

OUR PLAN



**BUILDING A STRONGER
SOUTH AUSTRALIA**



TRANSPORT NETWORKS THAT CONNECT PEOPLE TO PLACES AND BUSINESSES TO MARKETS

For inner and middle Adelaide

- A sharper focus on inner Adelaide to boost the central city as a creative, lively and energetic area where more people want to live and businesses want to locate.
- Making bold choices – bringing a network of trams back to Adelaide, called AdeLINK and refocusing our transport system to support and actively encourage mixed-use medium density, vibrant communities and business growth in inner and middle urban areas.

For Greater Adelaide

- An increasing focus on major urban centres and accessibility to these centres – building upon the electrification of the north-south backbone of the public transport system, a modernised and redesigned bus network with a focus on major activity centres, and supporting a more active city through better connected walking and cycling networks and walkable environments.
- Giving businesses the efficient, reliable transport connections they need to deliver goods and services around the city and to interstate and international markets – a well-targeted package of investment in the North-South Corridor, Inner and Outer Ring Routes and intersection and road upgrades.

For regional and remote South Australia

- Better connecting regional towns and communities to jobs, services and opportunities – focusing on a high quality, well maintained road network and improving community and passenger transport services.
- Managing the growing volumes of freight moving around the state and making sure the mining sector has the transport connections it needs to expand.

3.1 OUR PLAN FOR INNER AND MIDDLE ADELAIDE

Liveability is one of Adelaide's greatest assets. It not only makes Adelaide a more enjoyable place to make a home, create social networks and work; it sharpens South Australia's competitive edge by helping to attract skilled workers, knowledge-intensive businesses and high value jobs to the city. It also boosts our tourism industry, reinforcing Adelaide as a showcase for the best that South Australia offers in food, wine and the creative arts, and as a gateway to unique tourism destinations such as the Barossa and Clare Valleys, the Outback areas and Kangaroo Island.

Maintaining – and enhancing – Adelaide's reputation for liveability is a core aim of The Plan. Building on the direction set by *The 30-Year Plan for Greater Adelaide*, transport planning and investment will shift towards supporting a change in the nature of Adelaide's urban form – focused on containing the growth of the wider metropolitan area, encouraging higher density development in the central city, and creating a network of well-connected major suburban centres where people have good access to jobs, shops, services and recreational activities by a range of different travel modes, and where communities grow in strength through closer bonds and greater shared experience.

In recent years, transport investment has focused largely on making sure that Adelaide's transport system keeps up with population growth in middle and outer metropolitan Adelaide. In 2008, the South Australian Government embarked on a significant investment program to redress decades of under-investment and modernise Greater Adelaide's public transport system through:

- major rail revitalisation serving Adelaide's middle and outer suburbs, featuring train corridor electrification, extension of the train network to Seaford, major track upgrades (including new ballast and sleepers), new and upgraded train stations, new electric trains and an expansion of key park and ride facilities
- extension of the Glenelg tram line, more trams, upgrades to O-Bahn interchanges, 100 more buses and increased bus services
- a new smartcard ticketing system that can be used on trains, trams and buses
- more transit police
- free tram travel within the CBD, from South Terrace
- free inter-peak and weekend public transport services for Senior Card holders.

Road investment has focused on keeping traffic moving along Greater Adelaide's important North-South Corridor, including the Northern Expressway, the South Road Superway, the Southern Expressway duplication and the Gallipoli Underpass. The Sturt Highway has been duplicated between Gawler and Nuriootpa and the McLaren Vale overpass completed.

A sharper focus on inner Adelaide

These investments in middle and outer Adelaide will greatly improve connectivity across the city. Now, with many projects completed or underway, we need a sharper focus on inner Adelaide, recognising that our transport investment should aim to boost the central city as a creative, lively and energetic district where people want to live and businesses want to locate. To do this, we have to make bold choices about refining our transport system to not only support medium density communities and business growth, but to actively encourage and drive these developments.

Meeting these aims means tackling some difficult challenges.

We need to provide transport services that support a mix of residential and commercial uses in medium density inner Adelaide and the CBD.

We need to reduce congestion on inner city roads and have fewer cars and trucks moving through the CBD. We have to address pressure points along parts of our public transport networks. We have to reduce our reliance on cars, especially for commuting, and create walkable neighbourhoods and streets that are friendly to pedestrians and cyclists.

Moving large numbers of people to and from the central city on a daily basis means that we need our public transport system to provide reliable, fast, safe and affordable travel choices – and to deliver these choices with a minimum impact on our environment, in a way that is sustainable into the future and makes the best use of assets we already have.

CREATING A MORE COMPACT CITY

Over the next 30 years, Greater Adelaide's population is forecast to grow significantly. Initiatives that have been completed or are underway to accommodate this growing population in a more compact Adelaide include:

- relaxing height and zoning constraints in the city centre, and rezoning corridors and areas in the inner metropolitan area through the inner Metropolitan Growth Project to facilitate higher density and mixed-use development
- redeveloping Bowden from an industrial site into an inner urban 'village' as part of a \$1 billion urban renewal project to accommodate 3,500 new residents, new retail outlets and offices oriented around Bowden Station
- undertaking major projects within the Adelaide CBD – including the Riverbank Precinct Development, Adelaide Oval upgrade, new Royal Adelaide Hospital, Adelaide Convention Centre expansion and the new South Australian Health and Medical Research Institute – to act as catalysts in bringing people back to the central city.

Depending on take-up, Adelaide's city centre and inner metropolitan area could accommodate a far greater proportion of the population.

Focusing transport planning and investment on these areas is likely to deliver the greatest uplift in housing and employment densities.

