# Appendix 3

**Newcastle City Centre** 

**Connectivity and Accessibility study** 

**AECOM 2012** 

This connectivity and accessibility study was used to inform the directions of the urban renewal strategy. It does not form part of the strategy and therefore feedback is neither required nor being sought on this document. It was prepared prior to the government's decision on transport services and was therefore written to enable the successful implementation of all possible transport arrangements.



Newcastle City Centre connectivity and accessibility study

Department of Planning and Infrastructure and City of Newcastle

18 June 2012

# Newcastle City Centre connectivity and accessibility study



### Newcastle City Centre connectivity and accessibility study

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Department of Planning and Infrastructure and City of Newcastle
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# **Quality Information**

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#### **Executive summary**

#### Introduction

The New South Wales (NSW) Department of Planning & Infrastructure and the City of Newcastle commissioned AECOM to examine how local transport initiatives could support the revitalisation of the Newcastle city centre. AECOM's brief was to draw together outcomes of previous studies, reconcile recommendations and identify actions that can be implemented in Newcastle City Centre.

Working together with key stakeholders, including the Hunter Development Corporation and other state government agencies, the study has been undertaken in three stages:

- Review of previous studies and consolidation of transport related actions for Newcastle City Centre;
- Group actions into strategic directions and establish an overarching vision;
- Prioritise actions into appropriate timeframes and assign owners.

The study forms part of an integrated package of studies, which includes investigation of economics and public domain that will be used to guide urban renewal in the Newcastle City Centre.

The study of transport is important as urban renewal and transport are so closely linked. Greater use of public and active transport can support the increased resident and worker population being planned for without a concurrent increase in traffic congestion.

#### An overarching vision

An overarching vision has been defined to give consistency to the strategic directions and to give the stakeholders a common reference point for transport related decisions. The vision was defined through a workshop process which included key stakeholders.

The vision is to increase the use of public transport, walking and cycling to access well connected, vibrant and legible public spaces in the Newcastle city centre.

The vision is consistent with the intent of Newcastle 2030: The Newcastle Community Strategic Plan (2011) which seeks to create a "Connected City" with "Vibrant and activated public places"

#### Five strategic directions and supporting implementation actions

The stakeholder group in this study has identified the following five strategic directions to group specific actions.

#### Strategic Direction 1 – Making the most of the public transport network

Public transport improvements are targeted at making the most of the public transport network and encouraging increased uptake of public transport services through:

- Improve local bus stop amenity;
- Marketing and promotion;
- Integrated ticketing;
- Hunter Street as the main public transport corridor;
- Strategic bus corridors.

#### Strategic Direction 2 - Create a connected pedestrian and cycle network

Increase the number of people walking and cycling through the creation of a connected network and pleasant urban spaces. Specific actions are:

- Place making and way finding;
- Improved pedestrian and cycle amenity;
- Cycle end of trip facilities;
- Commuter and recreational cyclists;
- Improved connectivity across the railway line.

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#### Strategic Direction 3 - Improve the efficiency of the road network for all users

Road-based recommendations are aimed at making the road network efficient for all users. Specific actions are:

- Provide for cyclists within the road network;
- Prioritise pedestrian and cyclist movements;
- Implement bus priority at intersections;
- Implementation of clearways;
- Deliver committed road network improvements.

#### Strategic direction 4 - Change behaviour for a better city

Improve the travel experience for all users in a balanced manner through:

- Create behaviour change working party;
- Education, marketing and promotion;
- Car sharing/pooling program;
- Council leading by example;
- Understand city users through research;
- Develop a workplace travel plan model;
- Support park and ride;
- Work with the NSW Government to share best practice;
- Managing parking demand

#### Strategic Direction 5 - Hunter Street and its activity nodes

Hunter Street is a key element in Newcastle City Centre as a spine that connects Wickham, Civic and Newcastle East. Transport actions for Hunter Street are:

- Promote the role of pedestrians;
- Hunter Street as a multi-modal corridor;
- Enhance connectivity at Civic Precinct;
- Create activity precincts at Wickham, Civic and Newcastle East.

The vision and the five strategic directions are a consolidated synthesis of previous studies and views of the attending stakeholder group. The strategic directions provide a framework for redeveloping the transport network in Newcastle that will support the urban renewal of the city centre, with a focus on the re-activation of Hunter Street. The diagram below summarises the strategic directions and the action plans that will support the realisation of each direction.

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Throughout the report, agencies have been nominated for potential involvement in initiatives. Where nominated, the agency could be involved as a lead or support, and in some cases as an equal partner. Indicative timeframes have also been provided to illustrate the preferred delivery sequence over short-term, medium-term and long-term horizons. The implementation of the recommended action plan should occur in a timely fashion and keep pace with urban renewal in the city to ensure that existing and future occupants of Newcastle are provided with a transport network that reflects the vision defined in this plan.

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#### 1.0 Introduction

#### 1.1 Background

Newcastle is the second largest urban area in New South Wales (NSW) and the 7<sup>th</sup> largest city in Australia, and serves as the main centre in the Hunter region. As the Newcastle region has developed the historically prominent role of Newcastle's city centre has diminished. Over the past ten years there has been a concerted effort to halt the decline of the city centre and develop a vision of how the city centre can evolve and prosper in the future through new development and adaptive re-use of heritage assets.

The NSW Department of Planning & Infrastructure is working with the City of Newcastle and the Hunter Development Corporation to develop a Newcastle Urban Renewal Study which will identify urban renewal opportunities and initiatives for the Newcastle City Centre to create a revitalised and more vibrant city centre. As a key part of this, the NSW Department of Planning & Infrastructure and City of Newcastle jointly commissioned AECOM to develop a transport study for Newcastle city centre.

Over the past few years there have been several studies that have considered the future transport network in Newcastle. These studies have sought to achieve a number of outcomes, including seeking to ensure that the city centre can accommodate the forecast growth, is an accessible destination that is an attractive centre to walk and cycle around and also remains an attractive location for businesses to operate from.

The Newcastle City Centre Connectivity and Accessibility Study is intended to consolidate and synthesise the findings of the previous studies, thus determining which transport and public domain improvements need to be considered in order to support urban renewal in the city centre. The study of transport in the city centre supports the urban renewal study because transport and urban renewal are so closely linked. Greater use of public and active transport can support an increased resident and worker population without a concurrent increase in traffic congestion. The increased activity that this brings can in turn encourage further uptake of public and active transport. Greater use of public and active transport can also have a range of other urban renewal benefits, including:

- Supporting accessibility into and within the city centre
- Supporting the creation of attractive, vibrant and high amenity places
- Improving resilience to respond to emerging and potential future issues surrounding resource availability.

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#### 1.2 Strategic policy context

#### 1.2.1 State and regional policies

NSW 2021 – The most recent and relevant strategic plan of the current Government is "NSW 2021". This document sets out the ten year plan for the development of the state and in particular sets commuter travel mode share targets for Sydney and the major regional centres in NSW. The state government has set itself a target of increasing public transport mode share for commuter journeys in Newcastle City Centre to 20% by 2016.

#### 1.2.2 NSW Long Term Transport Master Plan

TfNSW is currently preparing a Long Term Transport Master Plan for the state. The Long Term Master Plan will address key transport challenges facing the State over the next 20 years.

#### 1.2.3 Local policies and plans

Newcastle 2030 – in 2009 and 2010 the City of Newcastle undertook the development of a community vision for Newcastle, which sought the views of the community and how they wanted the future of their city to develop. With regard to transport, the aspiration was for a connected city that has:

- Effective and integrated public transport;
- Improved pedestrian and cycle facilities and connections;
- A transport network that encourages energy and resource efficiency.

#### 1.3 Key travel trends

As with other Australian regional centres, the private car dominates journey to work travel in Newcastle, with a 77.3% mode share in the morning peak to the Newcastle city centre. Interestingly, a large proportion of commuter car trips originate within a 5km distance of Newcastle's city centre, as can be seen in **Figure 1** overleaf.

With the public transport mode share to Newcastle's city centre currently 14.1% (2006 census), an increase of almost 500 people will be necessary during the peak to reach the NSW 2021 target of 20% by 2016. This is an approximate doubling of existing patronage on buses or trains, requiring a significant change in commuter travel behaviour in order to see any improvement in public transport mode share.

#### 1.4 Study purpose

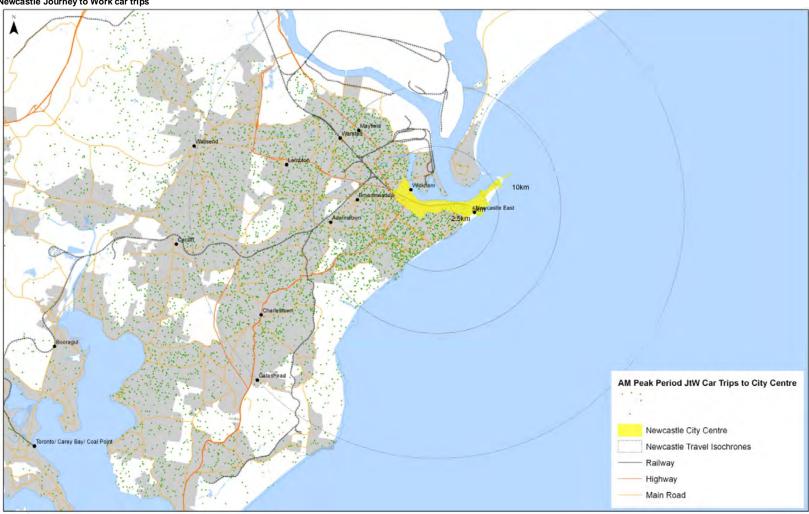
The intent of this study was to draw together recommendations of previous studies into transport in Newcastle City Centre. It was envisaged that this study will set out a range of potential actions and projects that would support mode shift in Newcastle and provide Novocastrians with a transport network and public domain that will support urban renewal.

