

# MOVING CANBERRA 2019-2045

## INTEGRATED TRANSPORT STRATEGY



**CANBERRA  
IS BETTER  
CONNECTED**



**ACT**  
Government

Transport Canberra  
and City Services

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activities to the broader region, impacting the way our integrated transport performs now and into the future. This strategy takes our role in enabling this growth seriously, and considers how we and the transport network can best support and enable sound economic, social and environmental in the broader ACT region.

*Moving Canberra*, the ACT Government's updated transport strategy, provides a strategic direction that identifies the policies, infrastructure, programs and services needed to meet our customers' needs and expectations, now and into the future. It builds on our 2012 transport policy and action plan, *Transport for Canberra*. *Transport for Canberra's* purpose was to create a more efficient and sustainable transport system by facilitating transport infrastructure projects, policies and travel demand management initiatives.

This Strategy takes this intent and the ambition of *Transport for Canberra* further by providing a long-term vision for a smart, sustainable, integrated transport network. It looks toward 2045 and considers how transport can help achieve our target of becoming a net zero emissions Territory.

# MINISTERIAL FOREWORD

Canberra is one of the world's most liveable cities. Our national capital has one of the best road networks in the world and our comprehensive cycling and walking routes mean we have the highest levels of walking and cycling in Australia. Our population is increasing and our economic centres are growing more vibrant every day.

Our city is not static. Growing populations, changing economies, and new technologies and services are altering the way in which we live, work and experience Canberra. Canberra is also becoming an increasingly vibrant economic hub that provides jobs, services, education and



It also recognises the substantial technological and market advancements in the transport sector since 2012, such as the introduction of rideshare in 2015. Our relationship with transport now revolves around expectations of responsiveness, functionality and connectivity. We have an opportunity to harness the benefits these changes in mobility bring and offer a smarter, sustainable and fully integrated transport service and network.

Some of our highest priorities over the coming years include delivering light rail and the new bus network; finalising the freight route network to meet national policy and standards; providing improved bus infrastructure such as dedicated and separated lanes, Park & Ride, Bike & Ride and signal priority facilities along key corridors; expanding our primary cycle route corridors to encourage increased active travel participation; and providing more dedicated and separated cycle facilities in urban areas.

We also have an opportunity to review how we monitor and report on our success. *Transport for Canberra* encouraged people to reconsider their travel choices and therefore focussed on mode share targets. *Moving Canberra* takes a more holistic view of our transport choices. It recognises that many journeys are multimodal, multi-purpose in nature and that micro-choices we make have a big, collective impact. By looking at journey times and emissions data, in partnership with Journey to Work Census data and future Household Travel Survey data, we will have a holistic picture of how we are tracking against our vision. This approach also allows us to be responsive to any new and emerging technologies that may impact the way we use and interact with transport.

It really is an exciting time for transport in the Territory. By bringing together our light rail, our new bus network, our ambitious policies and our future-facing planned activities, we are on our way to having an integrated transport network that works for all Canberrans.



# INTRODUCTION

The ACT Government has a vision for a future transport experience that is modern, sustainable, integrated and provides real alternatives to driving and owning a vehicle. In 2017, we undertook our first Household Travel Survey in 20 years. The Household Travel Survey provided a strong evidence base and insights on the multi-modal, multi-purpose nature of people's travel choices. These insights, together with 2016 Census data and global research into transport trends and impacts, supports the thinking outlined within *Moving Canberra*.

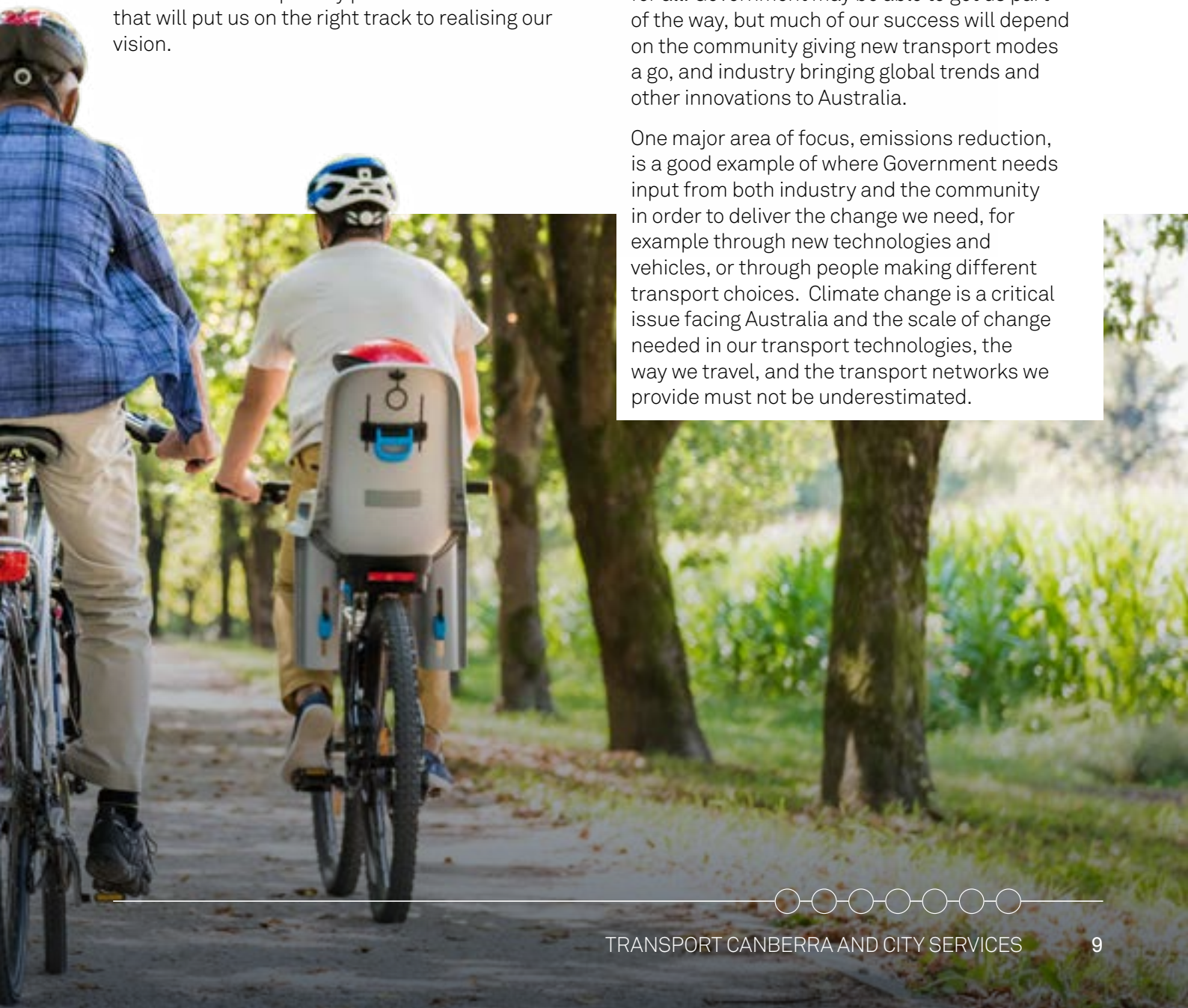
*Moving Canberra* explores our drivers for change and identifies the priority policies and activities that will put us on the right track to realising our vision.

This Strategy sets a direction that supports Canberra's strategic ambitions of:

- > economic growth, diversification and competitiveness
- > net zero emissions by 2045
- > urban renewal, increased vibrancy and liveability
- > a smart and connected digital city
- > social inclusion

Many people will need to work together to achieve our vision of a city with genuine choice for all. Government may be able to get us part of the way, but much of our success will depend on the community giving new transport modes a go, and industry bringing global trends and other innovations to Australia.

One major area of focus, emissions reduction, is a good example of where Government needs input from both industry and the community in order to deliver the change we need, for example through new technologies and vehicles, or through people making different transport choices. Climate change is a critical issue facing Australia and the scale of change needed in our transport technologies, the way we travel, and the transport networks we provide must not be underestimated.







## BUILDING ON MOMENTUM

Since the release of *Transport for Canberra* in 2012, we have:

- |  |  |
|--|--|
| Built better roads                                   | <ul style="list-style-type: none"> <li>✓ Delivered Constitution Avenue, Gundaroo Drive duplication, Horse Park Drive duplication – Anthony Rolfe Avenue to Mulligans Flat Road, Ashley Drive duplication and Cotter Road duplication.</li> <li>✓ Constructed \$288 million Majura Parkway and the Malcolm Fraser Bridge.</li> </ul>  |
| Improved integrated public and sustainable transport | <ul style="list-style-type: none"> <li>✓ Light Rail between Gungahlin and City under construction.</li> <li>✓ Light Rail between City and Woden currently being planned to create a North–South Light Rail spine.</li> <li>✓ Trialing electric and hybrid buses as part of our bus network.</li> <li>✓ Expanded Rapid services with two new services commencing operation (Black Rapid and Green Rapid) and Blue and Red Rapid services extended to weekend services.</li> <li>✓ Planned increase of rapid bus services from four to ten as part of our new integrated bus and light rail service in 2019 – two years ahead of schedule.</li> <li>✓ Free senior and concession off peak travel.</li> <li>✓ Introduced Australian firsts by both permitting rideshare services and partnering public transport with on-demand transport to create a ‘last mile’ Nightrider.</li> <li>✓ Conducted a successful trial of Smart Parking in Manuka.</li> <li>✓ Published <i>Transition to Zero Emission Vehicles Action Plan 2018-2021</i></li> </ul> |
| Supported active travel                              | <ul style="list-style-type: none"> <li>✓ Released the ACT Active Travel Framework.</li> <li>✓ Established the Active Travel Office.</li> <li>✓ Completed the Civic Cycle Loop.</li> <li>✓ Upgraded Sullivan’s Creek cycle path.</li> </ul>   |

- ✓ Committed \$30m towards cycling and walking infrastructure with a focus on Belconnen, Tuggeranong and Woden Town Centres.
- ✓ Commenced consultation for the Belconnen Bikeway project.
- ✓ Upgraded footpaths and cycleways in high traffic areas around Canberra including additional bike parking in Braddon.
- ✓ Launched Park & Pedal initiative, where the community can park their vehicle and then ride into work from five key locations.
- ✓ Launched the School Crossing Supervisors program and Active Streets for Schools.
- ✓ Established an improved approach to route planning that is responsive to a dynamic network user profile and land use.
- ✓ Trialled luminous paving on community paths.
- ✓ Installed a 'bike barometer' to count cycle journeys on the popular Sullivan's Creek trail.

## THE CASE FOR CHANGE

### UNDERSTANDING HOW AND WHY WE TRAVEL

The 2017 ACT Household Travel Survey provided valuable insights into how and why people travel, at what time of day the trips were made, and how far and how long people travel. These insights represent key evidence for future transport planning and policy-making decisions and will need to be considered in all decisions around investment priorities and service delivery.

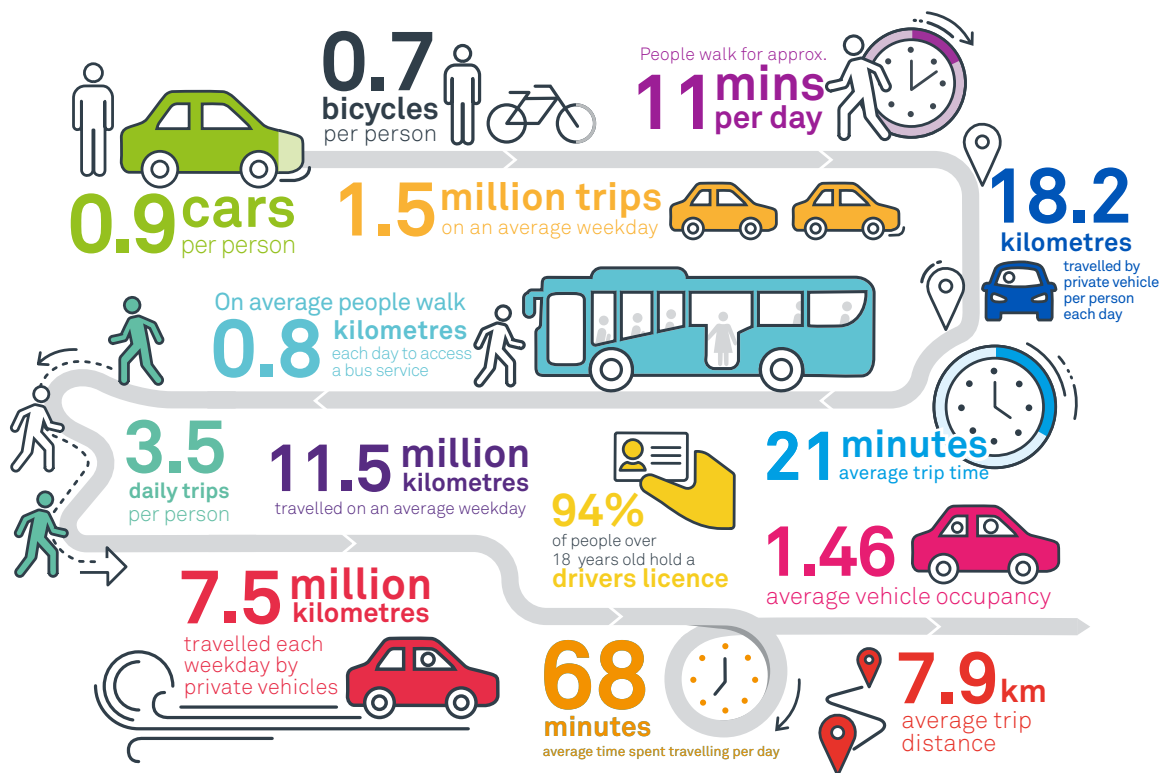


Figure 1: Household Travel Survey insights into ACT and Queanbeyan travel patterns

## ENVIRONMENTAL CHALLENGES



ACT's Climate Strategy to a net zero emissions territory, sets out a commitment to being a net zero emissions territory by 2045. We are on track to be the first jurisdiction in Australia to be powered by 100 per cent renewable electricity

in 2020; after 2020, transport will be the biggest contributor of emissions in the ACT<sup>1</sup>.

To mitigate transport's impact on the climate, we need to move people from private vehicles to more sustainable transport modes, such as car share, ride share and electric vehicles, and we need to prioritise active travel and consider the best way to decarbonise our public transport. This will lower the Territory's emissions, improve air quality and support improved health and wellbeing outcomes for Canberrans. We will support the delivery of the infrastructure needed to support a zero emission future and will lead by example by electrifying the Government vehicle fleet and providing public transport and active travel options that are viable alternatives to private petrol vehicles.

## EMERGING TECHNOLOGY



Emerging Technology

Emerging technology is changing how we travel and how transport services are delivered and used. Data sharing and mobile technology is increasing communication between members of the public and transport

service providers, with the community now expecting responsive, real-time transport information. From automation of cars, buses and freight vehicles to the deployment of delivery drones and drone taxis, transport as we have traditionally known is changing.

We are already a leader in harnessing new transport and technology opportunities. We were the first Australian jurisdiction to permit ridesharing and have trialled 'nightrider' services with Uber. We have hosted world-leading trials for consumer goods delivery and acted as a local partner to trial semi-autonomous cars. We are in the process of procuring an account-based ticketing system for bus and light rail. We are also delivering an Australian-first in 'smart streetlights', a future-proofing exercise which will see our static light poles brought to life as connected infrastructure that can gather data and communicate with vehicles, traffic lights and other infrastructure to help us optimise our road network. *Moving Canberra* will ensure we invest in activities and infrastructure that allow us to be leaders in this field and allow Canberra to continue being a global testbed for innovation and creativity.

## A CHANGING POPULATION



A Changing Population

Our population reached 400,000 at the end of 2016 and is forecast to reach approximately 500,000 by 2030<sup>2</sup>. With a growing population comes changing demographics as more people choose to stay in Canberra past

retirement and a broader mix of people start calling Canberra home. We also have very high car dependency, with an average of 1.8 vehicles per household<sup>3</sup>, and our relationship with transport is changing in line with new expectations of responsive, reliable, technology-enabled journeys.

Our growing and diversifying population does not have to mean more cars on roads and more congestion. The success of the world's best and most liveable cities is down to excellent transport networks that are integrated with land use to create walkable, people-friendly communities with a range of transport options. Our transport priorities have shifted and our future investments need to reflect Canberra's modal hierarchy.

<sup>1</sup> ACT's climate strategy to a net zero emissions territory discussion paper. ACT Government.

<sup>2</sup> ACT Population Projections. ACT Government.

<sup>3</sup> Census Results 2016. Australian Bureau of Statistics.

## Hierarchy of prioritisation by mode

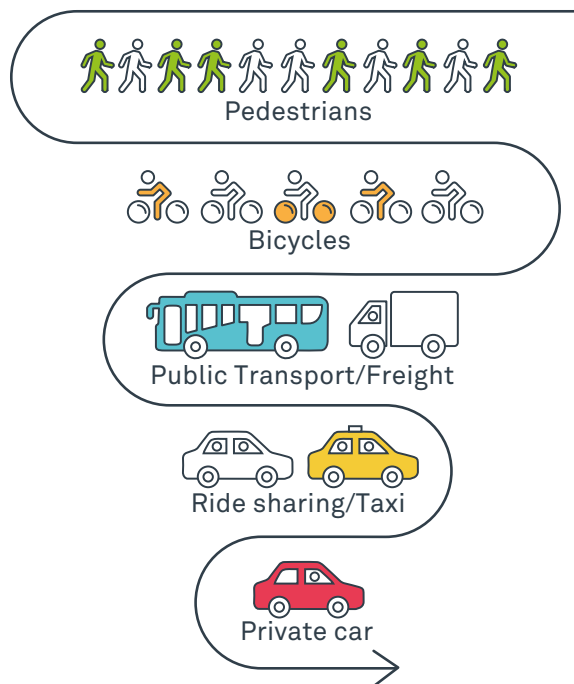


Figure 2: Modal hierarchy

*Moving Canberra* responds to the impact of projected growth by considering a range of options to manage travel demand and ensure our transport network can handle increased volumes of traffic. We will prioritise reliable public and active transport networks that help our city become more sustainable and connected, maintaining the high standard of living expected by Canberrans.

## DRIVING ECONOMIC DIVERSITY



Driving Economic Diversity

An open and diverse economy is fundamental to maintaining Canberra's unique character, liveability and reputation. Transport can unlock sustainable economic growth through increased competition and a more diversified

employment market, supporting innovation and creating an attractive city for businesses to invest in. Working in partnership with land use and planning, transport can play an integral part in

supporting the emergence of industrial areas and economic hubs, such as Canberra's international airport and its future air freight potential for the Capital region and beyond.

Canberra has been recognised as a Global Gateway City<sup>4</sup> and, as Australia's Capital, has an important role to play in showcasing Australia's forward-thinking, collaborative and inclusive nature. Tourism in Canberra continues to grow and the addition of international flights will see the region flourish as a global tourist destination and freight hub, as will our continued commitment to delivering faster rail between Sydney and Canberra. Canberra's transport network already facilitates approximately \$100 million of freight movements annually, and this is expected to increase<sup>5</sup>.

## URBAN RENEWAL AND CHANGING DENSITIES



Urban Renewal and Changing Densities

As our population and economy grows, future generations will expect us to retain Canberra's high liveability. We will prioritise investment in transport that supports urban renewal and the creation of public spaces and places. We will also invest in

corridors and networks that fulfil their appropriate purpose, for example as primarily avenues for movement or as safe and vibrant places where we can build communities. With the arrival of light rail and the restructure of the bus network, closer consideration needs to be paid to 'first-and-last mile' connectivity. Taxis, rideshare and other demand-responsive transport play an important role in the Territory's transport picture by providing a flexible and responsive option for people who want to connect to rapid transport networks.