Bringing back Adelaide's trams

Based on what we've learned from our own experiences and examples from other cities of Adelaide's size and level of development, for example Bordeaux in France, a modern tram network is the best choice for the city's future. Trams are often introduced alongside initiatives that aim to:

- enhance the accessibility of the population to employment, services, shops, education, entertainment and leisure opportunities, particularly as these opportunities are concentrated in inner and middle Adelaide
- improve the connectivity of urban areas by enabling people to easily and conveniently travel between destinations
- reduce car dependency, as people living and working along or in close proximity to tram routes tend to have lower rates of car ownership.

In addition, trams operate relatively smoothly and comfortably along easy to understand routes. When supported with convenient user information, such as city maps that show tram routes, stops and links to facilities and attractions, trams help grow patronage on public transport. Trams tend to be relatively effective at attracting discretionary travellers, that is, people who have the option of driving, including visitors or those travelling to major sporting or cultural events. Trams also tend to be viewed as being more attractive than conventional bus travel and, where there is a choice people will often walk further to travel by tram than by bus. Trams also are best suited for short to medium distance travel, with the longer distance travel best served by trains.

The return of tram services to inner and middle Adelaide will support the development of the inner city as a well-connected, dynamic, safe and attractive area that is home to more people, more businesses and more jobs. It will also help to secure Adelaide's reputation as a highly liveable city and one that values – and invests in – the attributes that make a city liveable. Importantly, it will support and contribute to the growing market demand for residential development in the CBD, inner and middle Adelaide.

This new tram network will be called AdeLINK.

BORDEAUX – TRAMS LEAD A CITY'S RENAISSANCE

The French city of Bordeaux has undergone a renaissance over the last 15 years, led by an ultra-modern tram network that links diverse districts across the city and runs alongside a revitalised riverfront area. Bordeaux has many similarities with Adelaide, particularly relating to its metropolitan area (population of over 1.1 million people), its parks and gardens, its wine and military industries and its desire to reduce its car dependency and the impacts this has had on their city.

The new tramway has helped to revive long-neglected historic districts, supporting the transformation of the centre of the city into one of the biggest pedestrian precincts in Europe. Greater access to previously rundown areas has led to more residents moving into these areas, restaurants and wine bars opening up, and the emergence of popular tourist destinations such as the new riverfront promenade.

Once dominated by old stone warehouses and grimy laneways, a 4.5 kilometre strip along the left bank of the Garonne River is now at the heart of the revitalised city. The ports along the river have been turned into public open spaces and gardens, and the area is now home to galleries, cafes and restaurants. With a strong commitment to multi-modal connectivity, city planners have carefully linked these new public spaces with other public spaces within the city – by tram, walking and cycling – drawing residents and visitors to the riverfront and encouraging businesses to locate to the area.

Bordeaux closed down its original tramway lines in the 1940s and 1950s, however by the mid-1990s, cars were choking the city and urban sprawl had become a significant problem. The first line of the new tramway opened in 2003, with a further two lines extending the network to around 44 kilometres. A feature of the network is its use of a ground-level power supply, which means there are no overhead wires.

The impact of trams on a city is not just in terms of moving people around, although that is important. As the experience of Bordeaux and other cities such as Melbourne show, a popular tram network can have a much wider influence on the structure of a city and the way in which new development occurs. Tram stops can be a focus of well-designed public spaces, clusters of shops and cafes, and new residential developments. A tram network can lead to more walkable and cycle-friendly streetscapes that are quieter, safer and more vibrant. An expanded tram network will significantly increase Adelaide's public transport capacity, thereby increasing opportunities to reduce the number of cars on the road.

Better connections to and between parts of inner and middle Adelaide can act as a catalyst in creating lively, medium density neighbourhoods that attract residents, businesses and visitors.

Realising a vibrant city requires inner Adelaide to be a place that all South Australians identify with, as much as they identify with the town or suburb in which they live. It is a place to visit, a place that attracts people from all walks of life, with its parks and streets, cafes and shops, markets and libraries, places that express the thriving community of South Australia, both economically and socially. Trams are seen to have an important role in developing this sense

of place. Through strengthening connections, and offering greater mobility that assists with the activation of streetscapes, trams assist in the creation of a well designed city, generating great experiences and a sense of belonging. AdeLINK will contribute to the cultural and economic focus of Greater Adelaide by providing enhanced public transport options and expanding an iconic public transport service to facilitate growth in residential, commercial and retail activities along its routes and in adjacent areas.

In Adelaide, the extension of the Glenelg tram line from Victoria Square to North Terrace (west) contributed to an increase in development activity at the western end of North Terrace and in the southern section of King William Street. This suggests that the new tram network will boost commercial and residential development in other parts of Adelaide's city centre and along those roads carrying trams.

As more and more people and businesses move into middle and inner Adelaide, the convenience and connectivity provided by trams will gradually replace car trips for workers commuting to and from the CBD and across the inner suburbs and become the main way residents, workers and visitors move around the central city.

Adelaide's tram-led revival will occur in several stages in line with the market for residential and commercial development, jobs and population growth, and as funding becomes available. The new lines in the AdeLINK network will add to the vibrancy of existing shopping and mixed-use precincts and support new growth areas, and will include:

- **PortLINK** – a conversion of the Outer Harbor train line to deliver a new tram service to Outer Harbor, Port Adelaide and Grange, and construct new tram lines to West Lakes and Semaphore
- **EastLINK** – a tram line running along The Parade to the University of South Australia Campus at Magill
- **WestLINK** – a tram line running along Henley Beach Road to Henley Square, with a branch line to Adelaide Airport. The existing tram line to Glenelg will also form part of WestLINK
- **ProspectLINK** – a tram line running from Grand Junction Road along Prospect Road and O'Connell Street
- **UnleyLINK** – a tram line running along Unley Road and Belair Road to Mitcham
- **CityLINK** – a tram running in a continuous loop at regular intervals along the Morphett Street, Sturt Street, Halifax Street and Frome Street corridors, with transfers available from other tram lines and railway stations.