The study has been developed in a consultative approach, working closely with a group of local and state government stakeholders<sup>1</sup> through a series of three workshops.

This Newcastle City Centre Connectivity and Accessibility Study draws on the findings and recommendations of previous studies to provide options for consideration.

<sup>&</sup>lt;sup>1</sup> A list of stakeholders is provided in **Appendix B** 

Figure 1 Newcastle Journey to Work car trips



#### 1.5 Study area

The extent of the area considered for this study is the Newcastle City Centre, as illustrated in Figure 2.

Figure 2 Study area



#### 1.6 Study approach

The plan has been developed through a three stage process, during which the key transport issues in Newcastle were discussed as a precursor to defining the vision, strategic directions and action plans that could improve the transport network in Newcastle city centre. A summary of the study stages can be seen overleaf in **Figure 3**. Workshops were used as the forum for developing the strategic directions, and identifying the action plans and projects that could be implemented. AECOM also undertook post and pre-workshop analysis of potential strategic directions and plans to ensure that the discussion in the workshops was structured and that the final implementation plan was realistic.

A series of workshops were held as part of the project. The following stakeholders participated in these workshops:

- Department of Planning and Infrastructure
- City of Newcastle;
- Hunter Development Corporation;
- Transport for New South Wales,
- RMS; and
- Newcastle Buses

The study involved three stages, as shown in Figure 3.

#### Figure 3 Study approach

#### Stage 1 - Review of previous studies and workshop on key issues

Review previous studies to identify transport issues in Newcastle.

Compare the recommendations of all reports against each other and identify where reports complement or contradict each other.

Analyse findings of all reports to determine key transport issues in

Newcastle

Facilitate a stakeholder workshop to discuss key issues and collect ideas and opinions from the stakeholder group.

Consolidate the outcomes of the document review and the workshop to inform the development of stages 2 and 3.

#### Stage 2 - Strategy development and workshop

Identify existing vision statements and strategic transport objectives from the findings of stage 1.

Analyse the findings of stage 1 and determine strategic responses that could address each of the key issues identified.

Faciliate a stakeholder workshop during which the stakeholders were tasked with defining a transport vision for Newcastle City Centre. Develop strategic directions with the stakeholder broup which addresss the key issues identified in stage 1.

Rank the strategic directions and vision statements with the group as an initial filter of directions.

Undertake further analysis of strategic directions to determine the appropriate range of directions that address the needs of all users and support urban renewal

#### Stage 3 Implementation plan development and workshop

Populate the strategic directions with projects and action plans that were identified in the literature review in stage 1 and that would support the vision identified in stage 2.

Faciliate a stakeholder workshop during which stakeholders will be tasked with discussing and determining the suitable range of actions and projects that should form the implementation plan for Newcastle dity centre.

Review the outcomes of the workshop and develop an implementation plan that assigns an agency responsibility to each action and a timescale for delivery.

#### 1.6.1 Stage 1 Review of previous studies and workshop

Existing transport studies and strategies for Newcastle City Centre were reviewed and summarised to identify objectives, key findings, strategic directions, suggested projects and common themes.

The workshop process was structured with the aim of recapping the findings of previous reports, collecting ideas and opinions from stakeholders about these findings and identifying key issues for transport in the City Centre.

#### 1.6.2 Stage 2 Strategy development and workshop

Stage 2 built on the Stage 1 findings and identified issues to address, discuss and agree upon the key directions and strategies that support a collective transport vision for Newcastle City Centre.

During Workshop 2 stakeholders were asked to discuss a vision statement for transport in the Newcastle city centre, as well as devise a number of strategic directions under each of the key issues which arose from Stage 1. Each of the workshop attendees was asked to score which strategic directions and vision statements they felt best addressed the transport needs of Newcastle's city centre.

Common strategic directions were grouped with each of their scores also combined to portray their priority amongst the stakeholder group. The directions having the highest scores were deemed to have a higher level of cross agency support, but were not necessarily the most beneficial.

#### 1.6.3 Stage 3 Implementation plan development and workshop

Stage 3 built on the key transport vision and strategic directions identified in Stage 2 to develop a series of actions that could support urban renewal in Newcastle city centre. The aim was to identify projects and actions plans that were tangible, achievable and could be allocated to an agency for responsibility.

Prior to the workshop AECOM considered the projects and action plans that could support the strategic directions and populated each strategic direction with a sample list of projects to provoke debate and discussion amongst the workshop groups.

Stakeholders at the workshop were invited to discuss options for implementation based on each strategic direction. From the projects and actions suggested by the group in the workshop, it was determined which were tangible and how they would benefit urban renewal, with these then given a timeframe and a suggested responsible agency. In a similar fashion to Workshop 2, projects and actions suggested by different groups which were similar were grouped together in order to avoid repetition. Suggestions made for projects and actions which were not deemed as tangible were removed from the list.

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#### 2.0 Literature review and analysis

#### 2.1 Literature review

A document review and analysis was undertaken by AECOM as part of the Newcastle City Centre Connectivity and Accessibility Study, providing a summary of key recommendations and conclusions from each document. Eight key issues were evident throughout the 20 documents listed in **Table 1**, namely:

- Behaviour change;
- Improve pedestrian and cyclist connectivity;
- Improve public Transport accessibility;
- Review parking management to support behaviour change;
- Future road network capacity needs;
- What is the role of Hunter Street;
- Develop a transport network that supports urban renewal, and;
- The future role of the rail line between Wickham and Newcastle.

Whilst the reports all generally ascribe to a similar transport objective of increasing the accessibility to Newcastle city centre, the means by which the different documents suggest meeting this objective is in some cases conflicting. This is in part due to the scope differences between the reports, with some reports taking a holistic view of transport in the city centre while others focussed on a specific issue.

**Table 1** provides a summary of the literature reviewed with a record of whether each document is in support, neutral towards or in conflict with the eight key issues that were identified. It was found that there are four previous studies that support all or nearly all of the key issues, these being:

- Newcastle City Centre Renewal Report (HDC, 2009);
- Newcastle CBD Integrated Transport (PB, 2009);
- Hunter Street Revitalisation Framework (Scott Carver, 2010);
- Newcastle City Centre Renewal TMAP (AECOM, 2010).

A list of the reports reviewed for this study, with full report name and reference details, can be found in **Appendix A.** 

Table 1 Summary of document review

Table 1 Summary of document review																				
Key Issues	Newcastle Branch Line Study Report, 2002	Warabrook terminus & Modified Light Rail Investigation, 2007	Newcastle City Centre Parking Strategy Review, 2008	Vewcastle CBD Strategy – Rail Proposal Cost Benefit Assessment,2009	Newcastle City Centre Renewal Report, 2009	Newcastle CBD Integrated Transport, 2009	Newcastle City Centre Liveability Survey, 2009	Newcastle City Centre Traffic and Fransport Study, 2010	Hunter Street Revitalisation Framework, 2010	Newcastle Coastal Revitalisation Strategy, 2010	Ferminating the Newcastle Line at Mickham, 2010	Hunter Independent Transport Study, 2010	Newcastle City Centre Renewal TMAP, 2010	Urban Renewal in Newcastle, 2010	Newcastle 2030 Community Strategic Plan, 2011	Express buses at heart of Hunter transport enquiry, 2011	Bus passengers down, 2011	Draft Newcastle Cycling Strategy and Action Plan, 2011	Draft Newcastle LEP 2011 and DCP 2011, 2011	Framework for City Centre Parking, 2011
Behaviour change																				
Improve Pedestrian and cyclist connectivity												_								
Improve Public Transport accessibility													\							
Review parking management to support behaviour change																				
Future road network capacity needs												<u> </u>								
What is the role of Hunter Street																				
Develop a transport network that supports urban renewal																				
The future role of the rail line between Wickham and Newcastle																				

#### **SUPPORT/NEUTRAL/CONFLICTS**

#### 2.2 Key discussion points

Analysis of the review documents identified several recurring issues that influence the findings of these reports and how the Newcastle transport network could evolve. There is a hierarchy of influence and a degree of dependency between these issues that should be acknowledged in the development of an urban vision for the Newcastle city centre.

A number of options have been raised for the future of the City Centre rail line. In the absence of a Government decision, the study is progressing on the basis that the existing Newcastle-Wickham rail line will remain in the short to medium term. A future Government decision on the rail line, either confirming the status quo or opening up other options for the rail corridor will be able to be accommodated by the outcomes of the study.

#### 2.2.1 Parking management

The Newcastle City Centre Traffic and Transport Study and the Newcastle City Centre Parking Strategy Review all discuss parking management in Newcastle and future projections for parking demand and its impact on the road network. The City Centre Parking Strategy Review discusses the need to increase public on and off-street parking supply across the city to accommodate theoretical demand at a set mode share, and a development scenario that sees all land developed to the maximum of the controls. It suggests that there would be a need for 8,000 additional parking spaces by 2031 if the existing parking rates were adhered to. However the report concludes that the actual demand for parking is significantly lower than theoretical demand and would only result in the need for an additional 2,650 spaces by 2031. The City Centre Parking Strategy Review also identifies the shortfall in on-street parking that is experienced in City West and Civic.