*Moving Canberra* supports the ACT Planning Strategy and future land use intentions for Canberra. Low density suburbs disperse commuter demand and contribute to an

<sup>4</sup> Future Transport 2056. Transport for NSW.

<sup>5</sup> ACT Freight Strategy 2015. ACT Government.

overreliance on private cars as the primary mode of travel. Density done well and frequent public transport services, such as rapid buses and light rail, will support infill developments in Canberra's major activity centres and corridors.

## OUR HEALTH AND WELLBEING



Our Health and Wellbeing

Obesity is a worldwide issue and the ACT is no exception. In 2016, 63 per cent of adults in the territory were overweight or obese<sup>6</sup>. Rates of obesity in Australia are continuing to rise, increasing the risk of cardiovascular disease, Type 2 diabetes

and other medical conditions. The ACT Government is committed to building on the achievements of the Healthy Weight Initiative through new and innovative actions to target the key risk factors for chronic disease, including physical inactivity. Loneliness and isolation are also increasing in Australia. Walking and cycling has demonstrated health benefits and can aid mental health and wellbeing. The actions set out in *Moving Canberra* recognise the multimodal nature of many trips and supports the integration of active travel with public transport, for example by improving walking links to public transport and supporting the availability of bike racks on buses and the ability to take bikes on light rail.

## WORKING IN PARTNERSHIP

*Moving Canberra* has been developed in parallel to the Planning and Climate Change strategies and reflects the transport issues raised by the community and stakeholders during engagement on these strategies.

A range of ACT policies play a role in influencing, building and maintaining our transport networks. This Strategy draws on input from a number of Directorates that contribute to delivering a safe, efficient, sustainable transport network for

Canberra. Delivery of this Strategy will also require review and changes to standards, regulations and legislation to enable the more progressive, innovative or experimental elements to progress.

One issue that is key to all three strategies is the need to reduce travel demand. A key focus for the Strategy moving forward will be working collaboratively across Directorates to support and influence the delivery of non-transport projects, for example office hubs, that contribute to reductions in the need to travel.

*Moving Canberra* is also cognisant of the ACT's contribution to improving the efficiency and productivity of Australia's nationally significant infrastructure and transport systems, through our participation in the Council of Australian Government reform initiatives and through our work with Infrastructure Australia and our support for the Transport and Infrastructure Council work program.

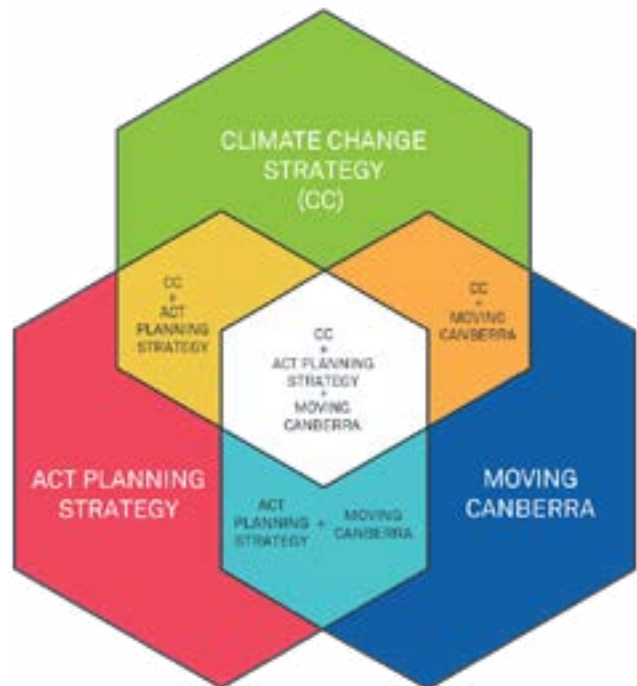


Figure 3: The relationship between the Planning, Climate Change and Transport strategies

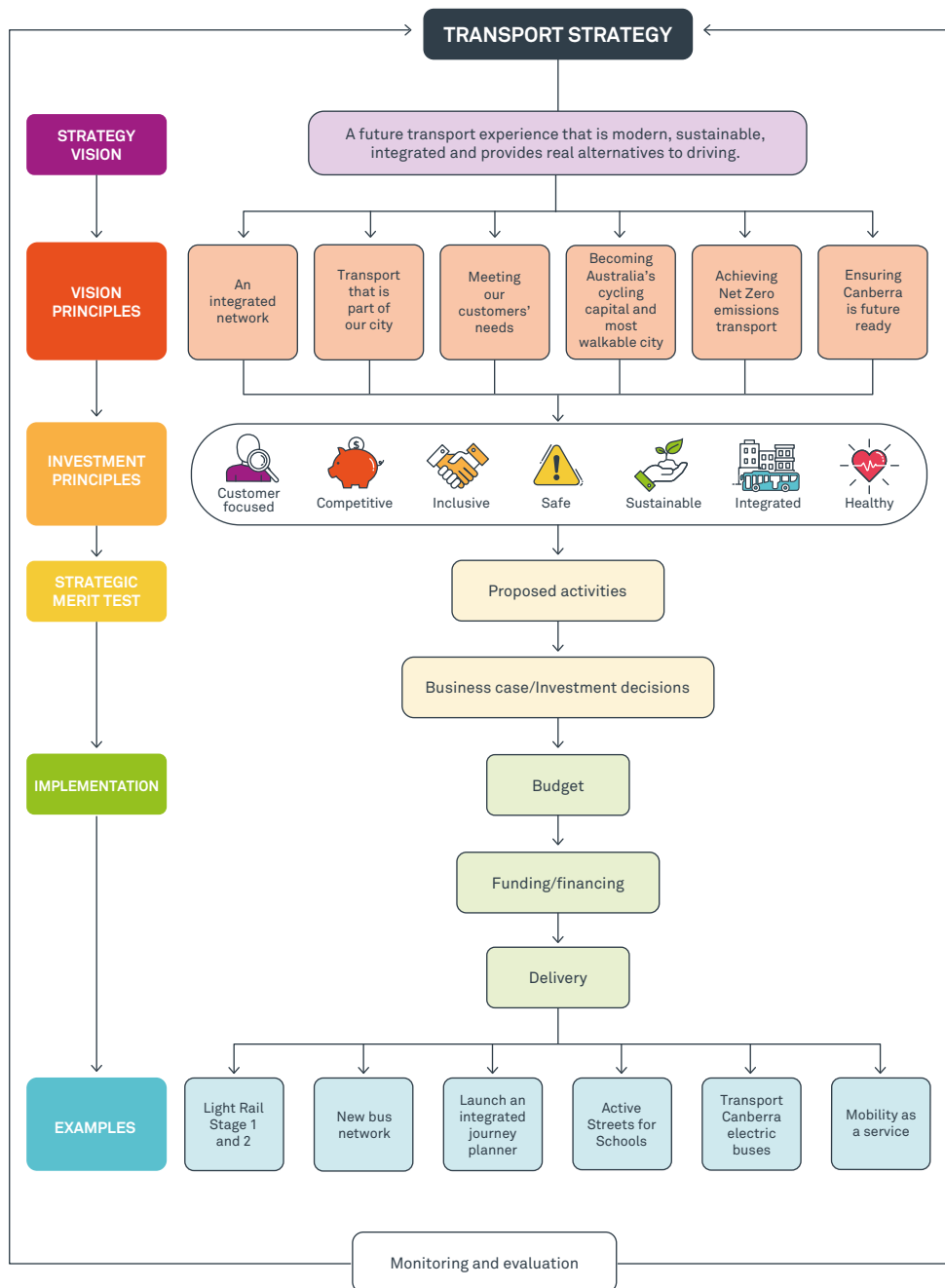
6 A picture of overweight and obesity in Australia. Australian Institute of Health and Welfare

# DELIVERING THE STRATEGY

In addition to working in partnership, an internal process for identifying, assessing and prioritising activities will be implemented and utilised. Future investment decisions will demonstrate alignment to both the vision principles and the investment principles, and will be subject to strategic

merit testing, business case development and funding. Our progress will be tracked through our overarching commitment to monitoring and evaluation.

The Strategy will be supported by an Implementation Plan. The below system map provides an overview of how the Strategy will inform the identification and assessment of the activities contained in the Implementation Plan.





# ACT MOVEMENT AND PLACE FRAMEWORK

An ACT Movement and Place Framework underpins the strategic thinking and future directions contained in this document and other strategies, such as the new ACT Planning Strategy. The Framework provides a basis for balancing the dual function of streets: moving people and goods, and enhancing the places it connects. Streets are both movement corridors and places and destinations within themselves. The Framework ensures we are creating a more lively, functional and accessible

city through our transport network. Many other jurisdictions are already promoting Movement and Place as a method of ensuring road network operation decisions support integrated land use and transport planning.

Our network is composed of a range of street environments that have different “movement and place” functions that need to be considered:

## The Movement and Place Framework

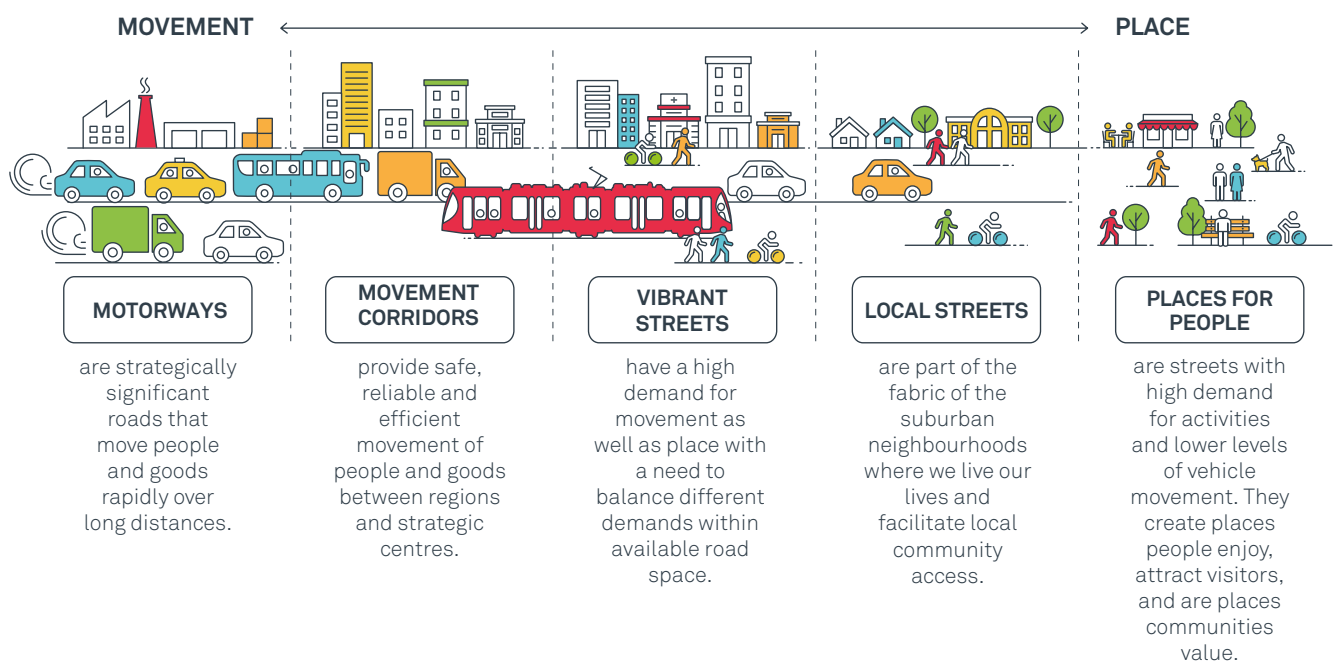


Figure 4: Movement and Place classification hierarchy

**Parkways/Motorways** - strategically significant roads (such as Tuggeranong Parkway, Barton Highway, Federal Highway and Majura Parkway) that move people and goods rapidly over long distances and do not interact with the places the road passes through;

**Movement Corridors** - main roads (such as Belconnen Way, Parkes Way, Barry Drive and

Canberra Avenue) providing safe, reliable and efficient movement of people and goods between regions and strategic centres;

**Local Streets** - part of the fabric of the neighbourhoods where we live our lives and interact with our communities;

**Vibrant Streets** - facilitate a high demand for movement as well as a sense of place, so need





to balance varying demands within the available road space. They range in scale from the large boulevards of Northbourne Avenue to the smaller but lively Lonsdale Street in Braddon; and

**Places for People** - combined higher pedestrian activity and lower levels of vehicle movement, for example City Walk and Garema Place. They create streetscapes which attract visitors, where people can linger and are places communities value.

Roads need to cater to a broad range of users. As our economy and population grows, the demands on our roads will also grow and diversify. Meeting this variety of demands from different road user groups can create competition between uses,

such as managing congestion where a road passes through activity centres and entertainment districts. Under a Movement and Place Framework, all road users will continue to have access to roads. However the severance created by road traffic will be reduced, and the integration with adjoining developments for local residents, businesses and their customers will improve. This ensures there is a closer relationship between traffic volumes and urban amenity along road corridors.

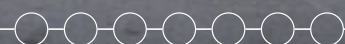
- > Over time, road users can expect:
- > a resilient network of strategic roads, such as better alternatives for freight and through-traffic bypassing activity centres;



- > improvements to vehicle flows through implementing transport technologies and incident management information systems;
- > greater priority being given to public transport on designated Rapid routes;
- > more opportunities for cycling and walking, such as protected bike lanes and quicker, safer pedestrian crossings, especially within major centres;
- > servicing new development areas;
- > improved urban amenity and more vibrant connected centres; and

- > improved road safety, such as the safe sharing of space within local streets.

By endorsing a Movement and Place Framework to guide all future planning and design, Canberra joins the ranks of leading cities in moving towards a more forward-thinking, innovative approach to integrated transport and land use. The ACT Movement and Place Framework requires Whole-of-Government awareness and buy-in to ensure that new master plans, development plans and capital works consider Movement and Place at the earliest stages of design.



# AN INTEGRATED NETWORK

## OUR VISION

**Our integrated transport network will enable Canberrans to plan and enjoy seamless, multi-modal travel, and will capture the economic, social and environmental benefits of borderless movement of people and goods.**

An integrated transport and land use network will consider the services and facilities needed for successful whole-of journey and interchange experiences. Journeys will be seamless with improved physical infrastructure for Bike & Ride, Park & Ride and public transport interchange. Our network will be built on partnerships with service operators that maximise the interdependencies between transport modes and minimise conflicts.

## WHAT WE NEED TO CONSIDER

Our transport network is undergoing significant transformation, both physically, with the integration of the light rail and our new bus network, and philosophically, with the introduction of an ACT Movement and Place Framework.

This Strategy outlines the strategic policies that underpin our future transport networks. Future alignments of public transport are subject to further analysis that considers technical issues, patronage projections, and environmental and economic impacts. The new bus network has undergone community consultation; the final network design was launched in October 2018 and reflects the feedback received during the consultation process.

Australia has one of the fastest population growth rates in the developed world at 1.49 per cent per annum between 1999 and 2014<sup>7</sup>. Looking ahead, Australia's population is expected to reach 41.5 million by 2061<sup>8</sup>. Canberra will play an important role in facilitating Australia's growth.



<sup>7</sup> Population Estimates and Projections, April 2015. Infrastructure Australia.  
<sup>8</sup> Population Projections, Australia Series B, November 2013. Australian Bureau of Statistics.

In addition to being the nation's capital, Canberra is strategically located between its two largest cities, Sydney and Melbourne. While other major Australian cities are finding their traffic congestion is already at critical levels, Canberra has a unique opportunity to invest at a more optimal time. Our investment in light rail will support national objectives for continued economic growth and improved productivity, while helping the city to remain a liveable destination of choice.

The Commonwealth Government supports our vision of a dedicated inter-town public transport

system to connect and serve key population and employment hubs. In the National Capital Plan, the National Capital Authority states an intention to “reserve a route for the development of a public transport service to link major employment nodes. As far as practicable the service will be segregated from other transport systems and will operate with priority of right-of-way.” Our plan for an integrated public transport system addresses inter-town transport through rapid routes, comprising of rapid bus routes and the rollout of a city-wide light rail network based on a north-south and east-west spine.



## HUB-AND-SPOKE

Our integrated public transport system is based on a hub-and-spoke transport network, where local passengers are directed into key transport corridors to connect with town centres. The hub-and-spoke network involves a series of nodes (hubs), connected by arcs (spokes) that represent viable transportation alternatives between two nodes.

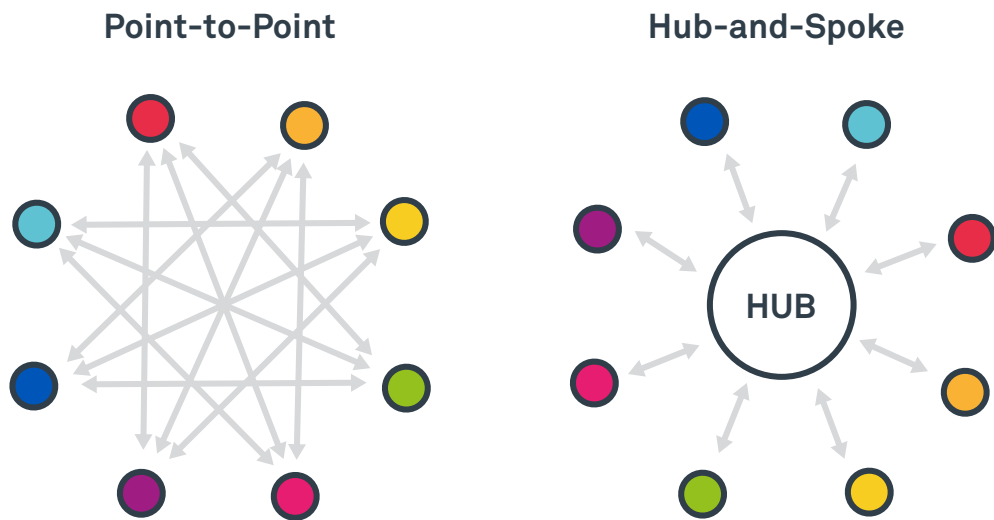


Figure 5: A point-to-point network that involves multiple independent connections, each to be serviced by vehicles and infrastructures, needs far fewer connections in a hub-and-spoke structure.

Transport hubs allow greater flexibility and offer:

- > A greater choice of connections by offering a high frequency of services. For instance, instead of one service per day between any two pairs in a point-to-point network, four services per day could be possible.
- > Economies of scale, enabling the potential development of an efficient distribution system as the transport hubs will be handling larger quantities of public transport services.

Many transportation services around the world have adapted to include a hub-and-spoke structure. As less point-to-point services are offered, additional transfers are required which are mitigated through more regular, 'turn-up-and-go' rapid services and vibrant place-making initiatives at hubs.

## OTHER FACTORS

As at 30 June 2017, TCCS maintains 3,122 kilometres of roads across the ACT. Canberra's Integrated Transport Network includes 14 high-level strategic transport corridors. These corridors form a framework for complementary transport networks including the rapid cycling network, public transport network, existing arterial road network and freight network. The establishment of strategic corridors supports the key planning principles outlined within the ACT Planning Strategy, such as achieving a more integrated between transport and land use planning for activity centres, and increasing densities within rapid transit corridors and mixed-use precincts.