Currently, bus services operate along these radial corridors. The shift to a tram network will mean fewer buses coming into the city centre and help to make the streets more conducive to cycling and walking. However, the bus network will continue to service areas between and beyond the tram network, with new priority and higher frequency corridors making bus travel to and from the city centre faster and more reliable.

Developing AdeLINK will provide an alternative to the car for many trips to, from, through and within these areas. The tram routes have been chosen to both align with proposed land use changes enabling the development of medium density mixed-use precincts and increase the use of Adelaide's public transport system. These routes effectively establish the necessary pre-conditions to facilitate the creation of a more transit-focused city, with the added benefit of stimulating investment in and around these corridors. AdeLINK supports existing investment in infrastructure and, together with envisaged land use directions, seeks to stimulate the reactivation of inner and middle Adelaide.

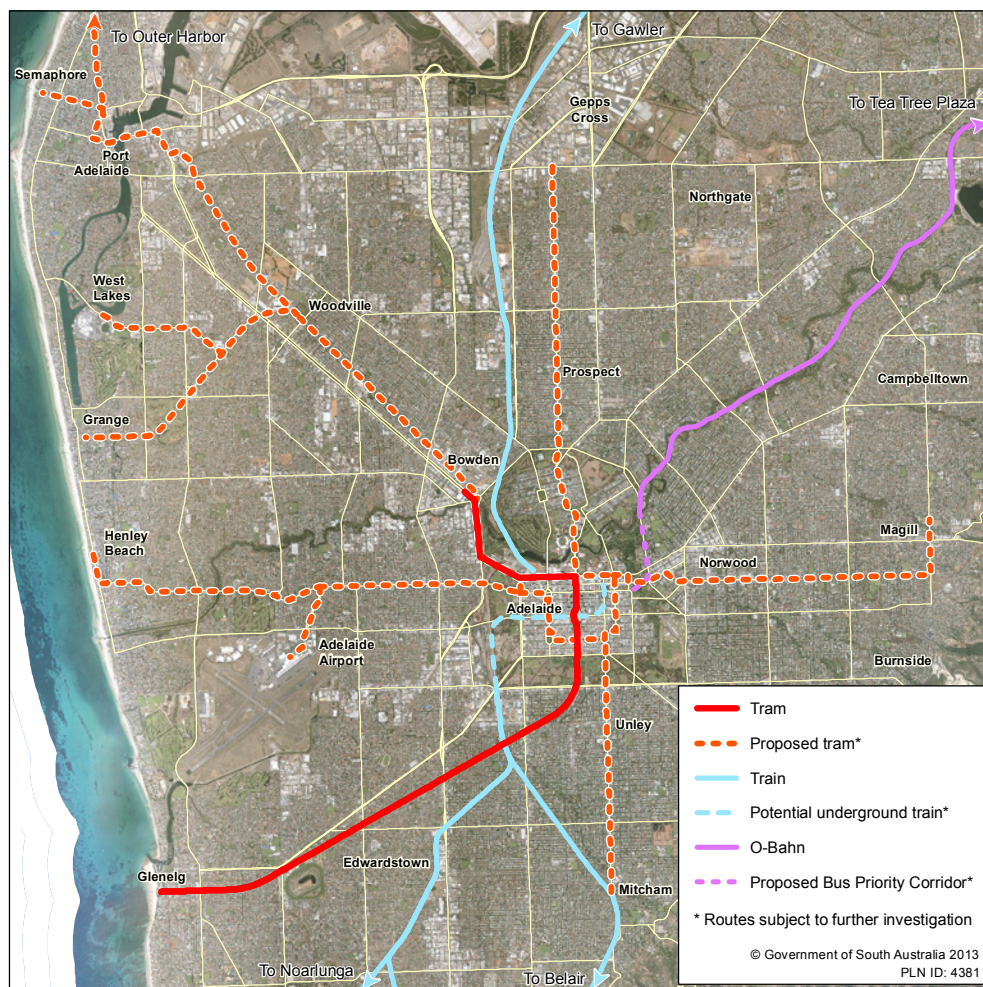
OUR PLAN

Further investigation and analysis of final routes will be undertaken, such as the identifying the most beneficial routes for trams within the CBD. While the potential benefits are substantial, each stage will be carefully reviewed and evaluated to ensure The Plan continues to match the city's growth and changing travel requirements. Options for these stages will be investigated fully, including the safe and efficient integration of on-road tram services with other road users, subjected to rigorous business cases, and informed by consultation with communities, businesses and local councils. Where feasible, bus services will be replaced with tram services along key routes in line with *The 30-Year Plan for Greater Adelaide* and other urban development goals. Parallel roads will also be upgraded where required to provide efficient traffic flow for those people choosing to travel by car.

This doesn't mean neglecting our trains and buses. They will continue to be vitally important to moving people around Adelaide. Trains will continue to be the north-south backbone of the public transport system, providing fast, frequent services to access the outer northern and southern suburbs and Belair. The train and tram networks will be supported by a redesigned and modernised bus network providing more direct services to major activity centres and strengthened cross suburban bus services. This will provide an integrated and complementary network of public transport services involving trains, trams and buses to provide improved connectivity and choice of travel across Greater Adelaide.

It does mean that we will provide a sharper focus on tram services in our transport planning and investment in inner and middle Adelaide. It means that, over time, we build a 21st century tram network with modern new trams that is the envy of other Australian cities and that is recognised as the centrepiece of Adelaide's more compact urban form and liveability.