The reports all take a holistic view on parking as part of the transport system and suggest limiting the increase in supply and imposing new parking controls that would deter private vehicle use, including:

- Proposed park and ride services;
- Impose maximum parking rates in new developments;
- Increased long stay parking costs;
- Introduce more short term parking in place of long term to encourage turnover;
- How the parking controls relate to the city centre fare free zone.

Previous studies indicate that the cost and availability of parking has a direct influence on the current low level of public transport patronage in Newcastle.

Key Issue: Review parking management to support behaviour change

#### 2.2.2 Road network capacity

Peak period congestion in Newcastle city centre is discussed in detail in the Newcastle City Centre Traffic and Transport Study. The main capacity issues in the city centre are the north-south route along Stewart Avenue and Hannell Street and west bound in the afternoon peak along Hunter Street. The analysis demonstrates that the rail corridor limits traffic capacity into the city centre because of the limited rail crossing points. The study considered a scenario where the rail line would be removed, with the introduction of new access and circulation routes. The projected road capacity requirements were based on a theoretical scenario where development was modelled at the limit of the permissible controls defined in the 2006 LEP. This report, as well as the Hunter Street Revitalisation Framework, highlights the role of Hunter and King Street as the main east-west corridors, and how there is a competing demand for space between transport modes. The Newcastle City Centre Traffic and Transport Study discusses several locations around the city centre where there is an existing commitment to improve road and intersection capacity.

Key Issue: future road network capacity needs

#### 2.2.3 Public transport patronage

The public transport network in Newcastle is extensive, with bus services forming the core of the network. However, the level of patronage is low. It is reported that the journey times and frequency of bus services on some routes do not provide enough of an incentive for car drivers to consider switching modes, allied to the relative cost and availability of parking in the city centre. Most of the documents that were reviewed make recommendations on the subject of how to improve public transport services and how the rail corridor could be used to provide better bus or light rail based services.

Rail patronage to the city centre is also low, with only 2,500 passenger trips per day arriving at Newcastle Station. The low patronage is a direct consequence of the lack of activity in the city centre and the limited catchment of the rail services compared to the origins of most trips to the city centre.

The TMAP suggests introducing new express corridors to the city centre from Charlestown and Glendale, to improve journey times from the suburbs as well as supporting park and ride bus services.

Key Issue: Make the most of the transport network

#### 2.2.4 Hunter Street Revitalisation

Hunter Street spans the length of the city centre from Wickham to the end of the Hunter Street Mall. The role of this street from a transport perspective is debated in most of the reports, with the majority of the recommendations indicating the need to rejuvenate Hunter Street through improved urban design and the allocation of more road space to public and active transport modes. The role of Hunter Street will have a direct impact on the accessibility of the rest of the city centre as it, along with King Street, provides the primary east-west vehicle, bus, pedestrian and cycle access through the centre of Newcastle.

The differing transport and access needs of the land uses along Hunter Street require different treatments and urban design solutions. For example, around the Civic precinct there is a need for strong place making and pedestrian connections to support the introduction of new civic and educational facilities, whereas the western end of Hunter Street is proposed to be more commercial in nature, with a recognised need to maintain a good supply of short-term parking for business activity. At the eastern end of Hunter Street the focus is on the Mall and improving pedestrian and cycle connectivity to Hunter Street, while providing stronger connections to the foreshore and beach.

Key Issue: the role of Hunter Street

#### 2.2.5 Active Transport

Several of the reports, including the Hunter Street Revitalisation Framework, the Newcastle City Centre Renewal Report, and the Draft Newcastle Cycling Strategy and Action Plan focus on the need to improve the pedestrian and cycle connections within the city centre, especially the north-south connections to the waterfront and the Honeysuckle development across the rail line.

It was noted that a considerable proportion of Journeys to Work to Newcastle that are currently made by car could potentially be made on foot or with a bicycle as they fall within a 5km catchment of the city. The implementation of clearly marked safe and convenient cycle and pedestrian routes will provide the infrastructure for shorter journeys in the city to be made via active transport modes. However, the uptake of these modes needs to be supported by a behaviour change program that raises the awareness of the benefits of this travel choice, and deters private vehicle use.

Supporting the current City of Newcastle Development Control Plan (DCP), the TMAP also discusses the need for improved end of trip facilities to support the potential demand for cycling, as this is often a major deterrent to the uptake of cycling.

Key Issue: Improve pedestrian and cyclist connectivity

#### 2.2.6 Travel Demand Management and behaviour change

Consistent with the City of Newcastle DCP, the TMAP recommends the introduction of a behaviour change program and the implementation of a Travel Demand Management strategy to actively encourage a shift away from travel by private vehicle. This could include the introduction of:

- Education and awareness programs;
- Workplace travel plans, in particular for the City of Newcastle and government agencies;
- Residential travel plans;
- School/university travel plans, and;
- The introduction of alternative travel choices, such as car sharing schemes.

The Hunter Street Revitalisation Framework also discusses the need for a Travel Demand Management strategy and changes to parking controls to encourage the use of alternative modes of transport to private car.

Key Issue: Behaviour change

#### 2.2.7 Managing travel demand vs. supporting urban renewal

There are a number of recommendations that could effectively influence travel behaviour in Newcastle, in particular the management of parking supply. However, with the continuing evolution of the city centre there needs to be careful consideration of any demand management measures that may dissuade visitors or businesses from coming to Newcastle.

The Newcastle City Centre Renewal Report and the Hunter Street Revitalisation Framework propose urban renewal strategies which set out how the city centre's land uses and building stock could change as part of the revitalisation process, particularly with the introduction of justice and education precincts in Civic. Both reports go on to discuss the need to provide a transport network that will support this urban renewal by maintaining equitable access and encouraging mode shift away from private vehicles through a considered package of measures.

Key Issue: Develop a transport network that supports urban renewal

These issues were taken forward as a platform for Stage 2 of the study. As part of Stage 2, these issues informed the development of a vision and evolved into an integrated set of strategic directions.

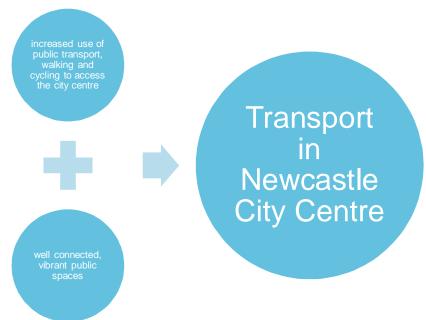
#### 3.0 The Vision

#### 3.1 Defining the vision

The vision statements were formulated by key stakeholders during the second workshop held in Newcastle, as a way of communicating the aspirations for the transport system for Newcastle.

Following the workshop the comments were reviewed and consolidated to determine the key themes in the vision statements. It became clear that there were two overarching themes emerging from the comments received, as shown in **Figure 4**:

Figure 4 the vision for Newcastle City Centre



# 3.2 Increased use of public transport, walking and cycling to access the city centre

The document review and discussion at the workshops identified that there are currently a number of barriers to achieving mode shift from the private car to public transport. Whilst public transport services are provided, these services are not being utilised to their full extent, and have capacity for additional patronage. Existing travel behaviour, as well as other factors such as the relative availability and cost of carparking, mean that most Novocastrians currently favour the private motor vehicle over public transport. The vision for the future of the transport system in Newcastle is that of an accessible, efficient transport system that connects the majority of people with their places of work, study and recreation by way of a reliable, frequent and quick service that is affordable and provides a real alternative to private vehicle travel.

#### 3.3 Well connected, vibrant public spaces

The quality of a city's public domain has a major bearing on peoples' enjoyment of space and their willingness to convene and interact in public. Importantly, a high quality public domain encourages people to use public transport, walk or cycle. Quality public domain can also attract business and people to live in an area, encouraging urban renewal outcomes. Consequently, any efforts to reinvent Newcastle's city centre will need to address the way in which people move around the city centre and how to make the public domain easy to navigate, attractive and well designed for all users, including residents, but with pedestrians as the priority in design.

#### 4.0 Strategic Directions and Implementation Actions

#### 4.1 Overview

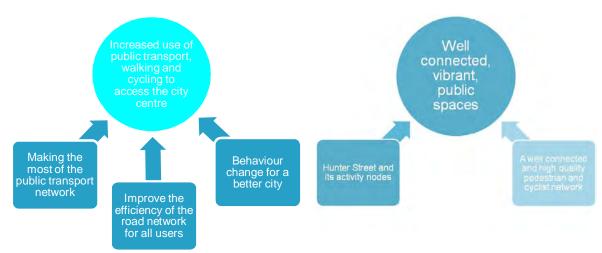
During the course of this study it became clear that there were five key strategic transport directions that should be considered in order to support the urban renewal of the city centre. These five directions were determined during Stage 2 of the study and evolved during the Stage 2 workshop. The five directions were:

- Making the most of the public transport network;
- Create a connected local pedestrian and cycle network;
- Improve the efficiency of the local road network for all users;
- Change behaviour for a better city;
- Hunter Street and its activity nodes.

These five directions support the two vision statements for transport in Newcastle City Centre, with the directions aligning to one of the visions, as shown in **Figure 5**.

The actions defined in this plan should be implemented in a timely manner so that they support and complement urban renewal of the city centre.