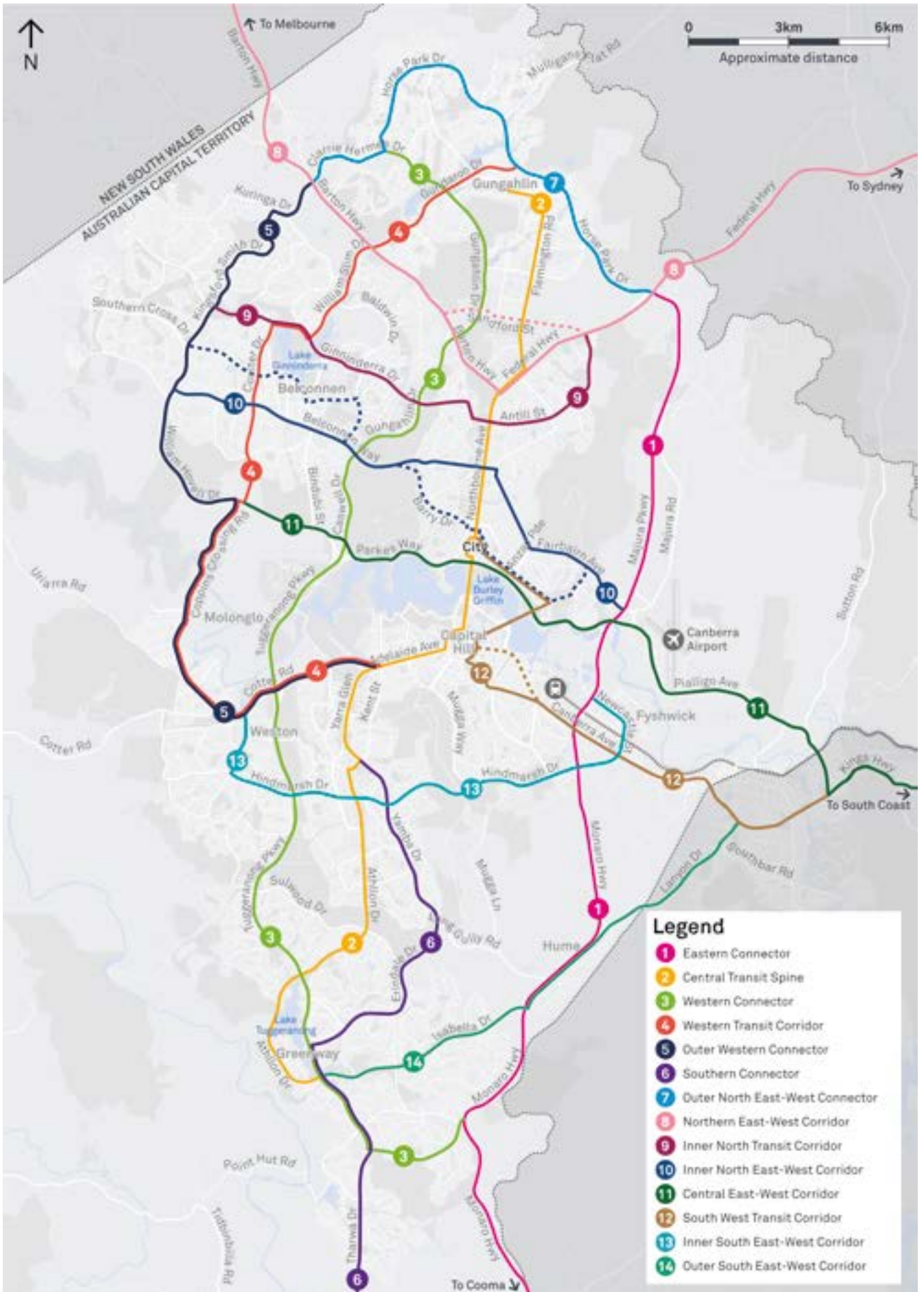


Figure 6: Canberra's 14 Strategic Corridors



We cannot “build” our way out of congestion. Continuously expanding the road network will create future operational, maintenance and renewal burdens. Delivering the right infrastructure at the right time requires our infrastructure planning process to respond strategically to challenge and prioritise low cost, non-infrastructure solutions over large capital investments where possible.

To optimise the use of these networks, we need to consider the relationship with Canberra’s parking supply. Managing parking supply and demand effectively encourages efficient use of available parking resources and avoids parking shortfalls during busy periods. Managing parking demand also encourages those with viable alternatives to switch from driving, particularly in locations well serviced by public and active transport, such as the city centre.

Implementing pay parking in locations where demand for parking is high reduces parking demand. The introduction of pay parking in the Parliamentary Triangle reduced occupancy rates for parking from nearly 100 per cent pre-pay parking, down to around 60 per cent immediately after, before levelling to the current average of about 75 per cent. This was matched by an increase in public transport use of around 30 per cent.

We also need to recognise and provide for those who cannot access conventional public transport services. Community and demand-responsive transport must still remain part of the transport picture. Taxi, hire car, rideshare and car share services provide a valuable option for all Canberrans. In particular, wheelchair accessible taxi (WAT) services provide a vital means of access to medical, amenity and cultural services, as well as social networks. Passengers utilising the Taxi Subsidy Scheme (TSS) have greater financial access to WAT services through this subsidy program.

The Government’s evaluation of the 2015 taxi and rideshare reforms found that rideshare travel is particularly active on weekends and evenings. According to surveys and reporting, rideshare service has stimulated net new demand for on-demand transport. Uber has shown an active interest in providing accessible rideshare and other on-demand transport services in the ACT to complement other forms of public transport. Following successful trials, Uber continues to participate in last-mile integration with scheduled bus service through the Night Rider program.

An integrated network will also need to support freight. In 2014, the ABS reported that 13.8 million tonnes of freight entered into the ACT. 10.8 million tonnes originated from the ACT and 9.6 million tonnes passed through the territory<sup>9</sup>. Freight movements within the ACT are expected to double in the next 15 years.

## FUTURE DIRECTIONS

### LIGHT RAIL NETWORK

The ACT Government is committed to delivering a city-wide light rail network as part of our integrated public transport network. A North-south and east-west light rail public transport spines are fundamental to the functionality of the network. These spines will cross the city centre at London Circuit, around City Hill, enabling light rail to serve all central areas including the Parliamentary Triangle. The north-south spine (Gungahlin to Woden) proposes to use the alignment along the western side on London Circuit, whilst the possible future east-west spine uses the alignment along the eastern side of London Circuit. The two spines of the light rail network have the opportunity to support developments across the city as a whole.

<sup>9</sup> Road Freight Movements, Australia, 12 months ended 31 October 2014. Australian Bureau of Statistics.

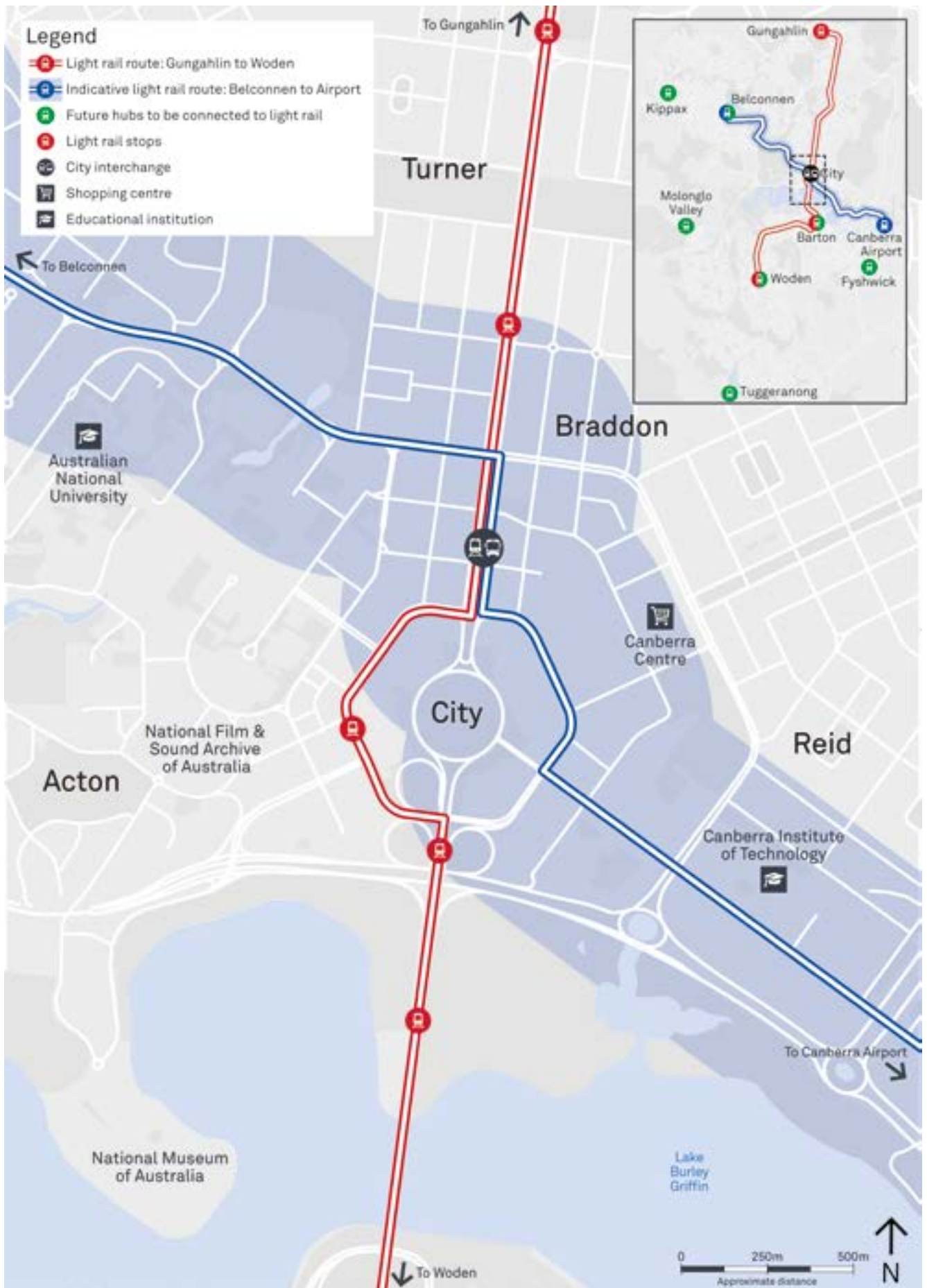


Figure 7: Light rail master plan, showing primary north-south (red) and indicative east-west (blue) spines that intersect around City Hill





The north-south spine was commenced first to maximise patronage, urban uplift and connectivity of employment, residential and cultural centres. The City to Gungahlin project is due to commence operations in 2019. The City to Woden project is preparing to commence planning and environmental approval processes to confirm the alignment and commence construction by 2021.

Equally important will be the east-west spine that connects in the City Centre. A pre-feasibility study has already been undertaken to identify potential light rail corridors to act as the spine. These will be assessed upon selecting the next destination of the north-south and east-west spines. Scoping and Definition Designs will then be developed to support a cost analysis and a business case.

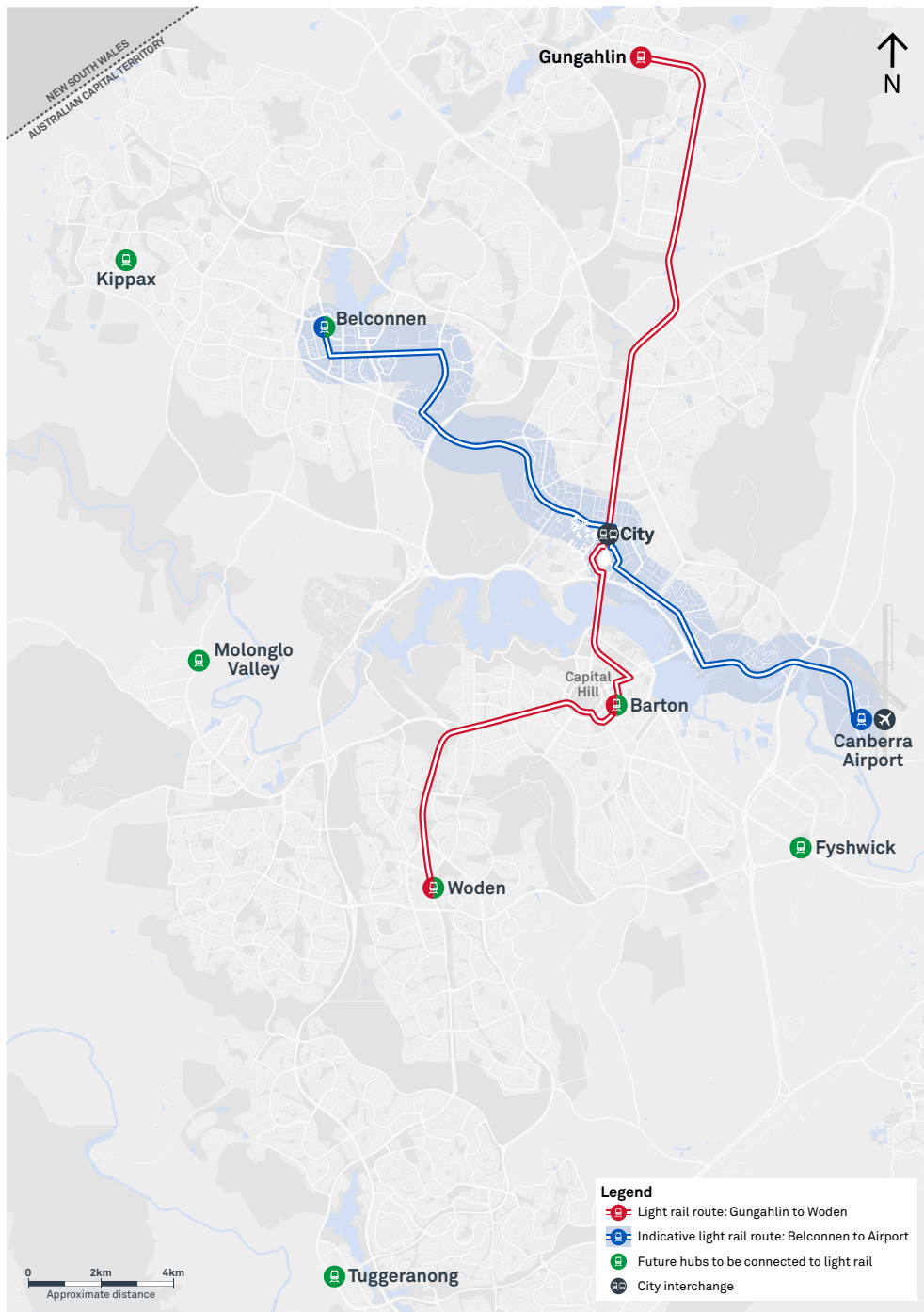


Figure 8: Current Planned Network



### Development of Future Stages

Future stages of the light rail network were identified in the master plan to connect other town centres beyond the north-south and east-west spines:

- > Kippax
- > Molonglo Valley
- > Tuggeranong
- > Fyshwick

A pre-feasibility study will need to be undertaken to consider high level costs and benefits and to identify the subsequent corridors to be implemented. Any planned corridors are subject to the availability for future funding.

Development of the future light rail network will concentrate on providing a user-friendly and effective network. Simplified public transport networks with a few clearly defined routes are easier for the community to perceive and

remember, easier to operate and market, and tend to be more cost-efficient.

The ACT is subject to both Commonwealth and Territory planning processes to ensure that 'Canberra and the Territory are planned and developed in accordance with their national significance', as set out in section 9 of the Australian Capital Territory (Planning and Land management) Act 1988. Designated Areas are those subject to Commonwealth planning approval and works planned in these areas require significantly more detailed designs to achieve planning approval compared to other works in the Territory. A higher standard in the quality of materials and finishes is also generally required in these areas and therefore works subject to Commonwealth planning approval can cost more. The ACT Government notes that almost all of the overall light rail network affects Designated Areas in some form. Commonwealth planning approval will impact the design and cost of these projects.



### Program to Deliver the Network

The below table summarises the milestones to deliver the city-wide light rail network. The master plan essentially aims to deliver a stage of light rail every five years. This prioritises the network spines that were identified in the 2015 pre-feasibility report. A feasibility report will also be required to consider potential corridors for future stages

extending to town centres beyond the network spines. The program to deliver future stages of the city-wide network is subject to change in response to strategic transport opportunities, such as a potential inter-city high speed rail service, and impacts of Commonwealth planning approval processes.

	North - South Spine		East - West Spine		Future Stages				
	City to Gungahlin	City to Woden	City to Belconnen	City to Airport	Barton to Fyshwick	Woden to Tuggeranong	Woden to Molonglo Valley	City to Molonglo Valley	Belconnen to Kippax
<b>Transport Strategy</b>	Integrated Public Transport System								
<b>Light Rail Masterplan</b>	City-Wide Light Rail Network								
<b>Pre-Feasibility</b>	Complete				10+ years				
<b>Business Case &amp; Feasibility</b>	Complete	<1 year	0-5 years		15+ years				
<b>Commence Construction</b>	Complete	0-5 years	5-10 years						
<b>REVISE BUS NETWORK</b>									
<b>Commence Operations</b>	<1 year	0-5 years	10-15 years						

## NEW BUS NETWORK

To support our integrated transport network, the bus network will prioritise:

- > faster trips and more direct routes;
- > more frequent and reliable services; and
- > increased services at peak and off-peak times, including evening and weekend services<sup>10</sup>.

Our bus network will adhere to the following core principles:

- > all-day, seven-day network;
- > legible “grid” of frequent service routes;
- > reallocation of resources into improved frequencies on the core network; and
- > simpler, future-ready, more legible overall network.

Our Public Transport Service Plan (PTSP) outlines the activities needed to deliver an efficient and reliable bus network. This includes commitments to infrastructure improvements, both operational (e.g. dedicated bus lanes, layover and bus priority at intersections) and customer-facing

(e.g. interchange/stops, increased security and ticketing), as well as a strategy for reducing fleet emissions. The PTSP will also look to use demand responsive transport to provide more tailored services and a better customer experience.

School students will be encouraged to use our buses more. MyWay data shows that almost 60 per cent of school students who use the bus network to get to and from school are already travelling on the regular network. Along with the continued provision of dedicated school bus services, the new network will provide a Rapid or Local service in close proximity to almost every government and non-government school in the ACT, with additional frequency to ensure there is sufficient capacity for student transport.

It is best practice for bus networks to be periodically re-assessed to ensure the services offered are responding to changes in the network, such as new light rail corridors coming online, are responding to patronage demand, and are meeting customer needs. The bus network will therefore be regularly reviewed as needed.

## Service Hierarchy For Canberra Dedicated School Bus Services

Several different types of routes complement the general public transport network to provide student transport. These additional dedicated school bus services are included in the following school travel hierarchy:

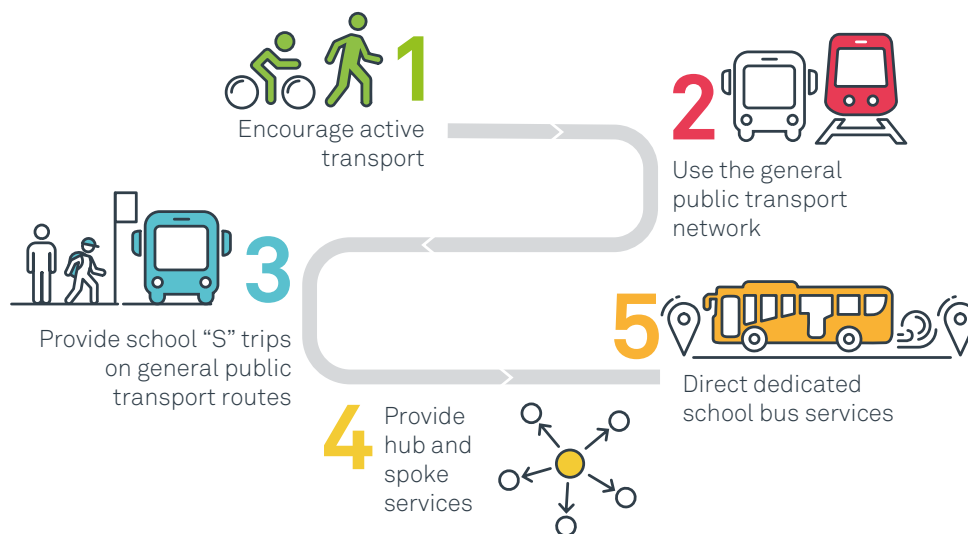


Figure 9: School Service Hierarchy

10 Keeping Canberra Moving. ACT Government.



Figure 10: Future RAPID Network  
 (Note: the new bus network is currently undergoing community consultation and this map is not final)

## FLEXIBLE AND COMMUNITY TRANSPORT

We will continue to provide a range of flexible services for members of the community with mobility needs or low incomes, including specialised disability transport services, flexible bus services and community transport. We propose to expand a variety of flexible and demand responsive services to meet the needs of those Canberrans who cannot easily access the public transport network.