Figure 3–1 Adelaide's new tram network (AdeLINK)

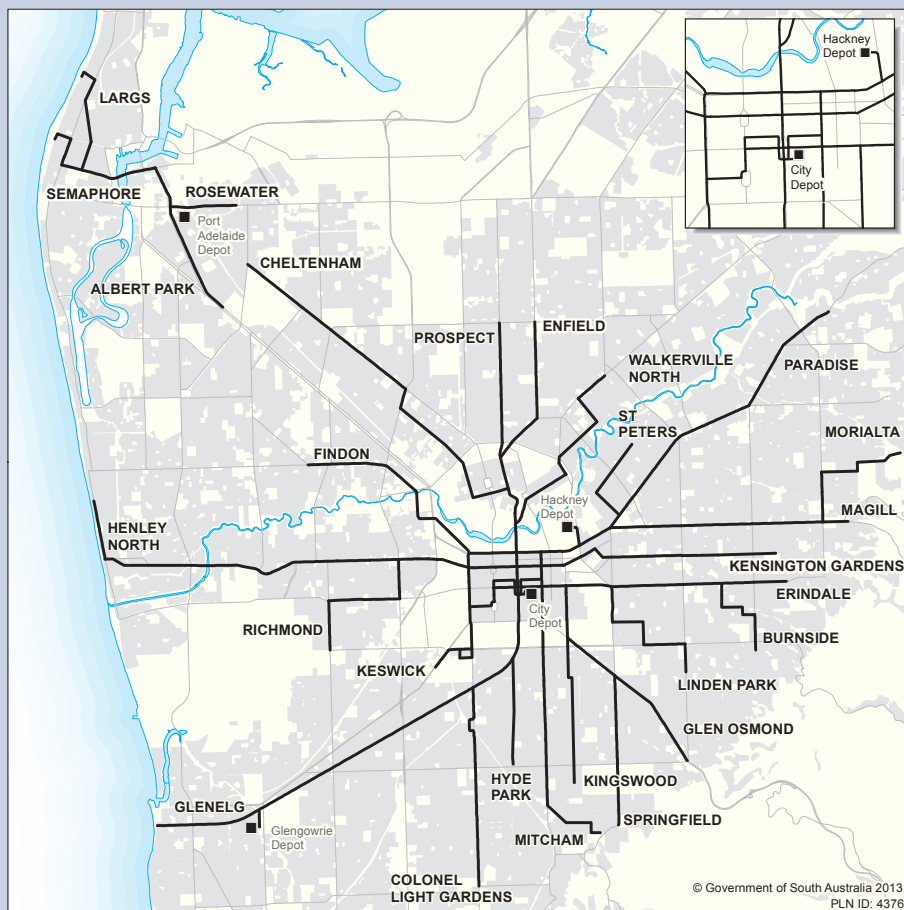


ADELAIDE'S TRAM ROUTES – 1870s TO 1950s

Adelaide's transport system was once dominated by an extensive network of trams that serviced a compact suburban form. This network was progressively implemented from the late 1800s when horse drawn trams were used to provide transport in the city. In the 1900s the lines were converted to electric trams and by the 1950s tramlines covered a large part of suburban Adelaide.

Similar to a large number of cities the world over, Adelaide's trams were progressively replaced by buses by the late 1950s, with the exception of the Glenelg tram. Figure 3-2 shows Adelaide's tram routes as they were in the 1950s, just prior to their replacement by buses. A number of Adelaide's wide boulevard style roads are testament to these early decisions to implement the wide network of tramways across Adelaide.

Figure 3-2 Adelaide's tram routes circa 1950s



STRATEGIC VISION FOR TRAMS

The experience of Portland, Oregon is a testament to how future city planning directions can be driven by staged expansion of urban tram networks. But what Portland showed was the need for a long term vision, which encompassed a land use vision, incremental extension of the tram network, and with funding plans for the extensions. The Glenelg tram line has shown effectiveness in land use activation in the City and along Jetty Road at Glenelg.

The Plan proposes a similar concept for inner and middle Adelaide, with proposed tram extensions along key suburban main roads, with through linkages in the CBD to bring about effective distribution of trips to the CBD and adjacent area destinations; these lines would integrate with the existing tram services, and assist in forming a loop of tram services in the CBD.

These networks will contribute to improved liveability and vibrancy along these corridors, as well as providing a catalyst for increasing residential density and mixed-use developments. Preliminary transport modelling has shown increased levels of future tram patronage, which would grow further in response to densification of these suburban areas, promoted by land use responses to the certainty of having a tram network in place.

Strategic Benefits of Tram Extensions

An expanded tram network will deliver a number of strategic benefits for inner and middle Adelaide.

- For short to medium distance corridors trams have the ability to expand into new urban areas using existing road corridors compared to train lines. For example, the proposed PortLINK tram will extend to West Lakes, into the centre of Port Adelaide, and to Semaphore in addition to Grange and Outer Harbor. The PortLINK tram will also provide effective services into the heart of the CBD including connecting to the new Royal Adelaide Hospital and a redeveloped Convention Centre and Riverbank Precinct. Closer stopping patterns mean that trams can also provide higher frequency services than trains at more stations along the corridor thereby reducing waiting and walking times. When considering walking times a tram can provide greater proximity to desired destinations along the northwest corridor, delivering people more directly to many places across the CBD and efficiently connecting to the suite of AdeLINK tram services.
- Permanent tram infrastructure has the potential to stimulate private investment activity to attract higher density living and mixed-use development along the inner city corridors. Facilitating increased densities along transit corridors within inner Adelaide is a key outcome of this Plan. The tram routes will help to increase the vibrancy of existing retail and service activities along the selected corridors, which goes hand in hand with the recent rezoning of areas as part of the Inner Metro Growth Project.
- Tram services can be provided at relatively higher frequency, and carry more passengers than a bus. With more people living in the inner and middle areas of Adelaide the AdeLINK network will provide a step increase in public transport capacity while providing greater travel choice.
- Reduced noise levels with fewer bus movements, and a decrease in local air emissions.

The various tram lines are forecast to attract significant levels of daily patronage of up to 25,000 on some lines by 2036. Putting these volumes into perspective, the daily boardings on the Adelaide O-Bahn are currently approximately 21,000 – the highest volume passenger transport corridor in Adelaide.