Figure 5 The strategic directions aligned to the vision statements



During the Stage 3 workshop, key stakeholders built on the strategic directions they formulated by determining a list of actions and projects that addressed the transport issues in Newcastle's city centre.

The actions and projects suggested during the Stage 3 workshop were analysed and proposed as part of the implementation plan through a filtering process. This involved determining whether the project had a timeframe, whether it contributed to the overall goals for the revitalisation of the Newcastle city centre, a suggested agency who would be involved in delivery, as well as whether the project was achievable and deliverable.

The potential timeframe for implementation of each action plan was determined as being short term (up to 3 years), medium term (3-8 years) or long term (8+ years).

The agency responsibility for each action plan was determined through understanding whether or not the action plan was a physical measure or a planning/policy change.

Actions undertaken must be sequenced in order to best support revitalisation over time, with any plans to reduce parking availability or implement similar behaviour change measures met with measures to increase the use of public transport services, such as increased park and ride.

#### 4.2 Making the most of the public transport network

The NSW 2021 plan formulated by the NSW Government has given Newcastle a 20% mode share target for peak hour public transport use to and from the city centre by 2016. In order to achieve this, a range of measures should be implemented to encourage more people out of their cars, instead travelling by either public or active transport modes. By making public transport more efficient and comfortable through bus shelter upgrades, and having services more widely recognised through improved marketing and promotion, the Newcastle public transport system can be promoted as a viable alternative to car travel into the Newcastle city centre.

The following initiatives will help to improve the public transport service in Newcastle City Centre. These initiatives are also shown on Map 1, on Page 16.

#### 4.2.1 Implementation plan

P1 – Improve local bus stop amenity					
Short term	CoN				

#### Project description:

Bus stops at strategic locations in the city centre, and where not in conflict with other infrastructure such as awnings, should be upgraded to high quality shelters that include lighting, shade and comprehensive public transport information. These stops should be positioned in proximity to major destinations such as civic buildings, transport interchanges, retail centres and major employment centres.

Improved stop facilities will make bus services more attractive to all users, improved signage and timetabling information will also allow people less familiar with the public transport system to familiarise themselves with the route options available.

P2 – Marketing and promotion	
Short term	TfNSW, Newcastle Buses, CoN

#### Project description:

Marketing and promotion of existing public transport services through advertising on radio, television or in newspapers will make the community more aware of the services already offered. Campaigns that highlight the advantages of public transport travel, in particular the cost and time savings associated with increased public transport use, could be targeted at key corridors in conjunction with improvements to services.

P3 – Integrated ticketing				
Short term	TfNSW			

#### Project description:

The introduction of the Opal smart card system means a simple, convenient way to pay for travel on government ferries, CityRail services, buses or light rail. There will be options to pre-pay for travel via the internet, phone or from other top up points. A reduction in overall journey times, particularly boarding times on buses, is expected.

P4 – Hunter Street as the main public transport corridor						
Long term	CoN, TfNSW					

#### Project description:

Hunter St will be the main public transport corridor within the city centre as one of the street's many uses. Subject to alignment with public domain initiatives, clearways between Darby Street and Steel Street could operate during peak times in the peak direction to allow for bus lanes, giving public transport a more efficient route through a congested corridor, and reinforcing the priority of public transport over car use as patronage demand increases.

King Street and Honeysuckle Drive also serve as public transport corridors, feeding bus routes into the city centre and accommodating the civic bus loop. Together with Hunter Street these two corridors will serve as the road based public transport network in the city centre.

P5 – Strategic bus corridors						
Medium term	TfNSW					

#### Project description:

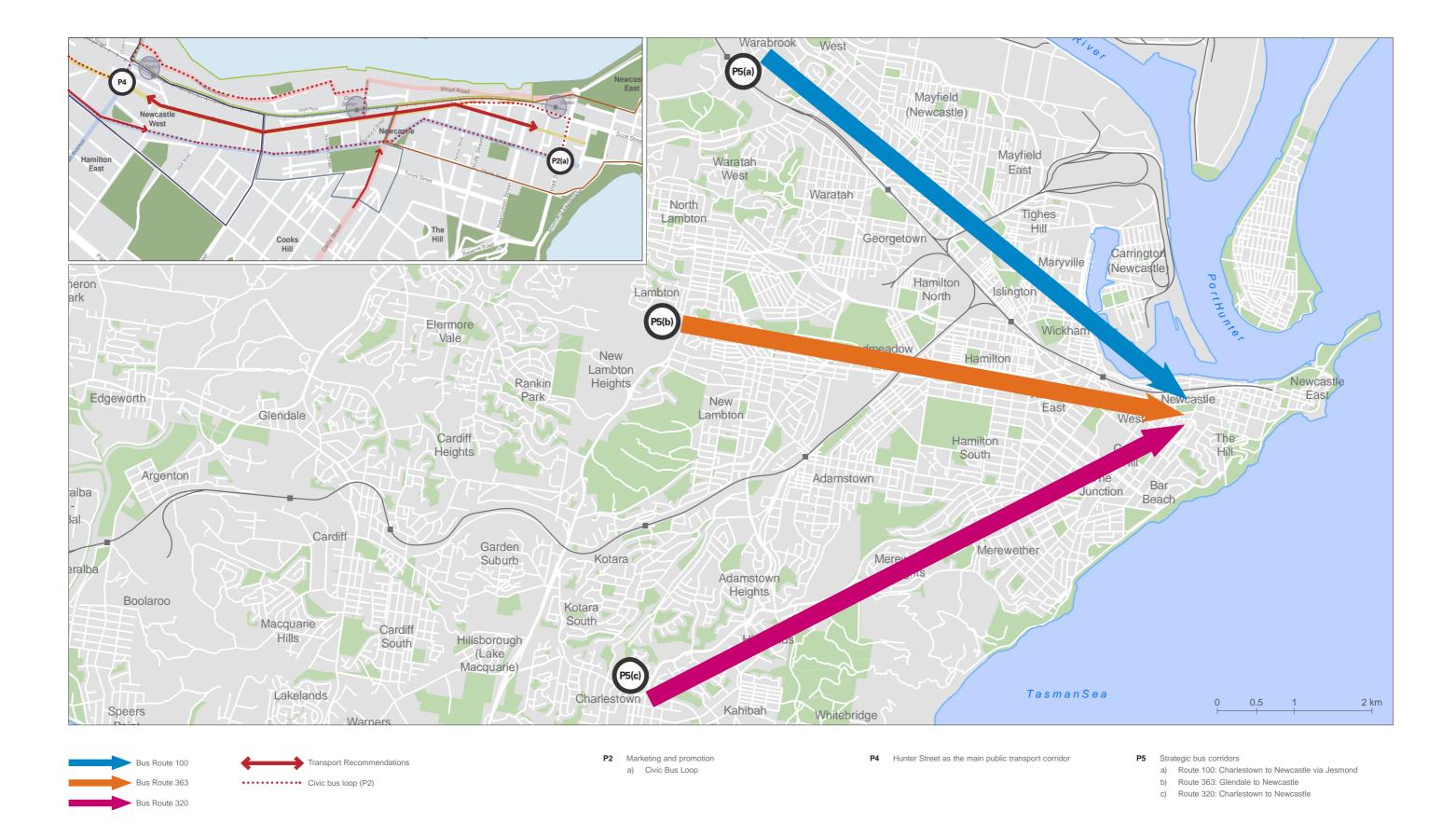
The Newcastle TMAP recommended the implementation of 3 strategic bus corridors into the city centre, which would provide fast, regular and efficient services, including:

- Charlestown to Newcastle (via Jesmond)
- Glendale to Newcastle (via Broadmeadow)
- Charlestown to Newcastle (via Adamstown and The Junction)

It is recommended that an increase in frequency in the peak direction services to 15 minute intervals during the commuter peak periods (06:30-9:30 and 15:00-18:00) be investigated for implementation to raise the attractiveness of these routes, and raise awareness of the public transport alternatives.

Subsequent to patronage and demand increases, consideration of the introduction of express routes should be considered. The implementation of express routes can be complemented by the implementation of bus priority measures along the corridors, particularly along the Broadmeadow to city centre stretch of Newcastle Road, where there are 18 intersections that have been identified as candidates for bus priority modifications.

The implementation of these routes should be supported by a comprehensive marketing campaign as part of the behaviour change program.





#### 4.3 Create a connected pedestrian and cycle network

The creation of a well-connected pedestrian and cyclist network will improve pedestrian and cycle amenity within the Newcastle city centre, serving to increase the pedestrian activity of these areas. This is a key element of the broader revitalisation of the city centre, which will result in improved connectivity between spaces.

Areas of the city centre's pedestrian and cyclist network are in need of upgrades, with low amenity not serving to encourage people to frequent areas in need of revitalisation. A series of improvements will help to enhance the public domain in the city centre and make the spaces enjoyable to be in. Upgrades to the cycle network and infrastructure will serve to encourage more people out of their cars and cycling, potentially leading to reduced congestion.

The following initiatives will help to improve the local pedestrian and cycle network in Newcastle city centre. These initiatives are also shown on Map 2, on Page 19.

#### 4.3.1 Implementation plan

W1 – Place making and way finding						
Short term	CoN, DP&I, TfNSW					

#### Project description:

In line with the proposed Hunter Street public domain improvements, undertake place-making with implementation of a way finding strategy considering all users, including walking, cycling, public transport and car users. A series of arrival points will be created at activity nodes (stations, retail centres, community places) as part of the place making and way finding projects.