In building these services, we will seek consistency in safety standards that are set out for providers of associated and regulated services, such as taxi and rideshare.

## ROAD NETWORK OPTIMISATION

Road network optimisation solutions can extend the life of existing road assets by improving their performance. Implementing these 'smarter solutions' and deferring large capital expenditure can produce significant savings for the ACT Government, helping us do more with less. Our approach to road network optimisation recognises the multi-modal function of our roads, and our need to move both people and freight efficiently.

Network optimisation solutions will address both the supply-side and/or the demand-side of the transport network:

- > **Supply-side interventions** will include solutions which change the supply of network capacity, for example, the improved management of corridors or intersections through Intelligent Transport Systems Technologies (e.g. intelligent congestion management solutions, variable speed limits, variable messaging signs, traffic signal coordination, lane use allocation, ramp metering/signalling, etc).
- > **Demand-side interventions** will influence the overall demand for transport by encouraging or enabling some behaviours while disincentivising others (e.g. parking management, bus priority measures such as dedicated lanes and queue jumps, education campaigns, etc).

CCTV cameras have already been installed at intersections affected by the light rail construction works (either directly or through traffic diverted from Flemington Road). The camera feeds have been integrated with the existing Traffic Management Platform



STREAMS as well as Bluetooth detectors. The combination of this technology enables us to monitor and manage the road network as efficiently as possible, and readies us for future investment in current and emerging technologies.

## FACILITATING INTERCHANGE

Interchange experience for public transport and active travel customers will be safe, secure and accessible. Where needed, we propose to upgrade interchange facilities to encourage public transport uptake, improve security through better CCTV and lighting, upgrade nearby links to enable more walking and cycling, improve accessibility for people with reduced mobility, and increase utilisation of Park & Ride and Bike & Ride facilities.

## CAR SHARE

Members of a car share scheme can book a vehicle for a short time and return it to the same space. Households in Canberra spend the most on owning and operating vehicles (\$208 per week)<sup>11</sup>. Car share can therefore provide a more affordable alternative to car ownership.

The ACT Government has recently concluded a successful two year trial of car share and are committed to expansion.

## TAXIS AND RIDESHARE

We will continue to support the growth of our taxi and rideshare industry by delivering reform for the taxi and rideshare industry and reviewing the regulation of fares, whilst being mindful of the impacts increased taxi and rideshare trips may have on traffic volumes and emissions

## PARKING

Managing parking supply and demand effectively encourages efficient use of available parking resources and avoids parking shortfalls during busy periods. Managing parking demand also encourages those with viable alternatives to switch from driving, particularly in locations well serviced by public and active transport.

We propose to take a strategic approach to the provision and management of parking which recognises and reflects the importance of parking for residents; parking’s contribution to the viability of centres; the need to maximise the efficiency and usage of existing parking; and the impact of parking on sustainable mode share.

Table 1: ACT Government Parking Strategy and Activities

Theme	Strategic Approach	In Practice
<b>Parking Supply Management</b>	<ul style="list-style-type: none"> <li>&gt; Shift away from a ‘predict and provide’ approach to demand management approach to encourage travel by other modes, particularly public transport.</li> <li>&gt; Emphasis on better utilising parking supply, including identifying opportunities for shared use.</li> <li>&gt; Give priority to short-stay parking in centres.</li> <li>&gt; Government’s role in providing parking will reduce over time as surface carparks are redeveloped.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Review the parking provision requirements in the Territory Plan to ensure parking provision rates for new development are aligned with government strategic objectives and sustainable mode shift.</li> <li>&gt; The Parking Code will be revised to require new developments on our Rapid networks to reflect the availability of public transport by setting maximums for parking provision.</li> <li>&gt; Redevelopment of government surface car parks over time.</li> <li>&gt; Review on-street and off-street parking restrictions as needed, to manage the needs of different users.</li> </ul>

<sup>11</sup> Spending by Australian households on owning and operating vehicles, 2015-16. Bureau of Infrastructure, Transport and Regional Economics.

Theme	Strategic Approach	In Practice
<b>Parking Demand Management</b>	<ul style="list-style-type: none"> <li>&gt; Ensure government parking pricing is aligned with strategic approaches to parking demand management and sustainable mode shift.</li> <li>&gt; Government's role in influencing parking pricing will reduce over time as surface carparks are redeveloped.</li> <li>&gt; Introduce new technologies to assist in parking management and enforcement.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Review the pricing of government parking</li> <li>&gt; Review government pay parking in town and group centres and investigate new areas where pay parking may be suitable to manage parking demand.</li> </ul>
<b>Park and Ride Facilities</b>	<ul style="list-style-type: none"> <li>&gt; Prioritise public transport and active travel users at interchanges and consider this when reviewing and investigating park and ride facilities.</li> <li>&gt; Locate Park &amp; Ride facilities a sufficient distance from the City Centre.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Review existing Park &amp; Ride sites.</li> <li>&gt; Investigate whether additional Park &amp; Ride facilities are needed.</li> </ul>

## FREIGHT

We propose to support increased bulk freight movements from key trade gateways e.g. Canberra International Airport and link with the developing freight rail (Fyshwick) networks to support territory and regional economic growth. This will include minimising bulk freight movement in our city and town centres through the provision of a route network for heavy vehicles that supports the changing national

standards for larger freight vehicles to travel on our roads. The focus of bulk freight movement will be prioritised on key freight routes (Barton, Federal and Monaro Highways and Majura Parkway), and the focus for 'last mile' freight movements will be on local access roads where start/end destinations are located i.e. shopping and group/local centres.



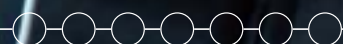




Figure 11: ACT future orbital freight network

## POSSIBLE ACTIONS

- > Deliver Light Rail from Gungahlin to City and Light Rail from City to Woden.
- > Complete pre-feasibility study to consider high level costs and benefits of proposed future light rail alignments, and to identify the subsequent corridors to be designed and constructed.
- > Deliver a new bus network.
- > Implement new criteria for prioritising road investment that is consistent with the Australian Transport Assessment and Planning (ATAP) Guidelines.
- > Review the current ACT road hierarchy to support the prioritisation of central corridors for public transport and development of orbital routes for vehicle traffic and freight.
- > Investigate the potential to expand Car Share in the Territory.
- > Audit all major stops and stations on the new bus network and identify and prioritise upgrade requirements, prioritising improvements that enhance accessibility and personal safety.
- > Develop an interchange design guide to provide direction for feasibility studies and detailed designs as needed to support the new light rail and bus network.
- > Develop a stops/interchange implementation plan to prioritise improvements at key stops/stations and identify strategic locations for expanding Park & Ride and Bike & Ride.
- > Review parking fees for all Government operated spaces.
- > Revise parking provision rates and implement on-street parking controls along all rapid public transport corridors.
- > Undertake updated parking surveys for town and group centres as needed.
- > Continue to consult on taxi fare regulation.
- > Continue to ensure adequate supply of taxi services in the ACT.



# TRANSPORT THAT IS PART OF OUR CITY

## OUR VISION

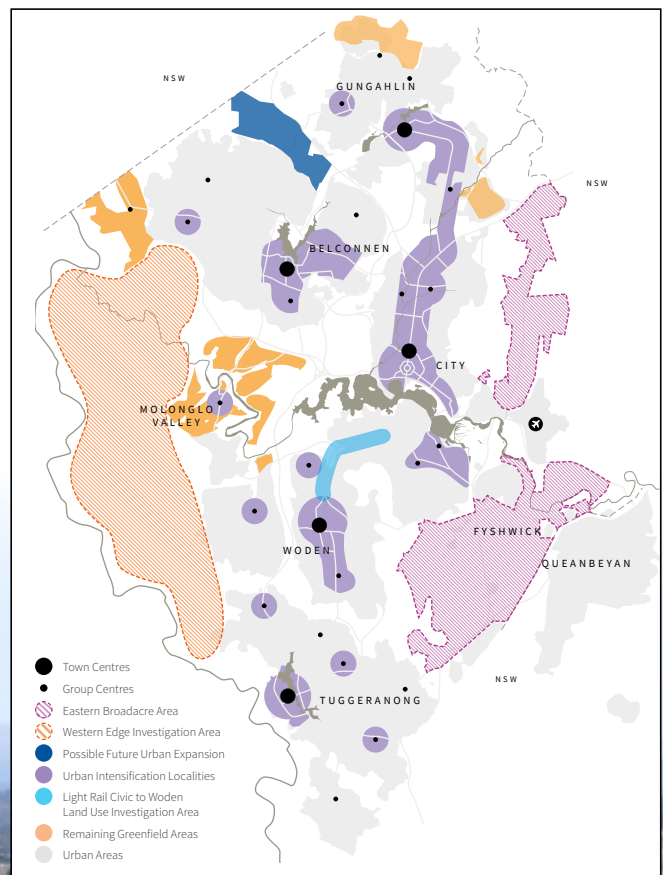
Canberra will be a more compact and competitive city. Planning for our city's future will recognise the integrated nature of transport and land use, and the trends that shape the way we live, work, study and play.

Our approach to planning will recognise the city-shaping impact of major transport infrastructure, and how it can change the decisions people and businesses make about where in Canberra to travel, live, work and study. Our local streets and centres will be places for people, surrounded by vibrant streets with active, liveable transport boulevards. We will be connected to the regions and other capital cities by safe, reliable, high-speed transport networks. This regional network will seamlessly interchange with our local network at well-designed stations and intermodal nodes.

## WHAT WE NEED TO CONSIDER

The ACT Planning Strategy 2018 identifies the key growth areas for Canberra, integrated with key public transport corridors.

Figure 12: Growth Area Map, ACT Planning Strategy 2018



According to the 2016 Census, over 80 per cent of journeys to work are made by private vehicle, with the majority of employment growth taking place in central and east Canberra over other town centres<sup>12</sup>. The City Centre has a large number of major commercial offices and specialised shops, but each ACT district is clustered around a hierarchy of centres.

Travel times and the economic impact of congestion are rising, decreasing productivity and detracting from Canberra's liveability. Outside of the ACT, the population of areas within one-hour drive of Canberra, such as Queanbeyan/Palerang and Yass, are set to increase. Current projections indicate that the Canberra plus one-hour (C+1) region will grow from 512,000 residents to 660,000 by 2033<sup>13</sup>. The car remains the preferred mode for commuters; our regional rail network is unreliable and slow, and unintegrated bus and coach services are not considered viable alternatives.

### ACT and cross-border 2016 Employment Distribution (district)

Australian Bureau of Statistics

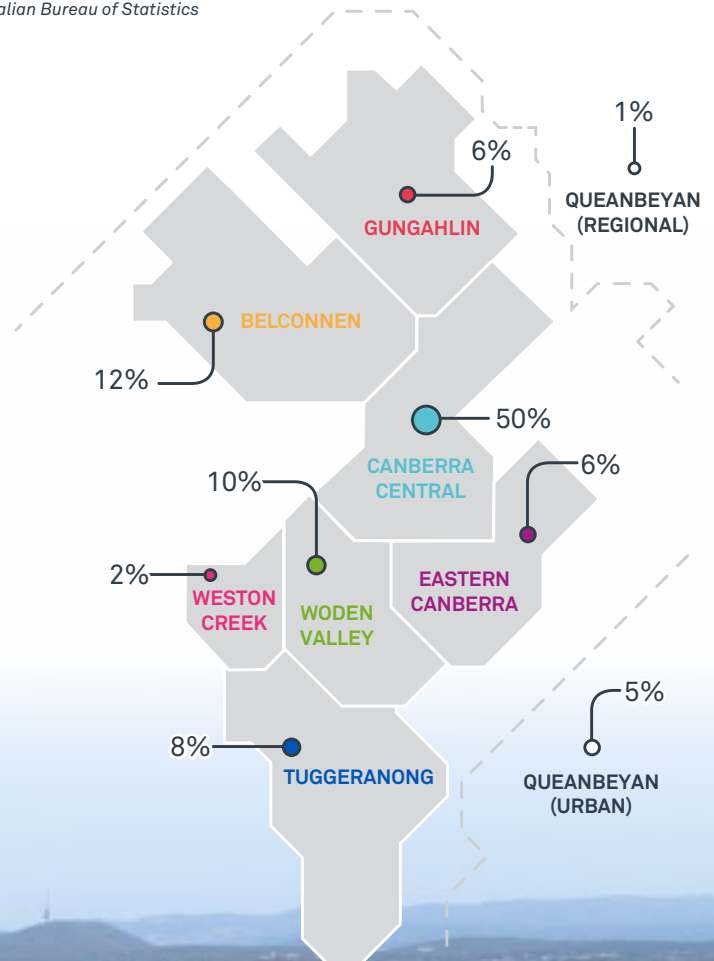


Figure 13: Where residents from outside the ACT work in Canberra

<sup>12</sup> Census Results 2016, Australian Bureau of Statistics  
<sup>13</sup> South East and Tablelands Plan, NSW Government





The latest estimate by the Bureau of Infrastructure, Transport and Regional Economics (BITRE) shows that congestion in Australian cities currently costs around \$16.5 billion a year and is projected to rise to about \$30 billion a year by 2030<sup>14</sup>. Infrastructure Australia has estimated that without further abatement the cost of congestion in Canberra will rise from \$208 million in 2011 to \$703 million by 2031<sup>15</sup>.

## INTEGRATED TRANSPORT FOR SUSTAINABLE SUBURBS

- > Areas experiencing urban renewal will see priority investment in improvements that address safety, permeability for active travel and access to public transport. New suburbs in Canberra, including new residential developments in established areas, will be expected to identify locally appropriate transport solutions that:
  - prioritise permeability through a road network where speed, traffic volumes and active travel infrastructure provide an integrated and homogenous environment for all;
  - consider access to existing or planned public transport networks; and
  - take into account emerging transport trends such as ride-share and zero emission vehicles.

## FUTURE DIRECTIONS

We propose to apply the *ACT Movement and Place Framework* to integrate transport with land use planning and create a more compact city that connects people and places. We will invest in public transport services and support the Planning Strategy's vision of a diverse range of housing choices along our rapid transit corridors and hubs.

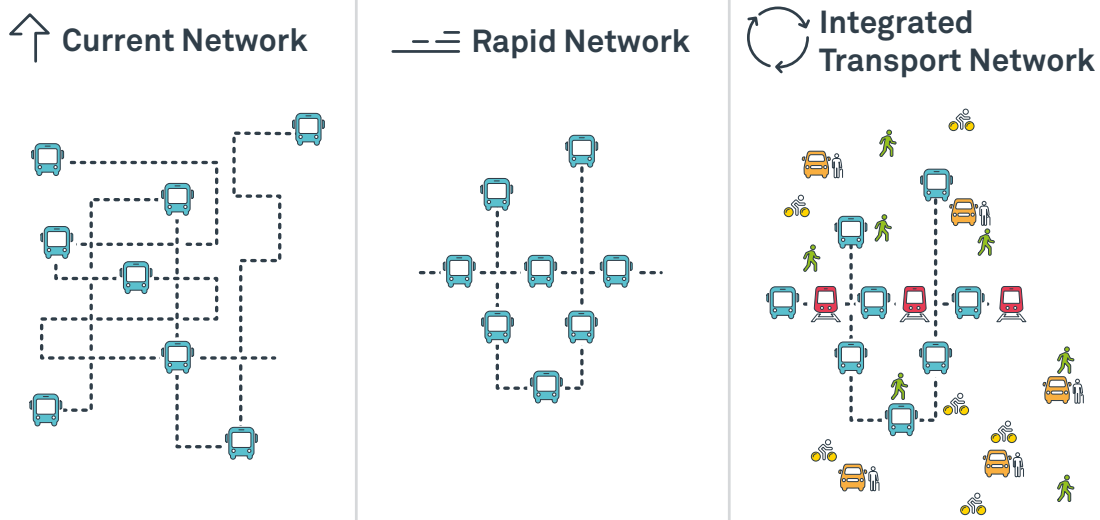


Figure 14: Future integrated network

<sup>14</sup> Traffic and Congestion Trends. Bureau of Infrastructure, Transport and Regional Economics.  
<sup>15</sup> Australian Infrastructure Audit. Infrastructure Australia.



## STRONG CENTRES AND CORRIDORS

Integrating transport and land-use will create more compact, higher quality centres, along with corridors that support public transport, walking and cycling. Strong centres and corridors will support a network of multiple activity centres within and between our districts that are connected and served by high frequency, public transport service corridors. To allow for more medium density residential and mixed-use developments, priority will go to corridors that play a strategic role in supporting public transport. A range of local services will be within 15 minutes' walk of residential communities, and infrastructure for new growth and urban renewal areas will be provided in a timely fashion.

## CROSS-BORDER TRAVEL

We recognise the importance of the transport network for the wider Canberra region and will work with NSW and the wider Canberra region to ensure future services, ticketing systems and real-time information is integrated, accurate and fit-for-purpose.

Providing fast, reliable services on the Canberra-Sydney rail line remains a key priority for the ACT Government and we will work with the Commonwealth and the NSW Government to progress opportunities for improving the performance of passenger rail service in the corridor. For high-speed rail, the Eastern Broadacre Planning Study includes an indicative alignment for a future corridor through the Majura Valley and makes provision for an alternative alignment to the Canberra Airport.

## POSSIBLE ACTIONS

- > Amend the Territory Plan, Estate Development Code, the Municipal Infrastructure Standards and relevant legislation to consider how planning controls can adopt the following principles:
  - new developments have permeable street layouts that provide safe and efficient walk and bike routes to centres, schools, public transport and other local activities and are capable of accommodating buses.
  - active travel infrastructure in all new and renewed developments, as well as support for emerging transport trends such as bike share and car share.
- > Update the Canberra Streetscape Guidelines to reflect the above amendments.
- > Consider feasibility of providing public transport services to new suburbs as soon as residents start to move in.
- > Investigate the potential for Canberra Train Station to become a demonstration of Transit Oriented Development (TOD) that transforms it into a mixed-use community with multi-modal transfer opportunities.
- > Continue to work through the ACT/QPRC *Letter of Intent* to integrate public transport systems with Queanbeyan/Palerang.
- > Seek to integrate the ticketing systems between the ACT and cross-border services.
- > Identify and seek to protect the land needed for future high-speed rail initiatives
- > Work in coordination with NSW Government to achieve a rail journey time to Sydney of under 3 hours.



# MEETING OUR CUSTOMERS' NEEDS

## OUR VISION

**Our Planning Strategy makes clear our vision for an accessible Canberra, where 'everyone can easily and safely access jobs, services and activities. An accessible city is convenient to move around in a variety of ways. Ensuring everyone has quality access to housing, jobs and activities is central to a socially fair society and thriving community'<sup>16</sup>. Our transport network will be integrated to enable choice and provide the variety of services Canberrans want and need. We will deliver more efficient, accessible, safe, comfortable, convenient and reliable journeys.**

Customers will be at the centre of our transport network. Our transport system will recognise that a whole journey begins and ends at a customer's front door, and that future journeys will be multi-modal and will likely include a combination of on-demand and shared transport journeys. Data will help us better understand where and how people are travelling and what makes journeys successful. A broader range of services will improve accessibility and help close existing mobility gaps. Safety and personal security will be a fundamental consideration in the design of all new transport infrastructure.