A 2009 study of Melbourne's tram network also found that:

- car ownership along tram corridors is lower than areas outside tram corridors
- there are significantly more commercial uses within tram corridors, particularly retail, than outside tram corridors
- excluding the CBD, 29 per cent of all Major Redevelopment Sites identified under Melbourne's Urban Development Network are within tram corridors and if the CBD is included, this figure rises to 40 per cent
- tram patronage is more related to employment density than dwelling density, leading to the conclusion that tram usage is more closely aligned with destinations rather than residences and that people may walk further to a tram, if it takes them close to where they want to go.

Bringing trams back to Adelaide will provide the focus needed for our transport system to support and actively encourage mixed-use, medium density, vibrant communities and business growth and investment in inner and adjacent urban areas.



3.2 OUR PLAN FOR GREATER ADELAIDE

Not everyone wants to live in the inner city. Many people value the lifestyles and opportunities provided in Adelaide's middle and outer suburbs, and in places such as Mount Barker and Victor Harbor. Our future transport planning and investment will preserve the high quality of life enjoyed by residents in these areas and support the creation of more jobs closer to home.

The 30-Year Plan for Greater Adelaide promotes a significant shift in the pattern of suburban growth towards infill development and urban renewal in activity centres located along transit corridors. For the growth that is still likely to occur in the middle and outer areas of Greater Adelaide, centres such as Elizabeth, Noarlunga, and Modbury have been identified for higher intensity residential, business and services activity using transit oriented development principles to capitalise on existing public infrastructure and facilities. Other sites along transit corridors, such as Salisbury, are being developed to encourage greater public transport use, attract new residents and businesses, and stimulate 'main street' development. As with inner Adelaide, the provision of effective connectivity, and walking and cycling networks is also important to achieve vibrant and walkable activity centres supporting increased density.

The modernisation and extension of the city's rail and bus networks is providing a strong foundation for these developments, as well as meeting the needs of growing populations in middle and outer Adelaide.

An efficient road network will remain important to Greater Adelaide's urban and economic development. Many people will continue to use the road network to get to work, especially for cross-city trips that are difficult to service by public transport due to their dispersed origins and destinations. Industry will need a reliable road network to conduct business, deliver services and goods, and move freight to and from distribution centres and international gateways. Efficient road connections will become even more important to industries that need to move large volumes of freight, and businesses that spend a large part of their day travelling such as trades people, sales representatives and community service providers. We need to protect these connections so that they are available into the future. A smooth flowing road system is also important to the movement of fast, frequent and reliable on-road public transport to and from middle and outer Adelaide.

Key challenges for middle and outer Adelaide will nevertheless include the need to manage growth in a way that decreases the demand for longer car-based trips and provides more travel options for people without access to a car. Across the region, we need to make public transport a more attractive option for more people to increase patronage and enable us to offer more travel choices. We also need to encourage and enable more people to take up walking and cycling to boost the liveability, vibrancy and vitality of the suburban centres and improve our health and wellbeing.

To meet these challenges, we will have to capitalise on recent and ongoing investments in the train network and maximise the use of existing rail assets, making them work harder to deliver better connectivity and more reliable and more frequent services. We will also need to reinforce the bus network's core role, continuing to promote bus travel as a viable and positive choice for commuting to work and supporting the north-south backbone of the system in making trips to the CBD and across Adelaide.

Addressing accessibility and transport disadvantage, particularly in outer areas, requires better coordination of the components of the public transport system. We need to improve connections between the bus, train and O-Bahn networks, coordinating feeder services and upgrading interchanges to make changing between different types of travel as smooth as possible and cross-city journeys easier and faster. We will also need to ensure local streets provide direct and convenient connections to public transport stops and stations for cyclists and walkers, and park and ride as well as bike and ride facilities are provided to support those living in outlying areas.

Improving the road and rail networks will continue to be a priority to support business and jobs growth. *The 30-Year Plan for Greater Adelaide* reinforces western and northern Adelaide as the focus of industrial expansion in the metropolitan area. This focus is being supported by the rezoning of 1,550 hectares to employment land as part of the Playford Growth Project and substantial capital investment to improve transport connections to the Port of Adelaide, Adelaide Airport, national road and rail networks and the recently expanded Penfield intermodal facility.

Continuing improvements to the public transport system

A high quality train system can give a city a clear competitive edge in attracting skilled workers and investment. Since 2008, the South Australian Government, in partnership with the Australian Government, has been taking action to improve Greater Adelaide's public transport system. The improvements are designed to provide faster, more frequent, better connected public transport services, and upgrades to major stations and interchanges, as part of the north-south backbone of the public transport system.

The scope of this work is extensive and far-reaching and a necessary foundation for achieving the directions set out in *The 30-Year Plan for Greater Adelaide*.

Already, a great deal has been achieved in a relatively short time, including investment in the electrification of the train network, rebuilding of the train tracks, upgrades of major stations, more buses introduced, expanded bus services and increased frequencies particularly in outlying areas, an extension of the tram network and facilitating easier travel and transfers through the introduction of the Metrocard ticketing system.

These landmark modernising projects will continue, including the ongoing revitalisation of Greater Adelaide's train network. The train network provides access to the Adelaide city centre and other activity centres, particularly for people living in the outer suburbs, and the South Australian Government's major investments in the train network will put it on a strong footing for many years to come.

Future train corridors in outer growth areas will be defined and protected – Aldinga to the south, and to the north and east of Gawler. The consultation for the Seaford to Aldinga rail alignment is complete and we have defined the alignment. In the longer term, the potential electrification and extension of the Belair train corridor may be necessary. Looking further ahead, a city underground train link connecting the northern and southern lines would have the potential to free-up capacity on the train network by relieving the congestion caused by having to turn trains around at Adelaide Railway Station. Further investigations would need to occur before such a link could proceed. In the shorter term, our integrated approach to planning will ensure that the expansion and upgrade of Greater Adelaide's rail network does not preclude the development of an underground link into the future.