TfNSW is developing a consistent way finding system for implementation across the transport network. Outside of the transport network, the City of Newcastle is the primary agency responsible for way finding.

W2 – Improved pedestrian and cycle amenity					
Short term	CoN, DP&I				

#### Project description:

Improving pedestrian and cycle amenity of key local streets, by making them safer, more attractive and comfortable with the provision of wider paths and improved crossings will encourage greater pedestrian and cyclist activity on local roads in the Newcastle city centre. In accordance with the City of Newcastle's Cycling Strategy, priority streets to be improved are:

- Hunter Street;
- Auckland Street;
- Watt Street;
- Union Street;
- Darby Street, and;
- Scott Street.

The focus is on improving crossing opportunities and enhancing the quality of public domain for pedestrians, while the focus for cyclists is for additional on and off road connections providing for direct and safe journeys. This may include the establishment of a designated cycle path on Hunter Street, supporting its role as the city centre's primary multi-modal transport corridor and enhancing the vitality of the public domain.

For the Hunter Street mall, priority will be given to pedestrians. While cyclists will be accommodated, any new dedicated cycle lanes will be on other streets. This separation is largely for safety and comfort reasons. Due to the one way traffic flow along the mall, the awareness of cyclists is compromised and may lead to conflicts between cyclists and oncoming vehicular traffic. Furthermore, cyclists can be intrusive in pedestrian spaces, and with high

pedestrian volumes, cycling can become difficult. This is supported by precedents in other similar locations where bicycles have been prohibited from entering pedestrian dominated spaces.

As well as these upgrades it is also recommended that the missing links identified in the Newcastle Cycling Strategy and Action Plan are implemented, following resolution of the "Inner City Bike Lanes Investigation".

Council will continue to implement the pedestrian access and mobility plan (PAMP).

W3 – Cycle end of trip facilities						
Short term	CoN, Private sector					

#### Project description:

A case study to encourage further cycle end of trip facilities will be identified at a central location, with ongoing encouragement for further provision throughout the city. The provision of end of trip facilities will encourage cycling to and from work, leading to reduced peak period traffic congestion, as well as supporting recreational cycling. Mechanisms for the delivery of this facility include conditioning through the development assessment process, as prescribed in the DCP.

W4 – Commuter and recreational cyclists	
Medium term	CoN

#### **Project description:**

It is recognised that the needs of commuter and recreational cyclists are different, with commuter cyclists wanting more direct routes, while recreational cyclists prefer scenic, separated cycleways. Both user groups can be catered for, with on-road routes provided for commuter cyclists, while projects such as the proposed coastal cycle path (Bathers Way) will be cater for all cyclists.

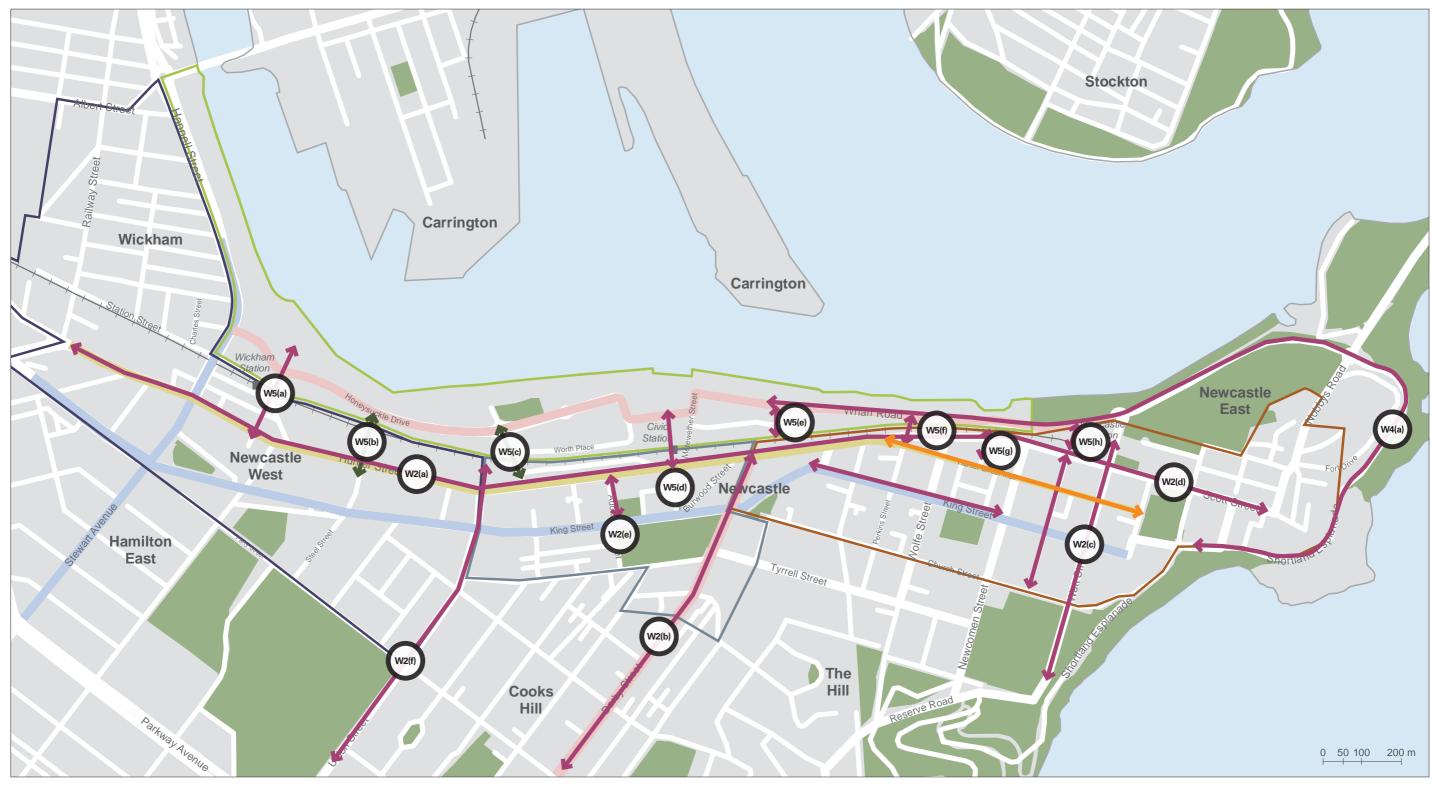
The need for improved facilities has been identified in the City of Newcastle Cycling Strategy, with a new shared path for pedestrians and cyclists along the Foreshore from Merewether Street, past Watt Street and around the headland to King Edward Park.

W5 – Improved connectivity across the railway line	
Medium term	CoN, TfNSW

#### Project description:

There is a need to improve existing rail crossings to be DDA compliant, with enhanced design and pedestrian amenity of existing grade separated rail crossings providing greater connectivity between Hunter Street and the Honeysuckle/foreshore precinct. An additional pedestrian and cyclist crossing of the rail line should be provided at Steel Street to allow access between the Honeysuckle development and Hunter Street.

In the longer term the structure of developments on Hunter Street and Newcastle's centre will consider future connections across the rail line and seek to identify opportunities to provide additional grade separated crossing points as part of the design process.





W2 Improved pedestrian and cycle amenity

a) Hunter Street

b) Darby St c) Watt St

d) Scott St

f) Union St

e) Auckland St

W4 Commuter and recreational cyclists a) Coastal cycle path (recreational) W5 Improved connectivity across railway line
a) Wickham Station b) Steel St c) Worth PI d) Wheeler PI e) Darby St f) Perkins St g) Market St h) Newcastle Station

#### 4.4 Improve the efficiency of the local road network for all users

The existing road network in the Newcastle city centre is defined by competing priorities for road infrastructure, with cars currently dominating the limited amount of space. There are a number of pinch points in the network where peak hour traffic causes some congestion, which must be resolved along with a number of other congestion management measures.

In developing actions and projects to improve the road network, a number of measures can be taken to improve efficiency and operation of major intersections and routes in the city centre.

The following initiatives will help to make the most of the existing road network. These initiatives are also shown on Map 3, on Page 22.

#### 4.4.1 Implementation plan

R1 – Provide for cyclists within the road network	
Short term	CoN, RMS

#### Project description:

As the cycle network develops and key routes are implemented, the road network may need to be modified to provide capacity for cyclists through the implementation of cycle facilities, including along Hunter Street (excluding the Mall), King Street and Watt Street between Church Street and Wharf Road. Preferred routes will be investigated for feasibility, with a decision on final routing to be determined based on the results of this feasibility investigation.

R2 – Prioritise pedestrian and cyclist movements	
Ongoing	CoN, TfNSW

#### Project description:

Pedestrians and cyclists should be considered as the priority mode in any upgrades to the road network, followed by public transport. Opportunities to provide better facilities for these modes will be considered before the need to provide any additional vehicle capacity on the network.

R3 – Implement bus priority at intersections	
Short term	TfNSW, CoN

#### Project description:

The implementation of bus priority measures and modifications to accommodate bus movements at intersections in the city centre will complement the suggested bus lanes, and allow the more efficient movement of buses. The intersections along Hunter Street and King Street should be considered as priorities for improving bus movements, thus improving bus journey times. This can be accomplished through the implementation of PTIPS (Public Transport Information and Priority System), a network system that can adjust traffic signal timing to give priority to bus movements. PTIPS has already been implemented at some intersections in Newcastle.

