound bus lanes</td>
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<td></td>
</tr>
<tr>
<td>Great Western Highway east and westbound bus lanes</td>
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<td></td>
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</tbody>
</table>

#### Corridor 12 Bankstown

<p>| Existing                                                                 |               |            |                 |
| Parramatta Road westbound bus lane and B-signal at Church St intersection for northbound services |               |            |                 |</p>
<table>
<thead>
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<th><strong>Corridor 40 Castle Hill</strong></th>
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</thead>
<tbody>
<tr>
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<tr>
<td>City centre - north and southbound bus lanes</td>
</tr>
<tr>
<td>• Station St and Smith St</td>
</tr>
<tr>
<td>Church St – northbound bus lanes</td>
</tr>
<tr>
<td>• Market St to Victoria Road</td>
</tr>
<tr>
<td>• Grose St to Briens Road</td>
</tr>
<tr>
<td>Church St – northbound bus lanes</td>
</tr>
<tr>
<td>• Pennant Hills Road to Ross St</td>
</tr>
<tr>
<td>• James Ruse Drive to By St</td>
</tr>
<tr>
<td>Windsor Road southbound bus lanes</td>
</tr>
<tr>
<td>• Churchill Drive to Fletcher St</td>
</tr>
<tr>
<td>• Francis St to James Ruse Drive</td>
</tr>
<tr>
<td><strong>RTA Funded</strong></td>
</tr>
<tr>
<td>Church St – northbound bus lanes</td>
</tr>
<tr>
<td>• Hammers Road to Thomas Street</td>
</tr>
<tr>
<td><strong>RTA Under investigation</strong></td>
</tr>
<tr>
<td>• Church St southbound - widen to create bus lane from By St to Albert St</td>
</tr>
<tr>
<td>• Windsor Road northbound – widen to create bus lane from Hammers Road to Thomas St</td>
</tr>
<tr>
<td><strong>Recommendations</strong></td>
</tr>
<tr>
<td>• Church St – southbound from Fletcher St to Campbell St</td>
</tr>
</tbody>
</table>
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