Improvements to the public transport system will be prioritised to boost economic and urban development, with a particular focus on the phased delivery of the land use outcomes identified in *The 30-Year Plan for Greater Adelaide* and the outcomes sought by the Government's *Economic Statement 2013*. Final options will be subject to more detailed planning.

These future directions aim to extract the maximum value from the Government's current and substantial investment in public transport improvements to ensure that high quality public transport services underpin the transformation of Greater Adelaide into a transit-focused and well-connected region.

Priority actions for the train network include:

- complete the electrification of the Gawler line, and in the longer term the Belair line
- upgrading more train stations, increasing car space capacity in park and rides, expanding bicycle storage capacity and progressively introducing public bike sharing opportunities operable through the Metrocard system and gated stations at stations with high patronage
- higher frequency services and longer trains to meet peak growth demand
- enabling real time passenger information through mobile devices and by taking advantage of developments in information technology
- making mode transfers easier through new timetables and route plans, simplified signage and maps, and improved wayfinding and walkability in and around stations for users of walking and cycling networks adjacent to train corridors
- addressing the conflicts between pedestrians, trains and road vehicles on the high frequency train network between Brighton Road and Elizabeth by replacing level crossings with grade separation and improving safety at other locations.

Boosting patronage and encouraging more people to use our trains is not only a matter of more reliable or providing more frequent services – people must also feel safe and comfortable when using the network and their experiences must be positive. Investment will continue to be directed towards improving the quality of more train stations and interchanges, with attention given to customer service, safety and security, lighting and seating, and the use of technology to provide accurate, up-to-date and easy to access information about services. The best form of security however, is having more and more people using trains more often.

A redesigned and modernised bus network

The bus network supports around 80 per cent of public transport journeys in Adelaide and will remain at the core of the city's public transport system. However, as the city's urban form and associated travel demands change, the Adelaide Metro bus network can no longer continue to expand through small incremental changes. The network must become simpler and focused on improving mobility across a growing, but more compact region.

A redesigned and modernised bus network will concentrate passenger flows onto core high capacity, high frequency corridors, supported by well-connected local feeder services that support mode interchange.

On-road priority for public transport vehicles along Currie and Grenfell streets has been highly effective in making bus travel times more reliable. Bus priority measures will be considered for other core roads, especially in the inner areas taking into account the impact upon general traffic. Glen Osmond Road will cater for buses and traffic from the Adelaide Hills. The construction of the North-South Corridor will encourage greater use of Cross Road by freight traffic to help achieve this. High frequency bus corridors will incorporate better opportunities for cross suburban travel and trips to the nearest major activity centre, while maintaining strong links to Adelaide's city centre. Bus feeder services will connect to the high frequency network, particularly the train and O-Bahn.

Making choices about public transport priority is not always straightforward. There are many different priorities and ideas about what is desirable or necessary. All three levels of government and community and business groups will have to work together to make choices about the levels and type of transport investment that will best meet future travel demand.

Priority actions for the bus network will include:

- develop high capacity, high frequency corridors in the inner areas, supported by on-road bus priority measures on core routes, and improve O-Bahn access to the city centre
- improve the frequency, connectivity and directness of bus services that focus on major activity centres, including a strengthening of cross suburban bus routes
- further improve, expand and promote feeder services to the high frequency network, particularly to train services and the O-Bahn
- develop new bus 'Super Stops' at strategic activity centres
- further develop park and ride car space and bike parking capacity at major interchanges in outer suburban areas
- provide better timetable coordination for convenient and rapid transfers to the train network
- in line with growth, extend Adelaide Metro services into new growth areas in Playford, Angle Vale, Buckland Park, Virginia, Mount Barker and Sellicks Beach.

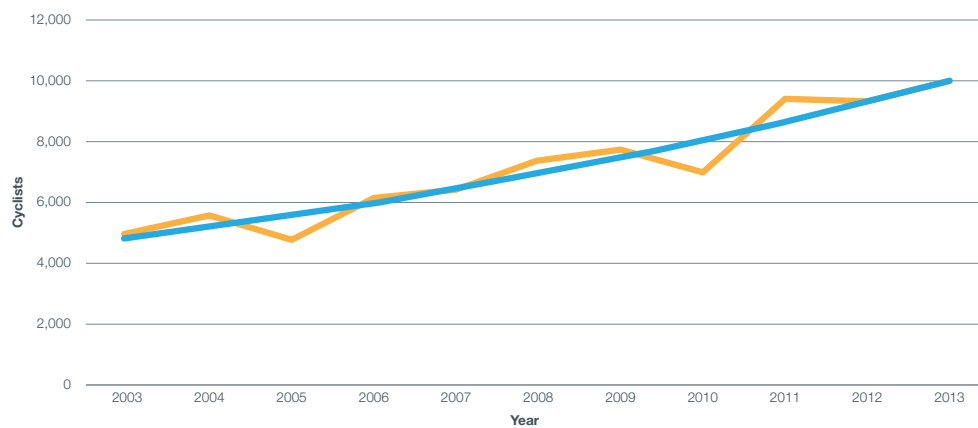
The location of 'Super Stops' will be developed in discussion with councils and key stakeholders. 'Super Stops' serve locations which have a very high level of passenger demand and where there are high frequency services and, along with improved amenities, are intended to cut boarding times and reduce queuing along major thoroughfares.

More cycling and walking

Enabling people to adopt cycling and walking for commuting and other transport purposes – as distinct from purely recreational reasons – is an important objective of our integrated transport and land use planning.