## WHAT WE NEED TO CONSIDER

The 2016 Census indicated that the number ACT residents had grown 11.2 per cent to 400,000. Our population is also ageing – the median age increased from 34 in 2011 to 35 in 2016<sup>17</sup>.

Our 2017 Household Travel Survey showed that most ACT-Queanbeyan residents remain reliant on private vehicle despite having access to a variety of options when travelling both around their local area and further from home. For specific types of trips, the mode share profile changes. Journeys between home and work have higher levels of car driver travel (81 per cent), education trips are more focussed on car passenger trips (55 per cent)<sup>18</sup>.

On-demand transport has experienced significant growth in the ACT since the introduction of rideshare in late 2015. It represents a substantial and growing share of public transport activity. Our Wheelchair Accessible Taxi (WAT) service also continues to grow, in part because of ongoing positive passenger perceptions.

We are committed to meeting our obligations under the Disability Discrimination Act (DDA), but we also recognise that our consideration of accessibility needs to go beyond DDA obligations. In order to become a truly accessible Canberra, we want to work with the community to identify priority actions that improve accessibility, security and social inclusion for the broader Canberra community, particularly to health services. The success of our future network requires us to pay attention to the barriers that impact journeys, with particular attention paid to local journeys. Footpath quality, inadequate lighting, perceptions of safety, difficulty transferring between services and lack of wayfinding are all issues that can stop a person participating in their community, getting more exercise, and connecting to the wider city. The increasing digitisation of services could also adversely affect those without easy access to reliable, up-to-date technology.

<sup>16</sup> ACT Planning Strategy 2018

<sup>17</sup> Census Results 2016. Australian Bureau of Statistics.

<sup>18</sup> ACT Household Travel Survey. ACT Government.





Safety is a major consideration in all that we do. In 2016, cyclists, pedestrians and motorcyclists represented 36 per cent of fatalities and 30 per cent of injuries that occurred on ACT roads, despite making up a significantly smaller proportion of mode share<sup>19</sup>. The launch of light rail also means a new element will be introduced to our road space that could pose safety risks which will need to be

addressed through both new infrastructure and awareness campaigns. We also recognise the need for improved CCTV and security to address personal safety concerns when travelling around the city on public transport, waiting at bus stops and transferring between services.

**Reducing the risk of serious trauma is at the heart of safe systems.**

Risk of fatality increases significantly past 30 km/h (car vs pedestrian/cyclist), 50km/h (car vs car side impact at 90 degrees) and 70km/h (car vs car head-on).

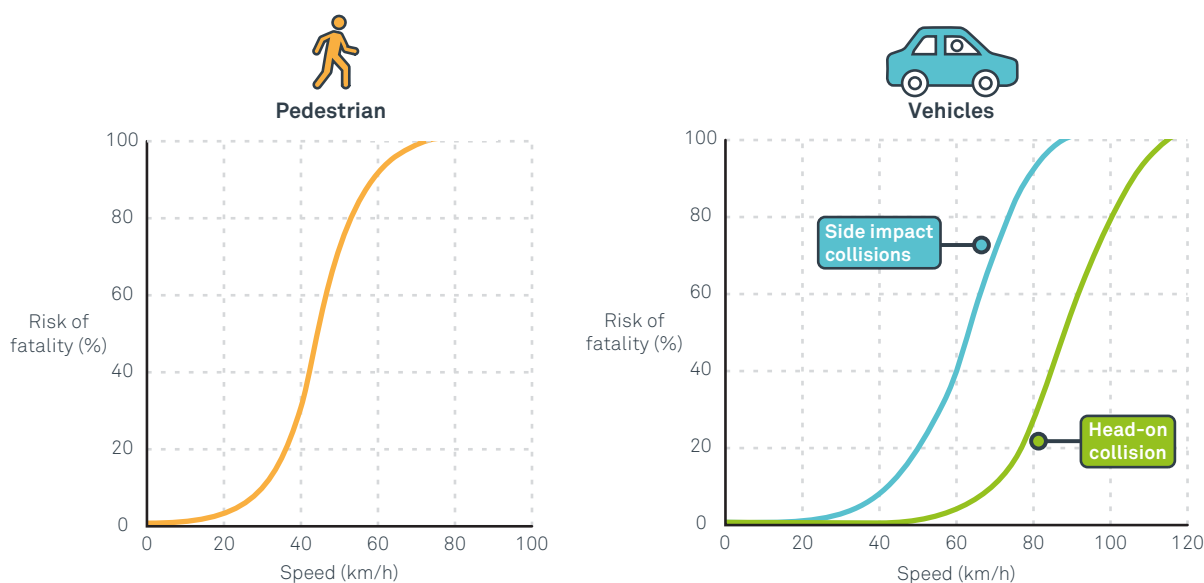


Figure 15: Benefit of lower speeds for road safety<sup>20</sup>

Our ACT Road Safety Strategy 2011–2020 and underlying 2016–20 Road Safety Action Plan requires us to work “Towards Vision Zero” and contribute to a national reduction in fatalities and serious injuries by at least 30 per cent by 2020<sup>21</sup>. At our schools, children want to ride or walk to school, however parents are often reluctant due to safety concerns and time pressures<sup>22</sup>. Globally there is a trend to reduce speed limits, with other countries including Germany, Sweden and England reducing speed limits in school zones. Depending on the

circumstances of the crash, lower speeds increase the chances of survival in a collision<sup>23</sup>.

We also know that residents and visitors want a legible, integrated ticketing system. Public transport ticketing technologies have changed significantly since MyWay was introduced, and with Light Rail commencing operations in 2019, a new multi-modal ticketing system is needed. An integrated ticketing system will be supported by a journey planner that reflects the range of transport options available to those planning a trip.

19 2016 ACT Crash Report. ACT Government.

20 South Australia’s Road Safety Action Plan 2018-2019. Government of South Australia.

21 ACT Road Safety Strategy and ACT Road Safety Action Plan, 2016-20. ACT Government.

22 Ride or Walk to School evaluation report. ACT Government.

23 Balance between harm reduction and mobility in setting speed limits: a feasibility study, report. Austroads.

In addition, the cost of providing the ACT road network requires consideration. Our roads are primarily funded from fuel excise and motor vehicle registration charges. The eventual adoption of electric vehicles will reduce revenue from fuel excise. Similarly, if the arrival of shared, autonomous vehicles means less vehicles on our roads, revenue from motor vehicle registration will gradually decline.

## FUTURE DIRECTIONS

### WHOLE JOURNEY APPROACH TO ACCESSIBLE TRANSPORT

Networks that are accessible for those with disabilities ultimately benefit all members of the community. Our primary objective will continue to be the concept of a 'whole journey' approach to accessible transport (meaning there are no gaps or avoidable barriers). We propose to identify accessibility gaps in the fleet, interchange areas, and audit the accessibility of major bus and light rail stops.

### ACCESSIBLE SCHOOLS

As part of our Active Streets for Schools Program, we will work with the Education Directorate to continue to focus on prioritising upgrades of the walking and cycle networks around schools,

recognising that improvements of this nature benefit not only parents and children, but the wider community too. We will produce traffic management plans for schools that reduce the risks to students posed by traffic and parking. Signage, paths and crossings will be reviewed and improved to make it safer for students to walk and ride to school. We propose to also reflect on the well-received trial of reduced speed limits around schools and consider reducing school speed limits more broadly. Reducing speed limits also delivers wider benefits in terms of road safety, air quality, greenhouse gas emissions and vehicle running costs.

### ROAD SAFETY

We intend to implement the Safe Systems approach and ensure Vision Zero is at the heart of our decision-making. The Safe System Assessment Framework (SSAF) is a practitioner assessment tool for measuring how well a particular design or concept aligns with the Safe System objective of minimising severe injury. It can be used to highlight areas of residual severe injury risk and to assist in identifying design improvements to achieve the Safe System objective. The SSAF looks at the relationship between safe speeds, safe roads and roadsides, safe vehicles, as well as safe people and safe behaviours.

#### A Safe Systems Approach to Road Safety

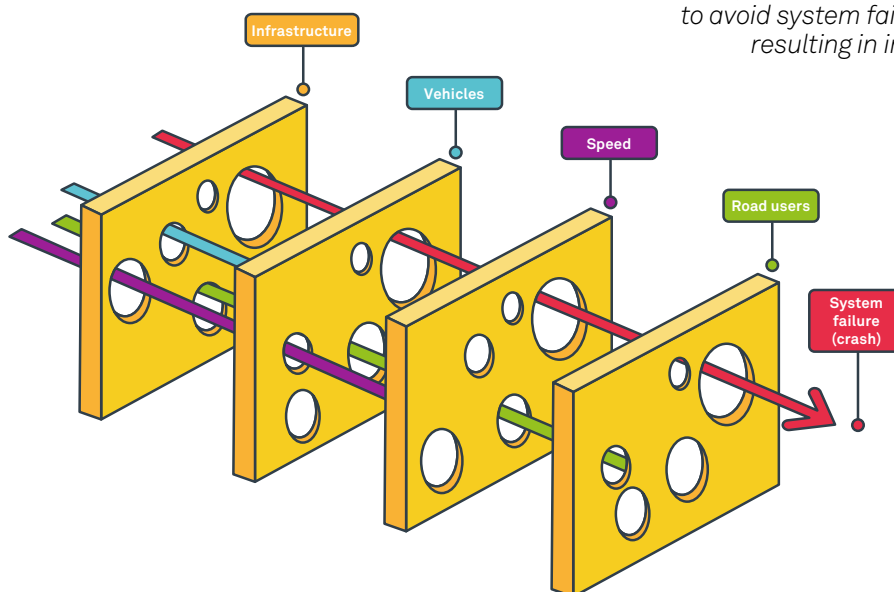


Figure 16: A Safe System requires us to consider the infrastructure, vehicles, energy (speed) and driver skills needed to avoid system failure (a serious crash resulting in injury or death)

Adapted from Reason (2006) and many others



## TICKETING AND FARES

A new ticketing system is currently being procured to replace MyWay. The project will replace the existing card based ticketing system with one based on open standards, open payments, account based ticketing system that enables open loop credit and debit card transit payments. The new ticketing system will provide faster, more efficient services using digital technology to enable the delivery of ticketing services through smartphones, effectively making the ticketing system a 'bring your own device' system. This system will meet customer expectations around payment options, convenience and information, and adapt to these needs as they change over time. The system will also consider its role as a platform for Mobility as a Service (see Ensuring Canberra is Future-Ready), potentially enhancing the delivery of a range of ACT Government policies and programs and aligning to the ACT Government's strategic objectives and priorities.

We intend to adopt a new, simpler fare structure based on a single fare and a daily cap that will apply to all regular bus and light rail services. This fare structure will include appropriate discounts for off-peak travel and maintain free transfers

between services. The free off peak travel scheme for concession travellers on bus and light rail will be continued in the regular fare structure.

## ROAD USER PRICING

As we move toward more zero emission and shared fleet autonomous vehicles, it is likely that the main sources of funding for our road network, fuel excise and registration will decrease. Global and national conversations are already underway regarding different funding models for future road networks, of which road user pricing is one such model. The ACT propose to watch the development and implementation of road user pricing initiatives globally with a view to assessing whether such models might be beneficial for the ACT as part of a national approach to road pricing reform.

Future pricing models will be influenced by the outcomes of national and global work already underway on Heavy Vehicle Road Reform and Mobility as a Service. Any future considerations will also pay close attention to social equity issues, to ensure those who live farthest and earn least are not disadvantaged by any changes in how we pay for the roads we use.





## POSSIBLE ACTIONS

- > Identify accessibility gaps in the fleet, interchange areas and improve access to services to ensure compliance with the Disability Discrimination Act.
  - > Use the Safe System Assessment Framework in all future developments, and apply it retrospectively to future upgrades to existing road environments.
  - > Increase awareness of school zones by creating a greater sense of place; developing traffic management plans with the schools to reduce congestion; and look to expand the School Crossing Supervisor program to increase safety.
  - > Consider reducing unposted residential street speeds to 40km/h.
  - > Provide access to safe cycling skills training for all Canberrans using the road network.
- > Develop a School Travel Planning Program to increase the use of sustainable modes and decrease the overall number of motor vehicles within a specified radius of schools.
    - Transition to a cashless public transport system.
    - Publish a new fare structure based on a single fare and a daily cap for standard public transport journeys.
    - Design, deliver and launch an integrated journey planner that allows residents and visitors to understand the spectrum of transport options available in the ACT.





# BECOMING AUSTRALIA'S CYCLING CAPITAL AND MOST WALKABLE CITY

## OUR VISION

Canberra will be vibrant, safe and sustainable. Our well-designed infrastructure, facilities and programs will support local walking and cycling trips by creating active streets and providing safe and convenient end-of-trip facilities.

We will have a comprehensive network of walking and cycling routes that make it easier and safer for people to travel actively to key local destinations. Our streets will be active and our children will walk and cycle to school. Small, tactical interventions will help us view our streets differently and create more accessible communities. We will encourage bike share schemes. Laws and policies that create barriers to walking and cycling will be removed, and active travel will be promoted at visitor and leisure facilities, education and community centres, and events.



## WHAT DO WE NEED TO CONSIDER

Walking and cycling offer low-cost forms of transport and provide access to services and activities for people with otherwise limited transport choices. Active travel improves health and wellbeing, reduces the prevalence of chronic diseases, creates accessible communities, and increases the social and economic prosperity of a community. We are also committed to providing continued equestrian access where appropriate, including on the Bicentennial Trail, and to consult when or where this might change.

Canberra has an extensive network of bicycle lanes and off road paths. The rise of small freight, such as food and parcel delivery by bike, means these

networks are also experiencing a commercial benefit. However, only a small portion of the population is confident enough to use bicycle lanes on busy roads. Additionally, the network is not always easily understood or identifiable to new users. Future designs must consider the different needs of all users, including vulnerable users.

While the ACT has the highest mode share for cycling of any capital city in Australia, the share of journeys to work by bicycle has remained relatively constant for the past two decades<sup>24</sup>. When asked, 60 per cent of Canberra residents said better off-road paths and cycleways would encourage them to cycle more often<sup>25</sup>. Connections to schools, shops, public transport and parks were highly ranked, in that order, and almost half indicated that better wayfinding would encourage them to cycle.



<sup>24</sup> Census Results 2016. Australian Bureau of Statistics.

<sup>25</sup> National Cycling Participation Survey 2017. Austroads.

# FUTURE DIRECTIONS

## ACCESSIBLE COMMUNITIES

We propose to prioritise accessibility, particularly for walking, walkable communities by building and planning at a human scale. Accessible communities are places with lively centres, clear and direct connectivity between homes and key destinations, and public transport links. Quality footpaths with good wayfinding and safe crossing points benefit all users, be they on foot, in a wheelchair or on a mobility scooter. The application of Movement and Place will see local roads prioritise pedestrians and will ensure communities revolve around vibrant public spaces where people meet and where there is activity.

We intend to put people first in higher-order places (e.g. the City, Parliamentary Zone and Town, Group and Local Centres). Suburbs will be age-friendly through improved infrastructure, traffic calming, and better connectivity to schools, services and public transport.

## NEW CYCLING NETWORK

Future investment will have a stronger emphasis on route planning and infrastructure selection that is cognisant of surrounding land use types, potential customers and different uses. This will be achieved through the development and sharing of the Active Travel Infrastructure Practitioners Tool.

Our new cycling network identifies a system of principal and main cycle routes that connect major destinations. The new network will link together existing off road paths with new paths, protected bike lanes and quiet streets to develop an integrated cycling network suitable for riders of all ages and abilities. Integration with public transport at key stops and interchange sites will encourage Bike & Ride trips, while access to the cycle network is also encouraged at key Park & Pedal sites.


We will deliver the cycle network over the next 10 to 15 years in line with future land development and urban growth.

We will focus on making cycling attractive for women and girls (only 28 per cent of works trips by bicycle in 2016 were made by women<sup>26</sup>), and make school environments safer for cycling and walking. We propose to work with EPSDD to support the implementation of a revised Bicycle Parking Code and develop a new Guide to incorporate quality end-of-trip facilities for cyclists and demonstrate best practice in ACT Government tenanted buildings and facilities.

26 Census Results 2016. Australian Bureau of Statistics.





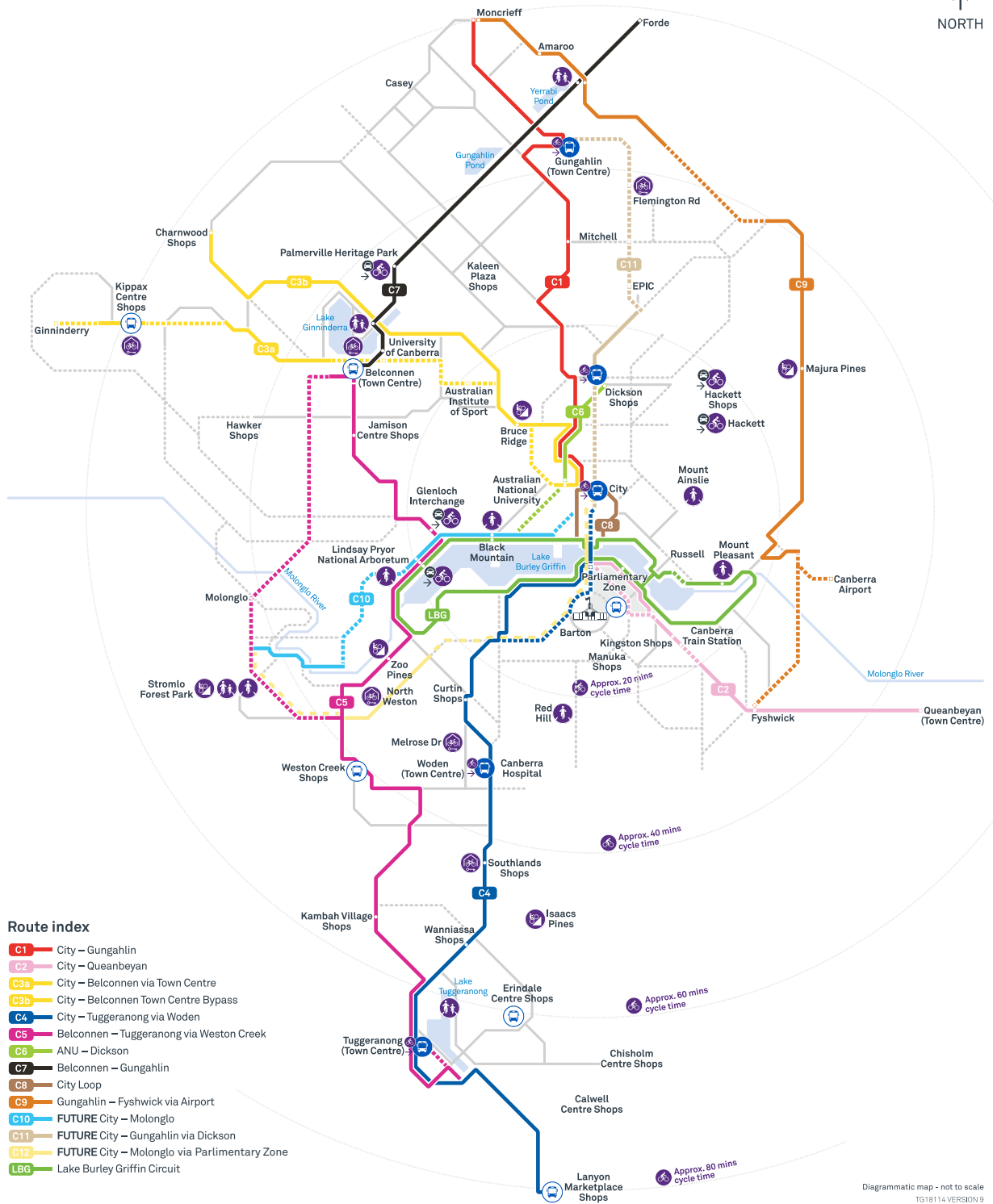
A man and a woman are riding bicycles with front baskets. The man in the foreground is wearing a black helmet, sunglasses, a dark quilted jacket, and dark pants. The woman behind him is wearing a black helmet, sunglasses, a light grey sweater, and dark pants. Both are smiling. The bicycles are white with black baskets and have 'GO' branding on the frame. They are riding on a paved surface in front of a modern building with large windows.