Further consideration will be given to introducing bus priority on the key corridors approaching the city, including the approach from Jesmond along Newcastle Road.

R4 – Implementation of clearways	
Medium term	TfNSW, CoN

#### Project description:

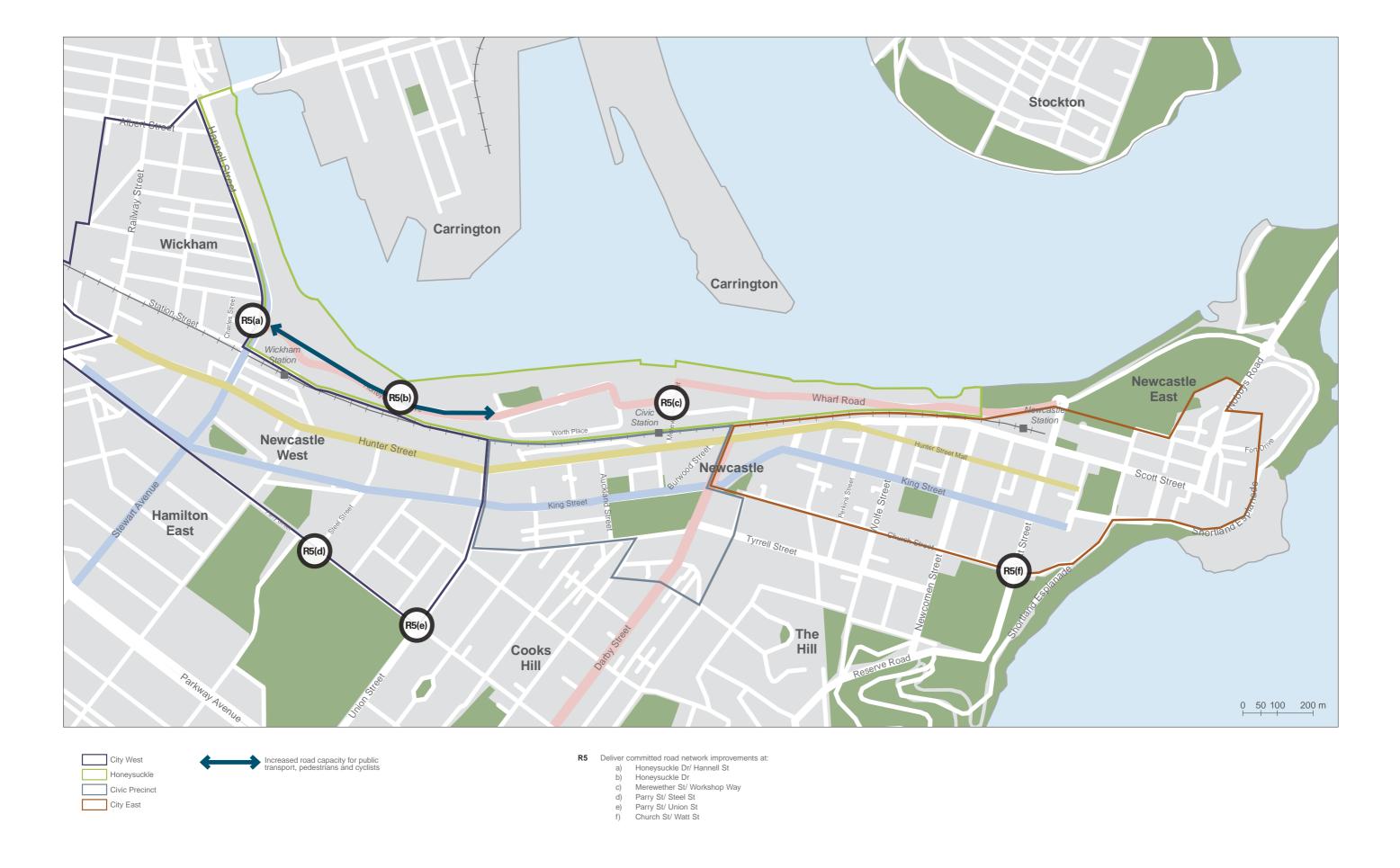
The implementation of peak direction clearways between 7- 10am along the length of Hunter Street and King Street to allow for a bus lane will see more efficient bus operations into and out of the city centre. Bus priority measures are also recommended along Newcastle Road to Jesmond, which would allow buses to operate more efficiently on a main access road to the city centre. Public consultation will be undertaken where implementation of clearways is considered.

R5 – Deliver committed road network improvements	
Medium term	CoN

#### Project description:

There are several locations on the road network in the city centre where traffic experiences some congestion or there are safety concerns. There is a commitment from TfNSW and CoN to upgrade a number of intersections across the city to address these concerns, including:

- Parry Street/Steel Street intersection;
- Merewether Street/Workshop Way intersection;
- Parry Street/Union Street intersection;
- Honeysuckle Drive near Cottage Creek;
- Church Street/Watt Street Intersection, and;
- Hannell Street/ Honeysuckle Drive.



#### 4.5 Change behaviour for a better city

Behaviour change measures attempt to alter travel behaviour through making certain modes of transport more appealing through pricing, efficiency improvements and changes to road infrastructure.

Travel to the Newcastle city centre is currently dominated by car use, causing congestion during peak times. Behaviour change measures suggested in this study will begin the process of encouraging commuters out of their cars and on to public transport and active transport modes.

The following initiatives will change behaviour for a better city. These initiatives are also shown on Map 4, on Page 26.

#### 4.5.1 Implementation plan

B1 – Create behaviour change working party	
Short term	TfNSW, Newcastle Buses, CoN

#### Project description:

Create a working party, involving TfNSW, CoN, Newcastle Buses and the community groups, tasked with developing and implementing a behaviour change program in Newcastle. The party will work to identify, develop, and secure funding for behaviour change initiatives.

B2 – Education, marketing and promotion	
Short term	TfNSW, Newcastle Buses, CoN

#### Project description:

Further utilise education, marketing and promotion to raise awareness of behaviour change measures, including advocacy to surrounding businesses. Suggested measures are:

- Developing branding;
- Preparing information booklets and education, including safety;
- Improving public recognition;
- Developing a communication strategy;
- Advertising campaigns;
- Implementing community events (e.g. 'Give your car the day off'); and
- Promotional national events (e.g. walk to Work day and Ride to Work day).

B3 – Car sharing/pooling program	
Short term	CoN

#### Project description:

Consider implementing a formalised car pooling program, with incentives to encourage higher vehicle occupancy rates among commuters. This would involve the City of Newcastle offering incentives such as reduced parking costs to drivers who travel to the city with, for example, 2 or more passengers.

Consideration can also be given to the City of Newcastle actively working with a car share provider to provide space for car share vehicles either through a capital works program or as a condition of development approval.

B4 – Council leading by example	
Short term	CoN

#### Project description:

The City of Newcastle will be regarded as leading by example through the undertaking of regular staff travel surveys to monitor mode shift and the introduction of a staff travel plan program that will educate staff on their travel options. These soft measures should be supported by the introduction of better end of trip facilities, and provision of flagship programs such as a walking school bus. The successful implementation of some of these programs by Council could encourage other businesses to implement their own measures.

B5 – Understand city users through research	
Short term	TfNSW, Newcastle Buses, CoN

#### Project description:

Make use of existing data sets to understand existing travel behaviour, and identify where there are current information gaps. Subsequent to this, undertake a detailed survey of travel behaviour, in order to better understand movement patterns and establish the barriers to behaviour change that exist amongst the Newcastle community. This survey should capture a broad socio-economic cross section to inform the development of targeted measures that will address the needs of all transport users in Newcastle.

Commit to regular monitoring of future travel behaviour to track any changes.

B6 – Develop a workplace travel plan model					
Short term	CoN, TfNSW				

#### Project description:

Based on Australian and International best practice, CoN will develop a model for workplace travel plans that can be adopted by organisations in the Newcastle city centre. TfNSW will support CoN by providing assistance such as best practice examples. Developing a model for workplace travel plans will make it easier for businesses to be involved and implement their own plan.

B7 – Support park and ride	
Medium term	TfNSW, CoN

#### Project description:

Consistent with current City of Newcastle policy, park and ride should be supported in Newcastle where aligned with the provision of frequent or express bus services, along with complementary central area long term parking restrictions and improved public transport efficiency through bus priority measures and improved services as previously discussed.

Analysis in the TMAP has indicated a potential of between 900 and 1,900 existing commute trips per day could use park and ride services, if they were provided at the following three locations:

- B2a Serving the north-west in the vicinity of Warabrook;
- B2b Serving the west in the vicinity of Lambton, and;
- B2c Serving the south/south-west in the vicinity of Northcott Drive/Pacific Highway.

Prior to being established, locations must be investigated and fully costed. The establishment of new park and ride facilities should be undertaken considering capacity requirements and the likely impacts on local traffic. Park and ride could be initially trialled at facilities such as Hunter Stadium or Broadmeadow Showground to better understand impacts.

A number of locations further away from the city centre are also potentially suitable for park and ride facilities. These locations include within the Lake Macquarie Council area, Thornton and along the Maitland rail line.

Consideration of these locations is most appropriately undertaken as part of broader scale planning investigations.