Cycling is now the fastest growing mode of travel in Adelaide. Most indicators show that across Greater Adelaide, more and more people are choosing to cycle to work, to shops, for exercise or as a weekend activity with family and friends. Figure 3-3 below shows the growth in cyclists counted entering and leaving the Adelaide CBD on an average weekday since 2003. Over the most recent ten year period (2003-13) the number of cyclists has increased by 78 per cent. The city's growing number of cyclists has been encouraged and boosted by recent improvements to the region's cycling routes and supporting infrastructure, including the Bikedirect and Greenways networks.

Figure 3-3 Change in the number of cyclists counted entering and leaving Adelaide CBD (average weekday 7am-7pm), 2003-13



Source: DPTI <http://www.sa.gov.au/subject/Transport%2C+travel+and+monitoring/Cycling/Cycling+facts>

Growth in the number of people riding has closely followed investment in cycling infrastructure, particularly Greenway routes such as the Mike Turtur Bikeway together with improvements to the Bikedirect network.

To enable more people to ride more often, we will provide physical separation between cyclists and motor vehicles on arterial roads where possible, extend the Greenway and Bikedirect networks, introduce a public bike share scheme and upgrade existing bike lanes to meet higher standards and extend through intersections.

More people are also turning to walking as an option for getting around Adelaide, especially for shorter trips or in combination with other modes of transport. While there is clearly some overlap between walking and cycling as active travel modes, it is recognised that there are some critical differences between them when planning for infrastructure and network improvements. Creating safe and convenient walkable environments is a key objective of The Plan since almost every journey will begin and end with a walking segment. Enabling more people to adopt walking for a greater proportion of their journeys also brings significant health and wellbeing benefits.

To make the most of the opportunities presented by a revitalised public transport system and a more compact and vibrant city, we will expand the catchment of stops and stations for walking and cycling. This will involve enhancing access to stops and stations by improving crossing opportunities on busy roads and providing a more comfortable walkable environment. We will also invest in better facilities for walkers and cyclists at public transport stations, such as secure bike parking, providing public bike sharing opportunities, better signage and wayfinding.

We will also introduce initiatives to expand walking and cycling catchments around key destinations such as shopping and service centres, main streets and schools. These initiatives will increase the vibrancy and liveability of these places, helping to enhance social connections, attract investment, support leisure and cultural activities, and promote healthy lifestyles. To do this, we will continue to work closely with local councils to design and develop local street networks and streetscapes that are conducive to cycling and walking and that offer direct, safe and attractive routes to key destinations.

The State Government currently supports the Way2Go program – one of a suite of community programs seeking to increase the adoption of active transport – that targets primary schools and local councils in identifying preferred routes for parents and children to travel to and from school.

Driver education and awareness programs will be reviewed to promote shared responsibility for road safety and help develop a culture that is considerate of cyclists and walkers as legitimate users on our road network. Other travel demand management initiatives (e.g. TravelSmart) will also be expanded to enable alternative travel choices.

A recent Citizens' Jury deliberated on the topic of cyclists and motorists sharing the roads safely. Implementing the Jury's recommendations will support a positive shift in the way people who use the roads relate to each other and will improve conditions for cycling in South Australia.

Opportunity exists to transform Adelaide into the most cycling-friendly city in Australia, where infrastructure is of a consistently high standard and where cycling and walking are attractive modes and a normal part of daily transport. This was explored at the Velo-City Adelaide Global 2014 Conference*.

Enhanced freight and road traffic corridors

Balancing the desire for a vibrant walking, cycling and public transport-friendly city with the critical need for efficient freight and traffic corridors to ensure business is connected to markets and people can move reliably by car is one of the key challenges for integrating transport and land use.

Across Adelaide, a number of our most important road network routes are showing increased levels of congestion, with many signalised intersections either approaching or at capacity. Along some key routes, traffic congestion is not only a problem for commuters during peak periods, but also for on-road public transport, businesses and freight traffic throughout the day.

Infrastructure Australia has recently released a national review of infrastructure needs. The *Australian Infrastructure Audit* considers future demands, and provides data for long term infrastructure planning. The report identifies that in 2011 the cost of delays on roads in the six largest capital cities was \$13.7 billion, and this is expected to grow to \$53.3 billion in 2031 without any improvement strategies. The cost of delay for Greater Adelaide was approximately \$1 billion in 2011, and is estimated to grow to \$4 billion in 2031 without any improvements.

Adelaide businesses need the certainty of reliable road routes to deliver goods and services around the city and operate successfully. Our major export industries need to be able to move freight quickly and efficiently to domestic markets and international gateways. The city's arterial road network must have the capacity to service these needs and meet future transport demand along major freight and traffic routes.

For Adelaide, there is no more important corridor for freight and business travel than the North-South Corridor.

The concentration of most of Adelaide's industry in the northern, north-western and western parts of the city has led to large scale freight route patterns that sweep from north to south and converge to the west of central and inner Adelaide to connect with the Port of Adelaide and the north-west.

* Velo-City Global 2014, the world's premier international cycling planning conference, was held in Adelaide in May 2014.

To concentrate this freight demand to avoid widespread heavy vehicle use across the Adelaide road network – and to ensure maximum efficiency of freight movements – the *Strategic Infrastructure Plan for South Australia* and *The 30-Year Plan for Greater Adelaide* identify the need for a designated, uninterrupted freight corridor stretching from Gawler to Old Noarlunga. Completing this uninterrupted link in conjunction with the existing Port River Expressway will create a free flowing freight ‘spine’ along the length of Greater Adelaide that connects expanding industrial areas in the north and south, supports higher freight transport productivity and improves access to freight gateways.