## BIKE SHARE

We will support bike share in the ACT by incorporating lessons learned from other cities and ensuring bike share is part of an integrated transport system. We will provide a safe and enjoyable experience for customers by implementing the 2017 Dockless Bike Share Guidelines.

# CBR Cycle Routes

Future principal and main off road routes



- Route index**
- C1 City – Gungahlin
  - C2 City – Queanbeyan
  - C3a City – Belconnen via Town Centre
  - C3b City – Belconnen Town Centre Bypass
  - C4 City – Tuggeranong via Woden
  - C5 Belconnen – Tuggeranong via Weston Creek
  - C6 ANU – Dickson
  - C7 Belconnen – Gungahlin
  - C8 City Loop
  - C9 Gungahlin – Fyshwick via Airport
  - C10 FUTURE City – Molonglo
  - C11 FUTURE City – Gungahlin via Dickson
  - C12 FUTURE City – Molonglo via Parliamentary Zone
  - LBG Lake Burley Griffin Circuit

- Principal route
- Main route
- C5 Cycle route number
- Bike and Ride
- Bike cage
- Recreational - road
- - - Principal route - on-road link
- - - Main route - on-road link
- Bus station/interchange
- Park and Pedal
- Recreational - mountain
- Recreational - family

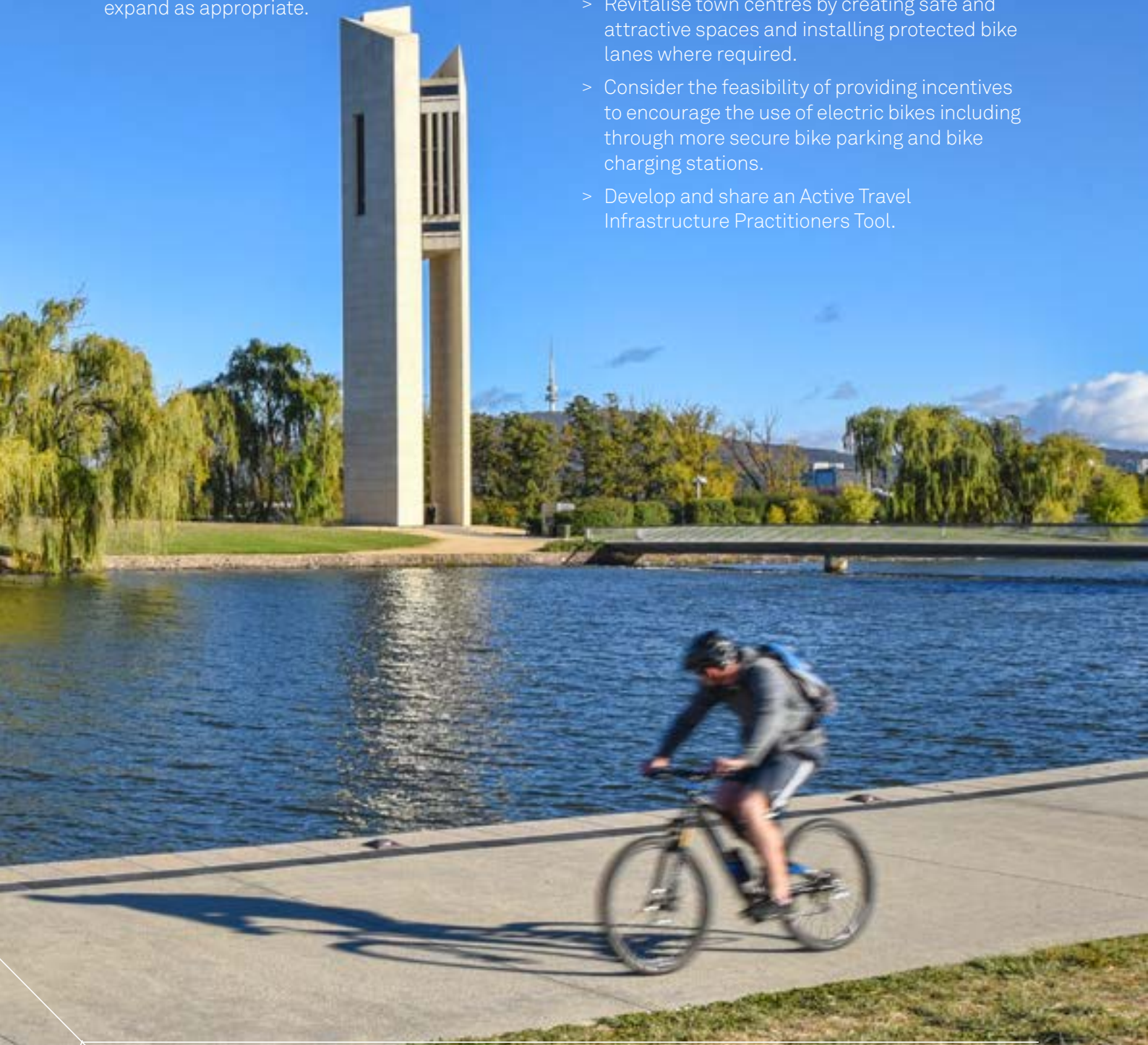
Diagrammatic map - not to scale  
TG18114 VERSION 9

Figure 17: New cycling network

## POSSIBLE ACTIONS

- > Continue the roll out of the Active streets for Schools and Age Friendly Suburbs programs.
- > Pilot the use of low-speed environments in residential areas where footpaths are missing.
- > Prioritise walking and cycling, particularly at intersections and mid-block crossings.
- > Review the six-month trial of bike share and expand as appropriate.

- > Implement cycling infrastructure suitable for all ages and abilities (off road paths, quiet streets and protected bike lanes).
- > Engage people at key transitions in life to influence future travel behaviour (e.g. new homes or jobs, change in schools, retirement).
- > Provide separate cycling and walking paths in busy areas and locations with greater potential for conflict, where feasible.
- > Revitalise town centres by creating safe and attractive spaces and installing protected bike lanes where required.
- > Consider the feasibility of providing incentives to encourage the use of electric bikes including through more secure bike parking and bike charging stations.
- > Develop and share an Active Travel Infrastructure Practitioners Tool.



# ACHIEVING NET ZERO EMISSION TRANSPORT

## OUR VISION

The ACT Government is committed to achieving net zero carbon emissions for the ACT by 2045. Transport emissions will represent more than 60 per cent of ACT emissions after 2020. Transport has been perhaps the most challenging sector for climate action around the world, but the ACT will take a proactive and innovative approach and will aim to reduce emissions from transport by 25% from 2020 to 2025.

Encouraging zero emissions travel choices, including by active travel, public transport and the adoption of hydrogen and electric vehicles charged by renewable electricity, will continue to be a key focus. We will also need to find savings through a range of other measures, including reducing travel demand through smart urban planning and reducing emissions from freight.

## WHAT DO WE NEED TO CONSIDER

Canberra is well placed for a carbon neutral future. We have shorter than average capital city journeys, are early adopters of technology, have a large number of commercial and Government fleet vehicles, and have established plans for development and infrastructure. In addition, the

Canberra community has demonstrated strong support for setting and achieving ambitious climate goals.

The ACT Government has set interim emission reduction targets for 2025, 2030 and 2040 to keep us on track to achieve the 2045 target of net zero emissions. The interim targets are to reduce ACT emissions (from 1990 levels) by:

- > 50-60 per cent by 2025
- > 65-75 per cent by 2030
- > 90-95 per cent by 2040.

To help achieve these targets we will aim to reduce transport emissions by 25 per cent from 2020 levels by 2025<sup>27</sup>. To demonstrate the ambition of this task, this compares with an 11 per cent *increase* in emissions from transport in the ACT between 2012 and 2017.<sup>28</sup> To reduce transport emissions by 25 per cent over five years will require a comprehensive and innovative approach that demonstrates leadership and actively pursues all available opportunities.

Meeting this target will require an unprecedented level of change in both travel behaviour and vehicle functionality in a very short period of time. Successfully making this transformation to a low emissions transport future will require active participation and leadership from Government, business and the community.

This transition has benefits for the ACT as well as challenges. Being well prepared for these changes and planning for a smart approach to this transition has the potential to position the ACT as a leader in zero emissions transport and attract low carbon investment to the region. Reducing emissions from the transport sector also has benefits for air quality, liveability, social inclusion and health.

27 By 2020, ACT emissions are set to be 60% of 1990 levels (ie a 40% reduction). By 2025, the target is for emissions to be 40-50% of 1990 levels (i.e. a 50-60% reduction). The reduction from 2020 to 2025 is therefore 17% to 33% with a mid-range of 25%. Given transport's dominance in emissions post-2020, a 25% target in this sector is the foundation for achieving the overall emissions target.

28 ACT's Climate Strategy to a Net Zero Emissions Territory Discussion Paper December 2017.





### Approximate emissions per person per average trip in Canberra in 2020

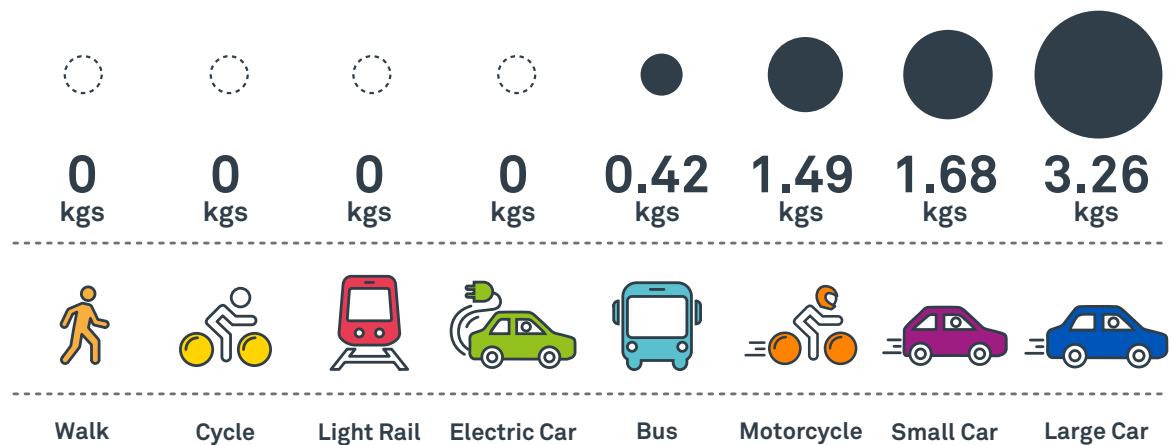


Figure 18: Average emissions by transport mode in ACT

### THE CHALLENGE FOR TRANSPORT

In Victoria, a recent study by the Institute of Sensible Transport for the City of Melbourne explored a range of scenarios:

- > Business as usual
- > Moderate change
- > Strong change

In the study, only *strong change* provides the level of emission reductions necessary to meet the Paris Agreement. The ‘strong change’ scenario required massive shifts of trips from cars to public transport, walking and cycling. In the ACT, the challenge would be moderated somewhat by the

availability of zero emissions electric vehicles due to the ACT’s 100% renewable electricity base. However, reducing emissions from car transport by at least 30% would be key to achieving our transport sector goals.

The global shift to zero emissions vehicles is already well underway. The United Kingdom and France will ban new petrol and diesel cars by 2040. In Norway, 40 per cent of new vehicle sales in 2017 were electric. In 2017, Volvo stated that all its cars from 2019 will be electric or hybrid. General Motors will also phase out petrol and diesel-powered vehicles. In Canada, smart charge bus stops for electric buses are also being trialled.

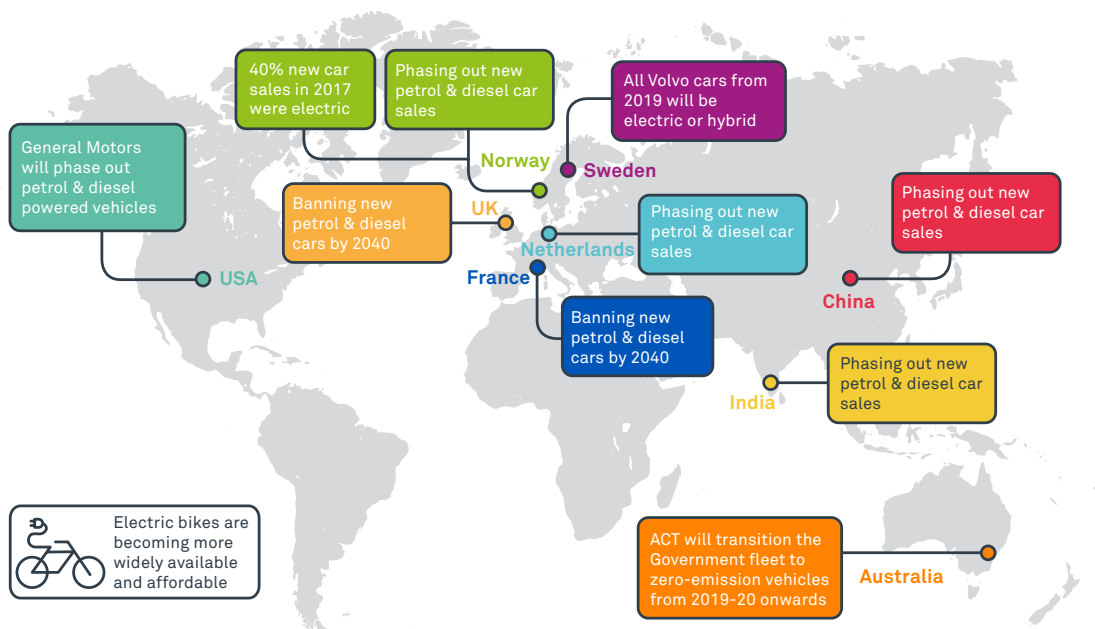


Figure 19: Overview of global commitments made in relation to banning new petrol and diesel cars

## PROGRESS TOWARDS ZERO EMISSIONS TRANSPORT

A number of parties will need to take action in order for the ACT become a zero emission Territory, from industry developing new technologies and bringing them to Canberra, through to individuals and community groups trying new ways of travelling.

The ACT Government is committed to providing a city where industry can thrive and where people have access to the breadth of choices they need to realistically change their behaviour. Some the actions Government proposes to undertake are:

- > We are providing a better public transport system with our integrated network of light rail, bus and active travel
- > In May 2018 the ACT Government published 'The ACT's Transition to Zero Emissions Vehicles'

Action Plan. This action plan will progressively replace all government passenger vehicles (where fit for purpose) with zero emission vehicles and require electric vehicle charging at new multi-unit and mixed use developments. This will reduce emissions and raise awareness of the suitability of hydrogen and electric vehicles for adoption by the broader community, support the beginning of a used electric vehicle market and ensure future developments are EV-ready.

- > Canberra is already Australia's leading bike city, and the government will continue to improve infrastructure to encourage this healthy, emission free transport mode.
- > Through our Planning Strategy, we are encouraging densification along our rapid transport corridors to encourage car-free city-living.





## FUTURE DIRECTIONS

### ZERO EMISSION VEHICLES

To realise our ambition of being a net zero emissions territory by 2045, we will work towards decarbonising our private and public transport; facilitate modal shift to public transport and active travel; provide incentives for consumers to purchase zero emission vehicles; and ready our city with the infrastructure needed to accommodate the electrification needs of future vehicles, including freight.

We will promote active travel for local trips and incentivise zero emission vehicles for longer trips. Zero emission vehicles and public transport will be prioritised on our transport network and we will support the development of new charging technologies and future transport fuels. The current trial of electric buses will inform the Government in how to progressively electrify the bus fleet, noting the need to ensure an efficient and attractive bus service over the transition period to 2045.

Our journeys will be supported by integrated on-street infrastructure such as electric vehicle charging stations. Information about incentive schemes and the location of facilities will be strategic, user friendly and integrated with existing technology platforms.

Our integrated public transport network will deliver enhanced ridership, and our light rail system based on zero emissions electricity will help in reshaping our city along these transport corridors.

Future transport investment will need to focus on:

- > **asset investments**, e.g. the electrification of buses and Government fleet, and the extension of the light rail network;
- > **infrastructure investments**, e.g. charging networks to support the transition to electric vehicles, light rail, and active travel infrastructure improvements to enhance the attractiveness of walking or cycling over driving.
- > **behaviour change**, e.g. campaigns to promote the new bus and light rail networks, cycle training, parking availability and pricing, targeted household campaigns to encourage new ways of travelling or reducing the need to travel where possible.
- > **supporting the zero emissions vehicles transition**, e.g. information campaigns about the benefits of zero emissions vehicles, ongoing provision of purchasing and ownership incentives such as discounted stamp duty and registration, preferential parking and transit lane use, support to training providers to develop courses on repair and maintenance.

There will be a strong focus on measuring and reporting progress towards reducing emissions from transport and meeting our interim targets. Government will also continue to increase ambition and work towards preparing for longer term goal of achieving net zero emissions for the ACT by 2045.



## TRAVEL DEMAND MANAGEMENT

Increasing vehicle efficiencies and new fuel sources will play a significant role in a zero emission future, as will 'smart motorways' and intelligent transport management systems, but we cannot rely solely on new technology and the decarbonisation of the transport sector. We need to consider the transport choices we make, the demands we make on the network, and promote alternatives to peak hour single-vehicle occupancy.

We propose to develop a comprehensive Travel Demand Management (TDM) approach that includes travel behaviour change programs for households, workplaces and schools; implementation of TDM-based parking controls and pricing structures in town and group centres; and innovations such as advanced on-road traveller information systems.

## FREIGHT EMISSIONS

We propose to work with the freight industry to influence the decarbonisation of local and national freight and supply chains, and exploit opportunities for alternative freight modes.

## POSSIBLE ACTIONS

The activities outlined in this Strategy are closely linked to the goals and actions of other Government strategies including the Climate Strategy and Planning Strategy. Implementation of these strategies will be integrated to ensure a holistic approach to delivering our transport

network and meeting the interim and long term emissions targets. While we know that we must achieve an unprecedented change in our transport system, further work is needed to ensure investment and policies are targeted appropriately for both the short and long term. It is also important to be clear that action is needed from areas beyond Government, including from industry and individuals, to achieve our goal of being a net zero emissions territory.

- > Implement the ACT's Transition to Zero Emissions Vehicles Action Plan 2018-2021 and identify opportunities for further work to encourage the uptake of zero emissions vehicles including those for freight, waste and trucks.
- > Deliver travel behaviour change programs to households, schools, workplaces and newly developed areas, promote active travel and public transport, manage parking, and encourage new technologies to reduce car emissions by at least 30% by 2025.
- > Contribute to and influence the development of the national freight and supply chain strategy to ensure it is on the path to zero emissions by 2045.
- > Commence improvements to the fuel efficiency of the Transport Canberra bus fleet and consider the staged introduction of electric buses to ensure zero emissions by 2045 while enhancing service quality.
- > Through the development of the Climate Change Strategy, develop a more detailed roadmap to meet the 2025 interim targets.





# ENSURING CANBERRA IS FUTURE READY



## OUR VISION

Canberra will harness the opportunities that future forms of mobility offer while also recognising the challenges they can bring. By engaging early and with a clear plan, a future-ready Canberra will benefit from safer and more efficient transport networks.

The future will bring innovations that may rapidly change the look, feel and function of transport. We will work collaboratively with industry and the community to ensure future transport services and assets are environmentally and economically sustainable, safe, and to understand the land use and planning implications of emerging transport trends. Closing physical and digital service gaps and recognising socio-economic barriers to mobility will also ensure all Canberrans are able to fully participate in their communities.