B8 – Work with NSW Government to share best practice					
Medium term	TfNSW, CoN				

#### Project description:

The City of Newcastle will leverage best practice in behaviour change through the NSW government. TfNSW to support CoN by providing resources from their travel behaviour change team and evidence of successful behaviour change programs in other cities/regions.

B9 – Managing parking demand	
Long term	CoN

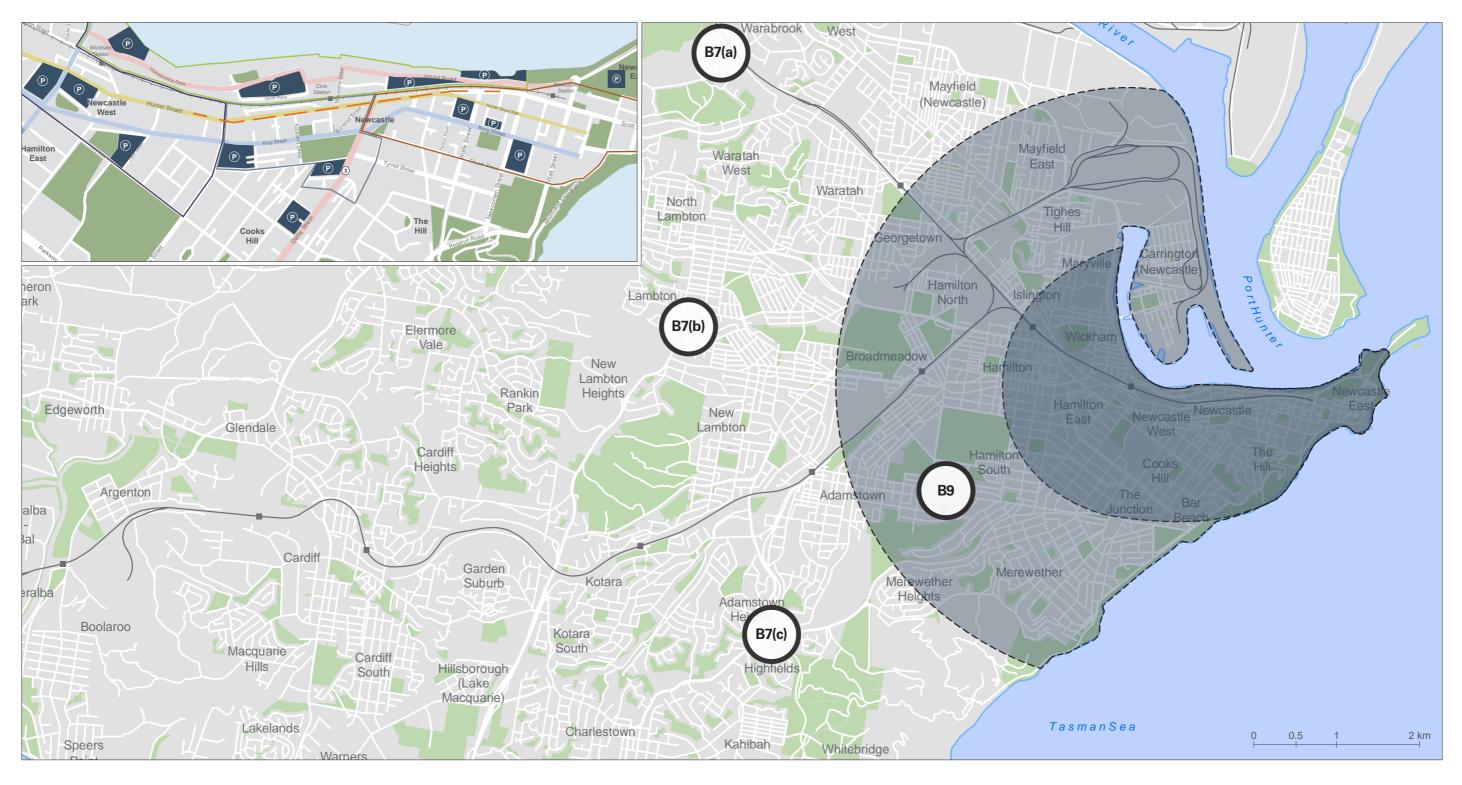
#### Project description:

Parking demand is to be managed through the evolution of the parking controls in the city centre, in line with recommendations made in the adopted Newcastle Parking Strategy and subsequent recommendations in the TMAP. With private vehicle travel remaining the dominant mode of transport for commuting trips it is imperative that the provision and cost of parking encourages a percentage of travellers to switch modes, but does not overly penalise the car driver to the point that businesses and visitors do not consider the city centre a viable location to operate from. Consideration must also be given to ensuring that appropriate access to on street car parking remains for existing residents and their visitors.

When compared to other regional centres in NSW, Newcastle's long-stay parking costs are among the cheapest, which provides little disincentive to adopt more sustainable travel behaviour. As public transport services are improved consideration will be given to increasing long stay parking costs at council owned parking stations within the city. Realistic and performance pricing are potential pricing options. The allocation of revenue from parking into a fund for modal shift and urban revitalisation should be considered.

The existing on-street commuter parking controls will be extended to take into account the extended areas identified in the Parking Strategy. Consideration will also be given to extending the area of control to a suitable distance beyond the edge of the city centre fare free zone to discourage drivers from parking on the perimeter of the fare free zone and catching a bus into the centre. Clear definition of parking areas, for example long stay for workers and short stay for shoppers, should also occur.

In accordance with the TMAP and the GTA report, the total number of on and off street parking spaces within the city centre will be limited by a target of 11,000 spaces in total. Consideration will be given to the inclusion of maximum parking controls in the city centre Development Control Plan, with more stringent parking controls in place around public transport nodes. This will limit the provision of parking in new developments, encourage the uptake of sustainable travel modes and limit the supply of spaces in the city.





P Existing off street parking stations

B7 Support park and ride:

a) Warrabrook

b) Lambton

c) Adamstown

B9 Managing parking demand - Extend parking controls beyond the CBD fare free zone (indicative zone extents)

#### 4.6 Hunter Street and its activity nodes

Hunter Street is the city centre's spine, serving as the main transport corridor and retail precinct, while catering to the demands of pedestrians, cyclists, public transport and cars. Hunter Street must be able to efficiently cater for all these users, while providing amenity and safety for pedestrians to allow for Hunter Street's retail and commercial function to thrive.

Hunter Street is in need of transformative change to enable it to effectively perform its functions as the city centre's key transport corridor and retail hub. Public domain improvements must be made to encourage people back to Hunter Street, as well as changes to the street layout to allow a more efficient movement of pedestrians, cyclists, public transport and cars to alleviate congestion. The roles of King Street and Honeysuckle Drive will also need to evolve if the transformation of Hunter Street is to be realised.

The following initiatives will help in revitalising Hunter Street and support the urban renewal of the city centre. These initiatives are also shown on Map 5, on Page 29.

#### 4.6.1 Implementation plan

H1 – Promote the role of pedest	trians
Short term	CoN

#### Project description:

A Pedestrian focus in design, with an easily navigable, legible public domain will increase amenity and encourage people back into Hunter Street. The solutions recommended in the urban design component of the Urban Renewal Study will further define the detail of the scheme.

H2 –Hunter Street as a multi-modal corridor						
Short term	CoN, TfNSW					

#### Project description:

Although pedestrian amenity is the priority for the future of Hunter Street, the design of any scheme will also ensure that suitable capacity is retained for public transport movements. Potential conflicts between transport modes, such as between cyclists and buses at bus stops should also be considered when designing a scheme. Hunter Street will also need to accommodate private vehicle through movements and on-street parking to maintain activity and provide passing trade to businesses.