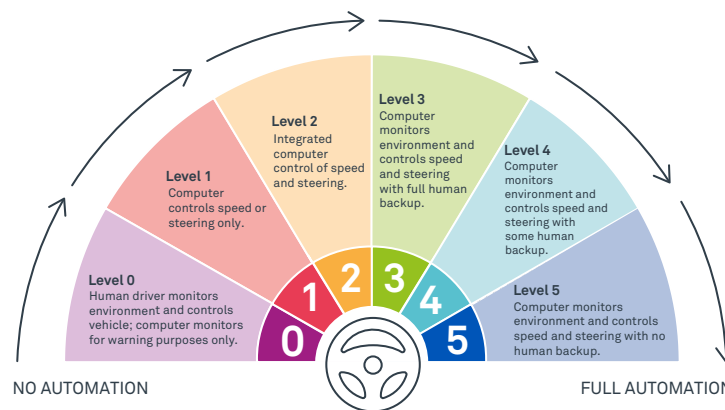


## WHAT DO WE NEED TO CONSIDER

Canberra is already preparing for an autonomous future. We are supporting a world-first research program, CANDrive, to better understand driver behaviour when behind the wheel of an autonomous vehicle and we are working with the National Transport Commission and Austroads to ensure we have appropriate legislation, regulation, safety assurance and infrastructure in place.

The potential benefits of autonomous vehicles include increased road safety, improved social inclusion and accessibility, reduced congestion, and better journey times. However for autonomous

vehicles to deliver these benefits, we must discourage a future where personal autonomous vehicles are the norm. To support health, liveability and quality of life, autonomous vehicles are most effective as a shared, fully autonomous fleet. Shared, fully autonomous vehicles could lower the cost of personal mobility by 30 to 60 per cent relative to private auto ownership<sup>29</sup>, and one shared autonomous vehicle could, on average, replace 12 privately owned vehicles<sup>30</sup>. Fully autonomous vehicles could also have significant impact on parking demand. However we must also recognise and address the concerns people may have over the deployment of autonomous vehicles, including consideration of any moral, ethical and consumer issues that may not be fully addressed by changes to regulation and legislation.



Future Mobility Now. WSP (Adapted from "SAE international standard J3016 levels of driving automation")

Figure 20: The spectrum of automated driving.<sup>31</sup>

29 Urban mobility at a tipping point. McKinsey & Company, 2015.

30 The travel and environmental implications of shared autonomous vehicles, using agent-based model scenarios. Fagnant and Kockelman, 2014.

31 Future Mobility Now. WSP (adapted from "SAE international standard J3016 levels of driving automation")



The role of drones as a transport and freight tool is also increasing. We are already trialling a world-first urban-based drone delivery program in the ACT. Elsewhere, organisations such as Australia Post have trialled robot parcel delivery.

Further, today’s customers expect real-time, accurate information. Access to open data for the creation of transport apps and programs has already been initiated by the ACT Government. We are building a web-based journey planner application and there are many other transport apps which provide transport service data.

## FUTURE DIRECTIONS

### CONNECTED AND AUTONOMOUS VEHICLES

We will be on the front-foot for the arrival of connected and autonomous vehicles. We will ensure we have appropriate legislation, regulation, infrastructure and processes in place for connected and autonomous vehicle to operate safely on ACT’s roads. Our road upgrades and public transport infrastructure decisions will consider the transition to an autonomous future, and transport planning and transport modelling software will be upgraded to allow for a future with autonomous vehicles and autonomous public transport, such as buses, light rail and emerging technology.

#### Basic Types of Vehicle Connectivity



Figure 21: Basic types of vehicle connectivity<sup>32</sup>

### DRONES

We propose to continue to work with the Civil Aviation Safety Authority (CASA) and other regulatory bodies to enable safe deployment of drones in Canberra. We will remain alert to innovations in this space, such as unmanned drone taxis, and future planning will consider the zoning needs of drones.

### OPEN DATA AND TRANSPORT APPS

We are committed to building strong relationships with app developers, providing them with regular updates on our bus timetable data, customer experience reports and more. We will improve our journey planner and continue to ensure our transport data is open, meets consistent

standards, and is available to third party app developers.

We will continue to publish more open datasets to improve confidence in government operations and to spur economic activity and creativity. We will proactively increase stakeholder participation in utilising open datasets by actively engaging with local community, start-ups, academia and local industry. We will collaborate with local start-ups and academia to build digital products and services, and we will engage academic institutions to promote the use of open datasets and to analyse them for betterment of the community.

32 Future Mobility Now. WSP.

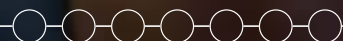
## MOBILITY AS A SERVICE (MAAS)

We propose to bring MaaS to the ACT. MaaS models work best where there is already a wide range of transport modes, where data access is relatively open, where operators offer contactless sales or e-ticketing, and where they are open to third parties selling their services.

MaaS describes a shift away from personally-owned transportation and towards mobility solutions that are consumed as a service, where members of the public buy and navigate access to a service that enables use of many modes of transport public transport, car share, taxis, rideshare, bikes and others.

## POSSIBLE ACTIONS

- > Undertake further on-road trials of autonomous vehicles in Canberra, including testing of an autonomous bus as part of the public transport network.
- > Determine the best options to provide residents with public access to MaaS technology.
- > Agree MaaS protocols to support a future model for “whole-of-journey” transactions.
- > Work with EPSDD and CASA to review and update regulation, where appropriate, to allow the continued trial and expansion of delivery drones as a service.
- > Participate in GovHack activities and release more open datasets.
- > Support Freedom of Information requests via the ACT Government’s open data portal.
- > Create awareness about open data by promoting its availability to local meetup communities, startups, and universities.
- > Develop a framework to measure the value of open data and release a White Paper.



# SUMMARY OF POSSIBLE ACTIONS

Overall responsibility for delivering the Strategy rests with Transport Canberra and City Services Directorate, in consultation with a number of other ACT Government Directorates. However successful implementation will rely on a range of stakeholders to realise the Strategy’s vision. , for example:

- > industry developing and bringing new mobile technologies to Australia
- > individuals leaving their cars at home and getting on light rail or a bus
- > the car industry importing more fuel efficient and zero emission vehicles
- > organisations upgrading their fleets to zero emission vehicles and making e-bikes available

- > businesses providing new or improved end-of-trip facilities
- > car share and other micro-mobility operators (such as scooters) bringing their products to Canberra
- > schools encouraging more children to walk and ride to school.

The below table summarises the possible actions listed throughout the Strategy. Each responsible Directorate is identified, and the timeframe needed to implement each possible action is categorised into short (priority actions for the next 0-2 years), mid (2-5 years) and long (5+ years). The scale of challenge considers a range of factors, including the complexity of the action, the level of control and influence ACT Government has, and the impact of external factors outside ACT Government’s control, such as emerging transport trends or private sector innovations. The identification of key partners identifies actions that rely on input and buy-in from areas outside of Government”.

Possible Actions	Responsible Directorate	Key Partners (where applicable)	Complexity	Timeframe
<b>Vision: An integrated network</b>				
Implement new criteria for prioritising road investment that is consistent with the Australian Transport Assessment and Planning (ATAP) Guidelines.	TCCS		Low	Short
Review the ACT road hierarchy to support the prioritisation of central corridors for public transport and development of orbital routes for traffic and freight.	TCCS		Low	Short
Investigate the potential to expand Car Share in the Territory.	TCCS	Industry	Low	Short
Develop an interchange design guide to provide direction for feasibility studies and detailed designs as needed to support the new light rail and bus network.	TCCS		Moderate	Short
Develop a stops/interchange implementation plan to prioritise improvements at key stops/stations and identify strategic locations for expanding Park & Ride and Bike & Ride.	TCCS & EPSDD		Moderate	Short

Possible Actions	Responsible Directorate	Key Partners (where applicable)	Complexity	Timeframe
Audit all major stops and stations on the new bus network and identify and prioritise upgrade requirements, prioritising improvements that enhance accessibility and personal safety.	TCCS		Moderate	Mid
Review parking fees for all Government operated spaces.	EPSDD		Moderate	Mid
Undertake updated parking surveys for town and group centres as needed.	EPSDD		Medium	Short
Continue to consult on taxi fare regulation.	CMTEDD		Moderate	Short
Continue to ensure adequate supply of taxi service in the ACT.	CMTEDD & Access Canberra		Moderate	Short
Deliver Light Rail from Gungahlin to City and Light Rail from City to Woden.	TCCS		High	Short/Mid
Deliver a new bus network.	TCCS		High	Short
Complete pre-feasibility study to consider high level costs and benefits of proposed future light rail alignments, and to identify the subsequent corridors to be implemented.	TCCS		High	Mid
Revise parking provision rates and implement on-street parking controls along all rapid public transport corridors.	EPSDD		High	Mid
<b>Vision: Transport that is part of the city</b>				
Update the Canberra Streetscape Guidelines to reflect the above amendments.	TCCS & EPSDD			Short
Amend the Territory Plan, Estate Development Code, the Municipal Infrastructure Standards and relevant legislation to consider how planning controls can adopt the following principles: new developments have permeable street layouts that provide safe and efficient walk and bike routes to centres, schools, public transport and other local activities and are capable of accommodating buses; and active travel infrastructure in all new and renewed developments, as well as support for emerging transport trends such as bike share and car share.	TCCS & EPSDD		Moderate	Short
Consider feasibility of providing public transport services to new suburbs as soon as residents start to move in.	TCCS		Moderate	Short
Continue to work through the ACT/QPRC <i>Letter of Intent</i> to integrate public transport systems with Queanbeyan/Palerang.	TCCS	NSW	Moderate	Short
Seek to integrate the ticketing systems between the ACT and cross-border services.	TCCS	NSW	Moderate	Short
Identify and seek to protect the land needed for future high-speed rail initiatives	TCCS		Moderate	Long



Possible Actions	Responsible Directorate	Key Partners (where applicable)	Complexity	Timeframe
Investigate the potential for Canberra Train Station to become a demonstration of Transit Oriented Development (TOD) that transforms it into a mixed-use community with multi-modal transfer opportunities.	TCCS	Industry	High	Mid
Work in coordination with NSW Government to achieve a rail journey time to Sydney of under 3 hours	TCCS	NSW	High	Mid
<b>Vision: Meeting our customers' needs</b>				
Identify accessibility gaps in the fleet, interchange areas and improve access to services to ensure compliance with the Disability Discrimination Act.	TCCS			Short
Use the Safe System Assessment Framework in all future developments, and apply it retrospectively to future upgrades to existing road environments.	TCCS		Low	Short
Increase awareness of school zones by creating a greater sense of place; developing traffic management plans with the schools to reduce congestion; and look to expand the School Crossing Supervisor program to increase safety.	TCCS, JACS & Education	Community	Low	Short
Consider reducing unposted residential street speeds to 40km/h.	TCCS & JACS	Community	Low	Short
Provide access to safe cycling skills training for all Canberrans using the road network.	TCCS & JACS		Low	Short
Develop a School Travel Planning Program to increase the use of sustainable modes and decrease the overall number of motor vehicles within a specified radius of schools.	TCCS & Education	Community	Low	Short
Publish a new fare structure based on a single fare and a daily cap for standard public transport journeys.	TCCS		Low	Short
Transition to a cashless public transport system.	TCCS	Industry	High	Long
Design, deliver and launch an integrated journey planner that allows residents and visitors to understand the spectrum of transport options available in the ACT.	TCCS		Moderate	Short
<b>Vision: Becoming Australia's cycling capital and most walkable city</b>				
Continue the roll out of the Active streets for Schools and Age Friendly Suburbs programs.	TCCS & Education		Low	Short
Develop and share an Active Travel Infrastructure Practitioners Tool.	TCCS & EPSDD		Low	Short

Possible Actions	Responsible Directorate	Key Partners (where applicable)	Complexity	Timeframe
Pilot the use of low-speed environments in residential areas where footpaths are missing.	TCCS & JACS		Low	Short
Prioritise walking and cycling, particularly at intersections and mid-block crossings	TCCS		Moderate	Short
Review the six-month trial of bike share and expand as appropriate.	TCCS		Moderate	Short
Engage people at key transitions in life to influence future travel behaviour (e.g. new homes or jobs, change in schools, retirement, etc.).	TCCS		Moderate	Short
Provide separate cycling and walking paths in busy areas and locations with greater potential for conflict, where feasible.	TCCS		Moderate	Short
Revitalise town centres by creating safe and attractive spaces and installing protected bike lanes where required.	TCCS		Moderate	Short
Consider the feasibility of providing incentives to encourage the use of electric bikes including through more secure bike parking and bike charging stations.	TCCS & EPSDD		Moderate	Short
Implement cycling infrastructure suitable for all ages and abilities (off road paths, quiet streets and protected bike lanes)	TCCS		High	Short
<b>Vision: Achieving net zero emission transport</b>				
Deliver travel behaviour change programs to households, schools, workplaces and newly developed areas, promote active travel and public transport, manage parking, and encourage new technologies to reduce car emissions by at least 30% by 2025.	TCCS & EPSDD		Moderate	Short
Contribute to and influence the development of the national freight and supply chain strategy to ensure it is on the path to zero emissions by 2045.	TCCS		Moderate	Short
Implement the ACT's Transition to Zero Emissions Vehicles Action Plan 2018-2021 and identify opportunities for further work to encourage the uptake of zero emissions vehicles including those for freight, waste and trucks.	TCCS & EPSDD		High	Short
Commence improvements to the fuel efficiency of the Transport Canberra bus fleet and consider the staged introduction of electric buses to ensure zero emissions by 2045 while enhancing service quality.	TCCS		High	Short
Through the development of the Climate Change Strategy, develop a more detailed roadmap to meet the 2025 interim targets.	TCCS & EPSDD		High	Short





Possible Actions	Responsible Directorate	Key Partners (where applicable)	Complexity	Timeframe
<b>Vision: Future-ready Canberra</b>				
Participate in GovHack activities and release more open datasets.	TCCS		Low	Short
Support Freedom of Information requests via the ACT Government's open data portal.	TCCS		Low	Short
Create awareness about open data by promoting its availability to local meetup communities, startups, and universities.	TCCS		Low	Short
Develop a framework to measure the value of open data and release a White Paper.	TCCS		Low	Short
CMTEDD to work with TCCS, EPSDD and CASA to review and update regulation, where appropriate, to allow the continued trial and expansion of delivery drones as a service.	CMTEDD, TCCS, EPSDD & CASA		High	Short
Undertake further on-road trials of autonomous vehicles in Canberra, including testing of an autonomous bus as part of the public transport network.	TCCS		High	Short
Determine the best options to provide residents with public access to MaaS technology.	TCCS		High	Mid
Agree MaaS protocols to support a future model for "whole-of-journey" transactions.	TCCS		High	Mid
<b>Monitoring &amp; Evaluation</b>				
Establish schedule for completion of future Household Travel Surveys	TCCS		Low	Short
Work in partnership with appropriate Directorates, particularly EPSDD, to develop and implement monitoring and evaluation plan within 12 months, including agreement on metrics and data requirements, to ensure the impacts of Moving Canberra are reviewed on a biannual basis and progress towards key milestones, such as the 2025 interim emissions target, are being appropriately tracked".	TCCS & EPSDD		Moderate	Short
<b>Strategy Implementation</b>				
Work in partnership with appropriate Directorates, particularly EPSDD, to produce an Implementation Plan to support delivery of the Strategy following publication of final version; this will include Governance arrangements to ensure accountability and enable policy review and alignment as activities are completed.	TCCS & EPSDD		Moderate	Short

Acronym Key: TCCS (Transport Canberra and City Services); EPSDD (Environment Planning and Sustainable Development Directorate); JACS (Justice and Community Safety Directorate); CASA (Civil Aviation Safety Authority); CMTEDD (Chief Minister, Treasury and Economic Development Directorate)

# INDICATIVE INVESTMENT PLAN

Our investment decisions are guided by a framework of seven principles. These principles inform how we will deliver this Strategy, and how we will monitor and report on the delivery outcomes. The principles ensure we prioritise policies, services and infrastructure projects that are customer-focussed, healthy, safe, integrated, inclusive, competitive and sustainable.



Figure 22: Moving Canberra's investment principles

## INFRASTRUCTURE INVESTMENT PLAN

Network analysis has identified 14 strategic corridors. The identification of these 14 corridors is intended to guide future city-wide development and assists in focussing transport investment priority to support growth and optimise associated network operational efficiency whilst at the same time respecting the needs of the places they pass through.

Investment along these corridors reflect our aspirations for an integrated transport network that prioritises central corridors for public transport, provides a continuous off-road cycling network and develops orbital routes for car passenger and freight traffic. This also underpins the urban renewal and densification associated with development along light rail corridors such as Northbourne Avenue as well as the new release areas such as those in the Molonglo Valley, Belconnen and Gungahlin.

The ACT Government has identified road upgrade investment priorities in seven of the strategic corridors. These investments will inform the Transport Canberra and City Services Capital Works program for 2021-2031. The priorities have been identified as part of the ACT Transport Corridors Study and complements the ACT Infrastructure Plan<sup>33</sup>.

These investments are indicative of some of the investments we plan to prioritise. It does not represent the full investment plan for transport between 2019 and 2045. Delivery of this Strategy is dependent on the availability of future budgets and studies, and will be supported by regular reviews of the future investment plan to ensure the ACT Government is prioritising investments that respond to customer needs and support the latest transport and technology developments both globally and within the Canberra region.

33 2017-18 Infrastructure Investment Plan Update. ACT Government.



# FUTURE INVESTMENT PRIORITIES FOR THE ACT ROAD NETWORK

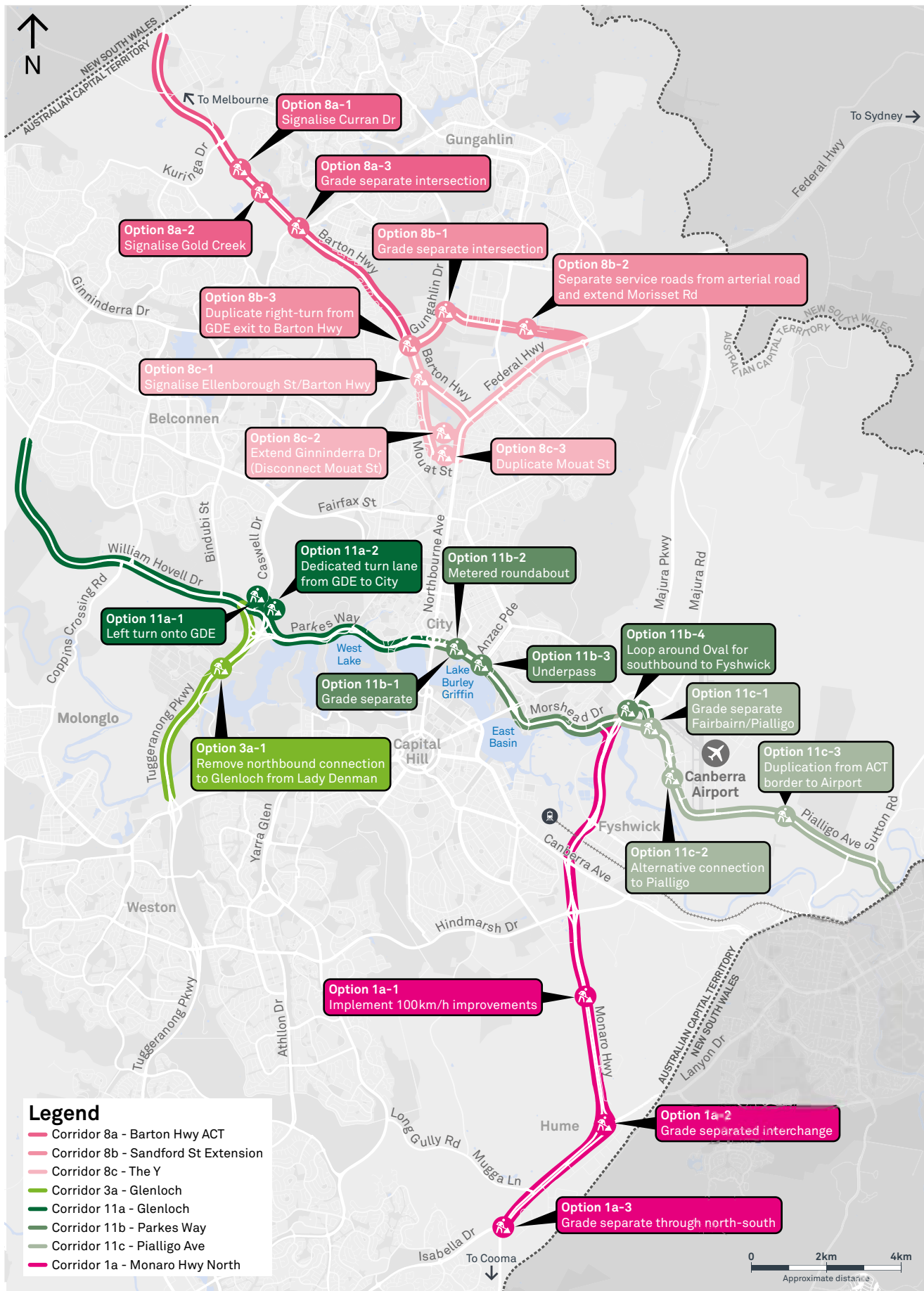


Figure 23: Proposed future priority investments for strategic corridors

# CURRENT INFRASTRUCTURE INVESTMENT PRIORITIES FOR THE ACT ROAD NETWORK

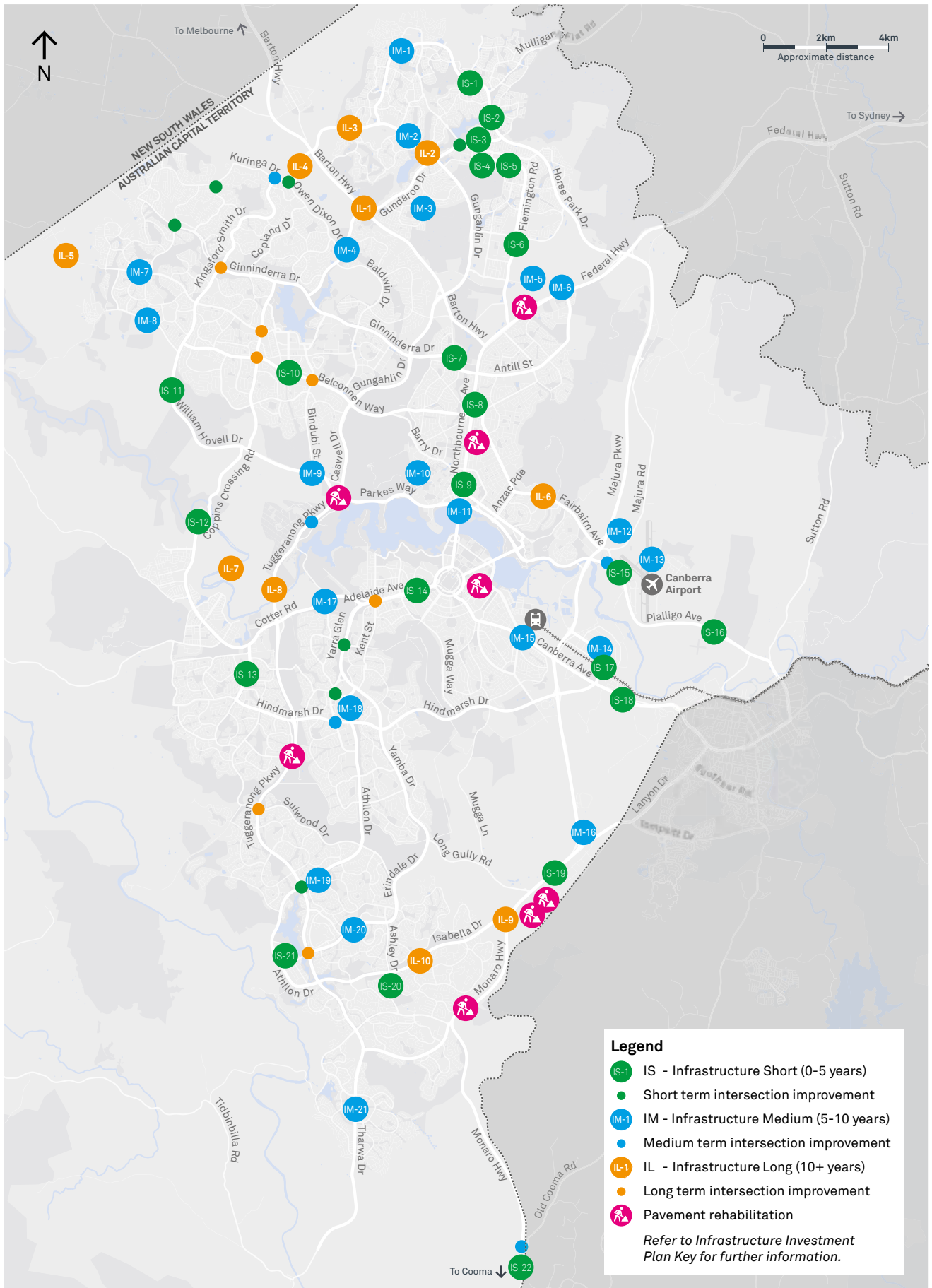


Figure 24: Infrastructure Investment Plan – Current Priorities

Table 2: Current Infrastructure Investment Plan

IS = Infrastructure Short (0-5 years) IM = Infrastructure Medium (5-10) IL = Infrastructure Long (10+)

Code	Description
IS-01	Horse Park Drive Duplication (Mulligans Flat Rd to Roden Cutler Drv)
IS-02	Horse Park Drive Duplication (Federal Highway to Mulligans Flat Rd)
IS-03	Gundaroo Drive duplication Stage 2 (Gungahlin Drive to Barton Highway roundabout)
IS-04	Hibberson Street one-way shared zone (Gungahlin Place to Gozzard Street)
IS-05	Hibberson Street pedestrian and light rail zone (Kate Crace Street to Gungahlin Place)
IS-06	Deliver Light Rail Network (under construction) from Gungahlin to Civic
IS-07	Mouat Street upgrade (additional lane for public transport including queue jump lane)
IS-08	City and Urban Gateway Strategy - City to Dickson and Northbourne Ave protected bike lanes and verge improvements
IS-09	Northbourne Ave/London Circuit intersection upgrade
IS-10	Belconnen active travel works - improvements along Benjamin Way and the artsACT Belconnen Art Centre/Lake Ginninderra foreshore path link
IS-11	William Hovell Drive duplication (John Gorton Drive to Drake Brockman Drive)
IS-12	John Gorton Drive Stage 3 (including new bridge over Molonglo River)
IS-13	Weston Creek Group Centre (Brierly Street and Trenerry Square upgrade)
IS-14	Commence delivery of Light Rail Network between City and Woden
IS-15	Commence preliminary planning for future stages of the Light Rail Network focussing on an East-West corridor
IS-16	Pialligo Ave duplication (Airport-Brindabella Circuit to NSW border)
IS-17	Establish an intermodal freight terminal at Fyshwick (completed)
IS-18	Review Fyshwick park-and-ride and consider additional bus layover capacity and providing improved customer amenity
IS-19	Monaro Highway - additional northbound lane between Lanyon and Isabella Drive
IS-20	Ashley Drive duplication from Erindale Drive to Johnson Drive (complete)
IS-21	Anketell Street upgrade
IS-22	Monaro Hwy overtaking lane (Angle Crossing Rd to Old Cooma Rd)
IM-01	Horse Park Drive duplication from Roden Cutler Drive to Clarrie Hermes Drive
IM-02	Expand the Park-and-Pedal network
IM-03	Nudurr Drive extension from Grampians Street to Gungahlin Drive (Election commitment)
IM-04	William Slim Drive Duplication (Barton Highway to Ginninderra Drive duplication) (Election commitment)
IM-05	Old Well Station Road upgrade (Federal Highway to Morisset Road)

Code	Description
IM-06	Sandford Street/Morisset Street extension to Federal Highway (Watson roundabout)
IM-07	Southern Cross Drive duplication between Moyes Crescent to Spofforth Street
IM-08	Drake Brockman Drive upgrade
IM-09	Bindubi Street extension (John Gorton Drive to Bindubi Street)
IM-10	Clunies Ross Street duplication between Barry Drive and Parkes Way
IM-11	West Basin, Parkes Way upgrade and associated new roads - Edinburgh Avenue extensions to Vernon Circle.
IM-12	Fairbairn Avenue Additional Lane Between Majura Parkway and Majura Road)
IM-13	Deliver a rapid transit connection between Civic, Canberra Airport and Queanbeyan connecting with heavy rail, light rail and rapid/frequent bus networks
IM-14	Deliver track straightening projects in partnership with NSW, introduce next generation rolling stock and upgrade rail stations at Kingston and Queanbeyan to improve rail travel times between Canberra and Sydney
IM-15	Upgrade interchange facilities at Canberra Railway Station

## INTERSECTION IMPROVEMENTS

### Short term (0-5 years)

Southern Cross Drive/Starke Street

Kuringa Drive/Owen Dixon Drive

Launceston Street/Irving Street

Belconnen Way/Springvale Drive

Ginninderra Drive/Tillyard Drive

Novar Street/Kent Street/Denison Street

Gundaroo Drive/Anthony Rolfe/Mirrabei Drive

Athllon Drive/Drakeford Drive

### Medium term (5-10 years)

Hindmarsh Drive/Melrose Drive

Kuringa Drive/Kingsford Smith Drive

Tuggeranong Parkway/Lady Denman Drive

Grade separate Fairbairn Avenue/Pialligo Avenue

Monaro Highway/Old Cooma Road



## INTERSECTION IMPROVEMENTS

### Long term (10-15 years)

Drakeford Drive/Erindale Drive/Soward Way

Tuggeranong Parkway/Drakeford Drive/Sulwood Drive

Belconnen Way/Bindubi Street/Eastern Valley Way

Ginninderra Drive/Kingsford Smith Drive

Coulter Drive/Luxton Street/Southern Cross Drive

Belconnen Way/Coulter Drive

Mint Interchange (including improvements on Cotter Road)

### PAVEMENT REHABILITATION (replacement of asset)

Old Well Station Road

Brisbane Avenue

Tralee Street

Alderson Place

Glenloch Interchange

Northbourne Avenue between Antill Street and Barry Drive

Monaro Highway

Tuggeranong Parkway

Paddys River Road

Tidbinbilla Road

# MONITORING AND EVALUATION

Reporting on our success will require us to look at the relationship between performance indicators and network and environmental modelling. *Transport for Canberra* focussed primarily on mode share targets. *Moving Canberra* looks beyond mode-shift to acknowledge that our vision will be achieved through multimodal, multi-purpose journeys that comprise a sequence of choices that cannot be looked at in isolation. This approach ensures we are able to report on our commitments in terms of reducing carbon emissions and creating safe and accessible transport in an integrated way.

*Moving Canberra* will monitor and report on success in a more holistic manner by using whole-of-Territory indicators, of which mode-share is one metric we will use to measure the impact of our investment and policy decisions. To effectively monitor our progress, ongoing data collection will be needed including future Household Travel Surveys, data on emissions reduction and data on mode share.

The Monitoring and Evaluation framework will be agreed within the first 12 months of the Strategy's launch, and will be reported on biannually. This Strategy will be subject to regular review as significant infrastructure developments come online, such as future stages of light rail, and as we reach milestones in key areas, such as the 2025 emission reduction interim target.





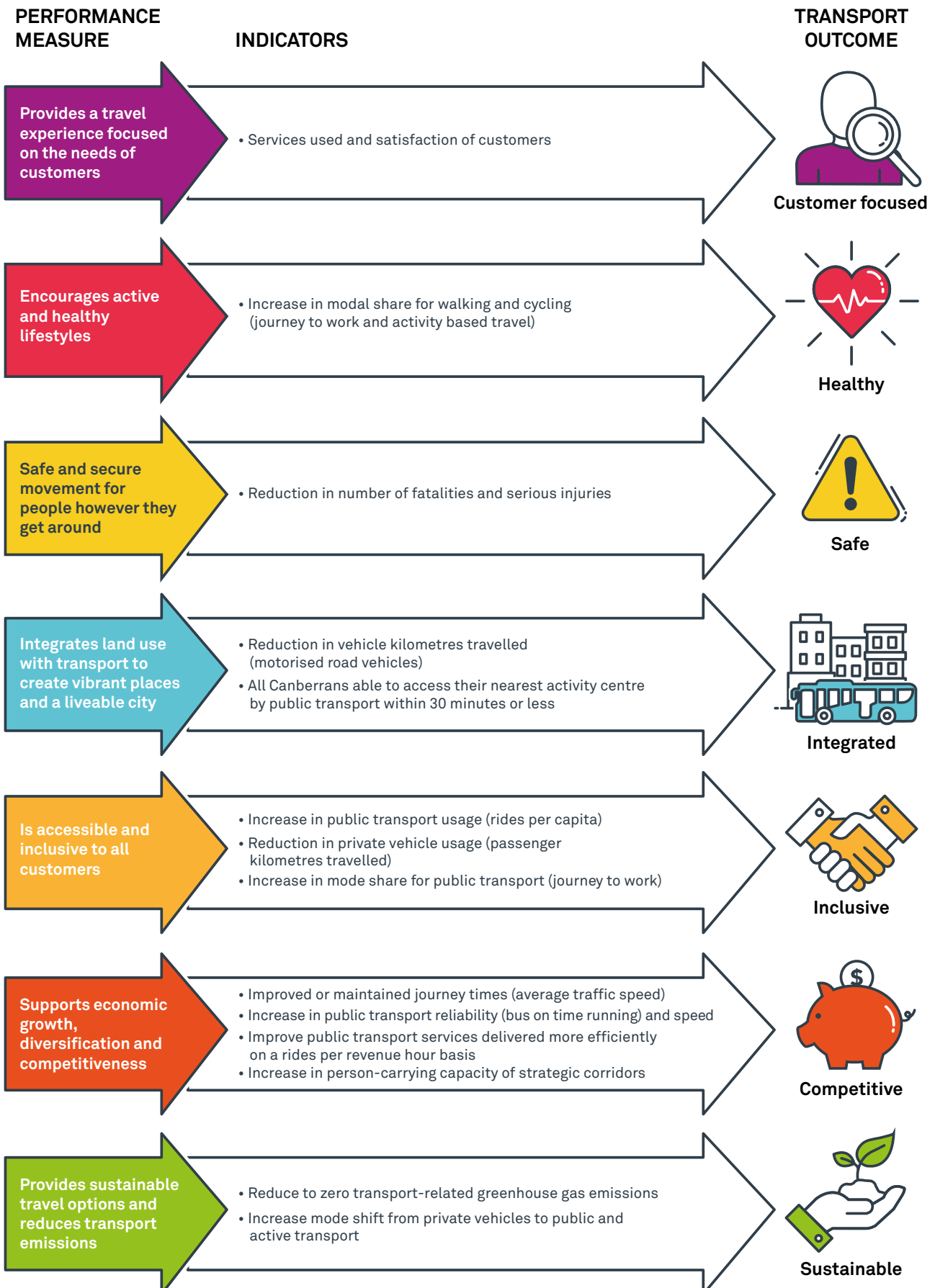


Figure 25: Indicators of success








PRINCIPLE	DESIRED OUTCOME	HEADLINE METRICS
 <b>Customer focused</b>	<b>Understands customer needs</b> <b>Is responsive to customer needs</b>	Population Transport network catchments
 <b>Healthy</b>	<b>Encourages active and healthy lifestyles</b>	Modal share for walking (journey to work) Modal share for cycling (journey to work) Total number of walk and cycle trips (Household travel survey)
 <b>Safe</b>	<b>Safe and secure movement for people however they get around</b>	Fatalities per 100,000 population Hospitalised injuries per 100,000 population
 <b>Integrated</b>	<b>Integrated land use with transport to create vibrant places and a liveable city</b>	Vehicle kilometres travelled (motorised road vehicles)
 <b>Inclusive</b>	<b>Is accessible and inclusive to all customers</b>	Public transport usage (passenger kilometres travelled) Private vehicle usage (passenger kilometres travelled) Mode share for public transport (journey to work)
 <b>Competitive</b>	<b>Supports economic growth, diversification and competitiveness</b> <b>Attracts investment</b> <b>More resilient/adaptive to future mobility</b>	Congestion for road traffic (average traffic speed) Public transport reliability and speed (bus on-time running) Transport expenditure
 <b>Sustainable</b>	<b>Provides sustainable travel options</b> <b>Reduces transport emissions</b>	Mode share for public transport Emissions (CO <sup>2</sup> , NO <sup>2</sup> , PM <sup>2.5</sup> , PM <sup>10</sup> )

Figure 26: Headline Metrics for Monitoring



# CONCLUSION

*Moving Canberra* sets out the policies and programs we need to achieve our vision for a future transport system that is sustainable, integrated, reliable and future-proof. It considers global trends and ensures Canberra is ready to lead and respond to new and emerging technologies and markets.

To achieve our vision of a functional, accessible and reliable network that provides real alternatives to the car we will:

- > understand our customers and place their needs at the centre of our thinking (*Meeting our Customers' Needs*);
- > ensure transport, planning and land use decisions are made collaboratively (*Transport that is Part of our City*);
- > integrate our networks to enable seamless, multi-modal, door-to-door journeys (*An Integrated Network*);
- > encourage healthy, active lifestyle by prioritising cycling and walking investment (*Becoming Australia's Cycling Capital and Most Walkable City*);

- > lead the way in decarbonising our transport networks to achieve net zero emissions by 2045 (*Achieving Net Zero Emission Transport*); and
- > invite innovation and creativity to establish Canberra as the testbed for future technology (*Future-Ready Canberra*).

All future investment decisions will support our vision and activities will be assessed to ensure:

- > customers' needs are foremost in our minds (*Customer Focused*);
- > social equity and accessibility have been sufficiently considered (*Inclusive*);
- > proposed solutions are safe and secure (*Safe*);
- > healthy, active lifestyles are prioritised (*Healthy*);
- > transport emissions are being actively reduced (*Sustainable*);
- > economic growth and diversification is supported (*Competitive*); and
- > our transport works are seamlessly multi-modal (*Integrated*).

However achieving our vision is about much more than transport services and infrastructure. We will do our bit in providing quality and realistic transport options. We will build light rail. We will provide a better bus network. We will improve our cycling and walking network. But then we need your help.

We need you to come with us on this journey. We need you to embrace the changes we want to make, and to look at the choices you make when you step out your front door. Some of us will need to pick up the keys and get in our car, and that is a valid choice. We will optimise our road network to support those who need to travel in this way. But others will be able to try something new. Some of us will be capable of walking to get a rapid bus into the city. We will be capable of cycling to the light rail stop and then putting our bike on-board. We might even be willing to park a little distance from services to allow priority access to those with mobility needs or those arriving by public transport, foot or bike.

While we build new infrastructure, improve our roads and deliver new and improved public transport services, it is timely to reflect on the role you too might play in making our current and future transport networks work. Would you support lower speeds around school zones to allow children to walk and cycle safely to school? Would you support priority being given to public transport into the city in order to free up a parking lot for public use, such as a vibrant new café area? Would you delay purchase of a second car if a car share network was available in your neighbourhood? The ACT Government will do our bit, and, while we do, we ask you to consider: what might you do to help make our future transport network a success?