H3 – Enhance connectivity at Ci	ivic precinct
Medium term	CoN, UoN

#### Project description:

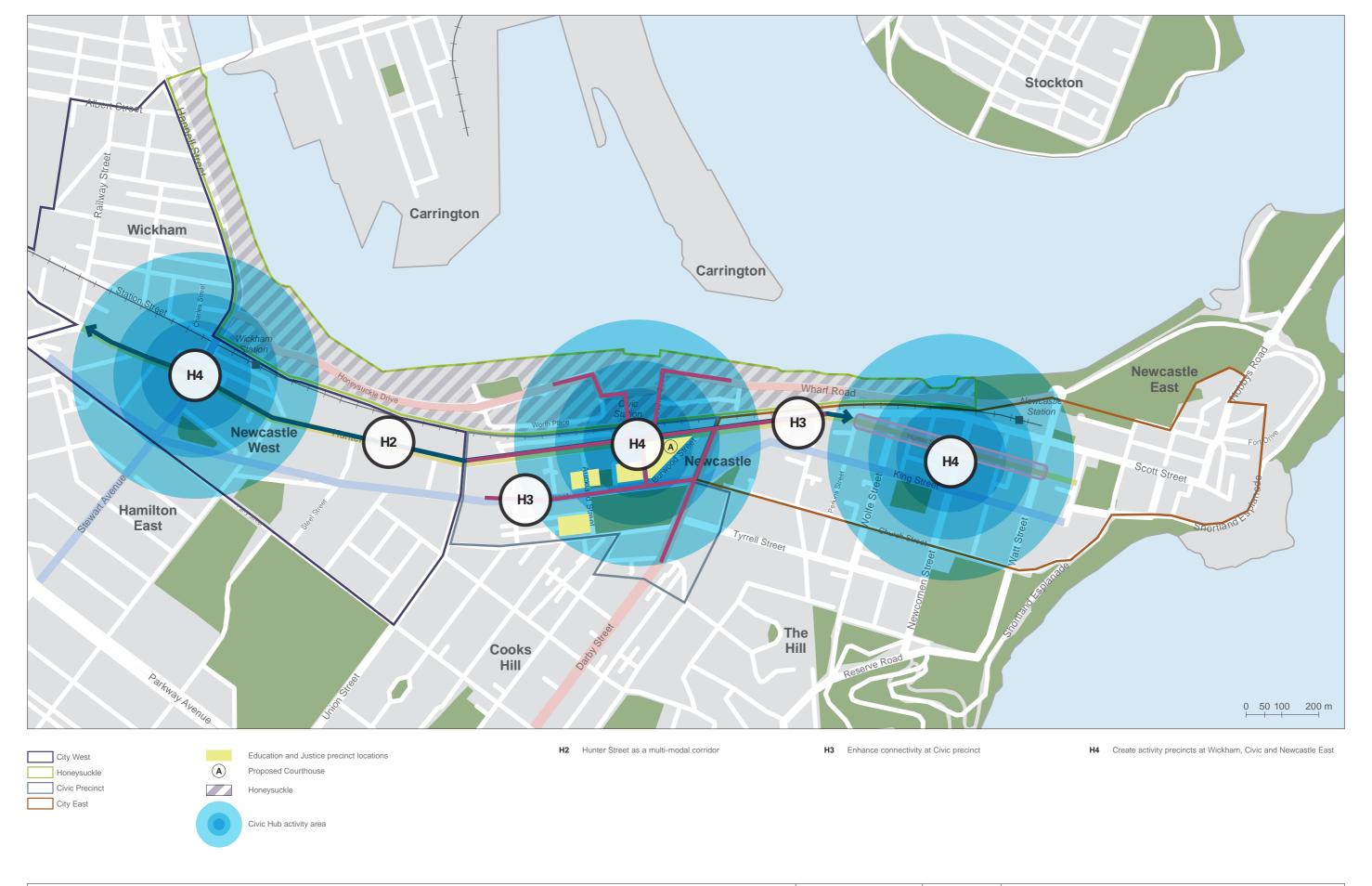
The University city campus and courthouse are to be located in the Civic precinct, presenting an opportunity for increased activity and improvements in the area. Civic station should be upgraded as a key activity node in the growing Civic precinct, along with connectivity improvements throughout the area as more people use the space.

The connectivity of Hunter Street has been addressed in the Hunter Street public domain plan prepared by JMD.

H4 – Create activity precincts at	: Wickham, Civic and Newcastle East
Long term	CoN, DP&I

#### Project description:

Recognise and build upon activity precincts at the West End of Hunter Street, Civic and the Hunter Street Mall and ensure that these activity precincts are well connected to and supported by public and active transport infrastructure. It is anticipated that the Wickham area will have a commercial focus, whereas the Civic area will develop as a civic institution precinct and the eastern precinct will develop with a mix of retail, leisure and residential development.





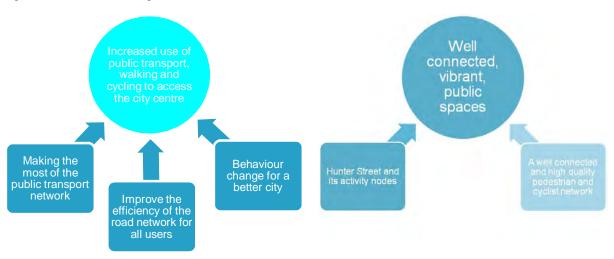
#### 5.0 Conclusion

#### 5.1 An overarching vision

An overarching vision has been defined and applied to the development of the strategic directions and will serve as a common reference point for transport related decisions.

The vision is to create an efficient and connected customer focussed transport system, integrated with well connected, vibrant and legible public spaces.

Figure 6 The vision and strategic directions



#### 5.2 Strategic directions and actions

The actions described in the previous sections will be adopted by the City of Newcastle and supported by the relevant agencies for consideration and potential implementation when funding is made available.

The table overleaf summarises the initiatives that have been developed for each strategic direction, and also illustrates the agency responsible a timeframe for delivery.

With Hunter Street at the heart of Newcastle's city centre, one of the primary aims of the Urban Renewal Study will be to identify ways to raise the level of activity on this street. This study has identified a range of local initiatives and projects that will create a transport network which focuses activity along the Hunter Street corridor and reduces the disconnect caused by the rail corridor.

Infrastructure alone cannot achieve the level of mode shift prescribed in the NSW 2021 plan. The uptake of more sustainable travel behaviour into and around the Newcastle city centre will be encouraged by a comprehensive approach including policy change and behaviour change programs at a local level. All stakeholders must together commit to implementing policy change and a behaviour change program that will actively encourage the uptake of more sustainable travel behaviour.

Table 2 The strategic directions and actions

Newcastle City Centre connectivity and accessibility study

Strategic Direction	Making the most of the public transport network		Create a connected pedestrian and cycle network		Improve the efficiency of the local road network for all users		Change behaviour for a better city		Hunter Street and its activity nodes	
	Action	Lead Agency	Action	Lead Agency	Action	Lead Agency	Action	Lead Agency	Action	Lead Agency
Short Term	P1 – Improve local bus stop amenity	CoN	W1 – Place making and way finding	CoN, DP&I, TfNSW	R1 - Provide for cyclists within the road network	RMS, CoN	B1 – Create behaviour change working party	TfNSW, Newcastle Buses, CoN	H1 - Promote the role of pedestrians	CoN
	P2 – Marketing and promotion	TfNSW, Newcastle Buses, CoN	W2 – Improved pedestrian and cycle amenity	CoN, DP&I	R2 – Prioritise pedestrian and cyclist movements (ongoing)	TfNSW, CoN	B2 – Education, marketing and promotion	TfNSW, Newcastle Buses, CoN	H2 – Hunter Street as a multi-modal corridor	CoN
	P3 – Integrated ticketing	TfNSW	W3 – Cycle end of trip facilities	CoN, private sector	R3 - Implement bus priority at intersections	TfNSW, CoN	B3 – Car sharing/pooling program	CoN		
					R4 – Implementation of clearways	TfNSW, CoN	B4 – Council leading by example B5 - Understand city users through research	CoN TfNSW, Newcastle Buses, CoN		
							B6 - Develop a workplace travel plan model	CoN, TfNSW		
Medium Term			W4 – Commuter and recreational cyclists	CoN	R5 - Deliver committed road network improvements	CoN	B7 - Support park and ride	TfNSW, CoN	H3 – Enhance connectivity at Civic precinct	ic CoN, UoN
			W5 – Improved connectivity across the railway line	CoN, TfNSW			B8 - Work with NSW Government to achieve best practice	TfNSW,		
Long Term	P4 – Hunter Street the main public transport corridor	CoN, TfNSW					B9 – Managing parking demand	CoN	H4 - Create activity precincts at Wickham, Civic and Newcastle East	CoN, DP&I
	P5 – Strategic bus corridors (medium term)	TfNSW								

## Appendix A

# Reports used in document review

#### Appendix A Reports used in document review

Newcastle Branch Line Study Report, ARUP for Rail Infrastructure Corporation, 2002

Warabrook terminus and Modified Light Rail Investigation, Worley Parsons for Railcorp, 2007

Newcastle City Centre Parking Strategy Review, GTA Consultants for City of Newcastle, 2008

Newcastle CBD Strategy – Rail Proposal Cost Benefit Assessment, Urbis for Hunter Development Corporation, 2009

Newcastle City Centre Renewal Report to NSW Government, Hunter Development Corporation for NSW Government, 2009

Newcastle CBD Integrated Transport – Identification of Preferred Transport Scheme, Parsons Brinkerhoff (PB) for Hunter Development Corporation, 2009

Newcastle City Centre Liveability Survey, SCAPE for City of Newcastle, 2009

Newcastle City Centre Traffic and Transport Study – Traffic and Transport Options Modelling Report, Bitzios for City of Newcastle, 2010

Hunter Street Revitalisation Framework - Final Strategic Framework, SCAPE Strategy for City of Newcastle, 2010

Newcastle Coastal Revitalisation Strategy – Master Plan Report, Urbis for LPMA, City of Newcastle and Hunter Surf Lifesaving, 2010

Investigation into the Feasibility and Cost Estimate of Terminating the Newcastle Line at Wickham – Pre-Concept Design Report, AECOM for Railcorp, 2010

Hunter Independent Public Transport Study - Discussion Paper, Newcastle Herald, 2010

Newcastle City Centre Renewal Transport Management and Accessibility Plan (TMAP), AECOM for Transport NSW, 2010

Urban Renewal in Newcastle - Background and Process Overview, NSW Department of Planning, 2010

Newcastle Community Strategic Plan – Newcastle 2030, Our Vision for a Smart, Liveable and Sustainable City, City of Newcastle, 2011

Kirkwood, I. 2011, 'Express buses at the heart of Hunter transport enquiry', 11 Aug, Newcastle Herald

Harris, M. 2011, 'Bus passengers down', 26 Sep, Newcastle Herald

Draft Newcastle Cycling Strategy and Action Plan, City of Newcastle, 2011

Draft Newcastle Local Environment Plan, City of Newcastle, 2011

Draft Newcastle Development Control Plan, City of Newcastle, 2011

Framework for City Centre Parking, City of Newcastle, 2011

Appendix B

# Stakeholder group

# Appendix B Stakeholder group

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