In addition to upgrades to the North-South Corridor, transport modelling analysis of the future road transport task shows that we need to improve the efficiency of our freight and major traffic corridors and their connections to freight gateways, including by progressively addressing congestion hotspots on strategic routes. Focused and strategic improvements to the road network will alleviate the need to make big changes in the short to medium term. Our priorities will be:

- upgrading the Inner and Outer Ring Routes to provide reliable cross-city travel without the need to pass through the central city, providing for both business travel and the movement of freight
- targeted intersection and road upgrades (e.g. duplication) where needed to improve efficiency and safety and address urban congestion along major traffic and freight routes in accordance with *A Functional Hierarchy for South Australia's Land Transport Network*, thereby allowing other road corridors to be managed in a way to support their particular role, such as providing for public transport, cycling and walking in a manner conducive to the adjacent urban activity and development
- ongoing implementation of the Managed Motorway network, which will continue to be installed on the South Eastern Freeway, and will ultimately be rolled out along the North-South Corridor and the Port River Expressway in a network of high speed, free flowing roads that incorporate intelligent information, communication and control systems, such as lane use management
- using Intelligent Transport Systems technology to improve traffic flows along other major freight and traffic routes
- implementing Network Operating Plans and Road Management Plans to manage traffic flow and improve safety in accordance with *A Functional Hierarchy for South Australia's Land Transport Network*, which will include the provision of more effective on-road parking controls (i.e. clearways), traffic coordination, management of turning traffic and property access

Figure 3–4 North-South Corridor



- implementing Better Use Strategies to enable more effective use of existing assets are considered in transport planning and investment decisions, such as traffic management, use of Intelligent Transport Systems (e.g. lane use management, contra-flow lanes, etc), incident response plans, demand management programs (e.g. TravelSmart), and better information (allowing more informed travel choices).

In its entirety, the uninterrupted 78 kilometre North-South Corridor will comprise:

- Northern Expressway from Gawler to Port Wakefield Road
- a proposed Northern Connector from Port Wakefield Road to the Port River Expressway
- South Road from Port River Expressway to the Southern Expressway
- Southern Expressway from Darlington to Old Noarlunga.

The Northern Expressway has been completed, the Southern Expressway has been duplicated, funding has been committed to the next sections of South Road between Torrens Road and the River Torrens, and at Darlington, and a proposal for the Northern Connector has been made to Infrastructure Australia. The State Government is working with the Australian Government to deliver the corridor, and a 10 Year Delivery Strategy for the corridor has been released that will guide investment and implementation program management strategies.

Rail freight corridors are also critical, particularly for intra-and inter-state freight bound for our export gateways. The Plan identifies the rail connection to the Port of Adelaide as a critical link to be completed as part of the Northern Connector to provide more efficient, freight-dedicated links from the north into the port.

Freight constraints have been addressed via the separation of freight and passenger rail at Goodwood Junction. This work has increased the capacity of the Adelaide-Melbourne rail corridor, and resolving the capacity constraint at Torrens Junction will provide for rail freight growth over the medium to long term. In the longer term, to improve the capacity of the line through the Adelaide Hills, further targeted upgrades of the track will be undertaken to improve performance and to assess the benefits that would be delivered by 'double-stacking' of containers on the route. 'Double-stacking' is already available to the north of Adelaide. The realignment of the rail freight corridor through Bolivar and Gillman as part of the Northern Connector project will reduce travel times for freight to Port Adelaide and Outer Harbor and reduce the requirement for freight trains to utilise the existing line through the northern suburbs, improving safety and amenity.

MANAGED MOTORWAYS

Managed motorways use Intelligent Transport Systems to improve access to urban motorways and the safe and efficient management of traffic flows along these roads.

Managed motorway measures include:

- **lane use management systems (LUMS)**, which manage lane use around incidents
- **hard shoulder running** – where emergency breakdown lanes are used as supplementary lanes
- **ramp metering** – where the coordinated use of traffic lights on motorway on-ramps controls the rate at which vehicles merge with the main motorway traffic stream
- **variable speed limits (VSL)** – where variable message signs are used to prevent the occurrence of further incidents after an initial crash, to improve safety during hard shoulder running and/or during extreme weather events
- **freight and public transport priority** applied typically at ramps in conjunction with ramp metering for general vehicles
- **incident detection** – using closed circuit television (CCTV) cameras, webcams, weather monitoring stations and emergency telephones
- **automatic number plate recognition** to monitor freight movements
- **traffic and traveller information services**, such as Variable Message Signs (VMS) with real-time advice about travel times and/or current speeds
- **speed enforcement** using speed cameras.

In South Australia, managed motorway techniques are already in operation along the Southern Expressway, the South Eastern Freeway out to Bridgewater and the Northern Expressway. The South Road Superway project and Southern Expressway duplication projects incorporate these smart technologies to support their efficient operation when opened and into the future.

In the short term, managed motorway techniques will be rolled out along the South Eastern Freeway, including implementing hard shoulder running between Stirling and Crafers.

In the longer term, South Australia's managed motorway network will comprise the South Eastern Freeway, Northern Expressway, Northern Connector, South Road (Wingfield to Darlington), the Southern Expressway, and the Port River Expressway.

3.3 OUR PLAN FOR REGIONAL AND REMOTE SOUTH AUSTRALIA

A state the size of South Australia, covering almost two million square kilometres, will always face transport and land use challenges. In many ways, these challenges are interconnected: the long distances over which we need to travel and move freight have a wear and tear effect on our roads, rail network and supporting infrastructure, while we place our state's fragile environment under constant pressure by expanding our land use into new and more distant areas.

Our land use and transport system must support our overall economic and social goals for South Australia by connecting our key industries and regional communities to jobs, services and markets. At the same time, we have to find ways to better manage the wear and tear on critical transport infrastructure and support healthy, safe and prosperous regional communities.

The vast distances and dispersed nature of our regional population and industry locations present many challenges in planning for future transport needs, especially with limited resources. But with a clear sense of priorities based on our economic strategy and our transport goals and objectives, it is possible to set out a plan for South Australia that will lay the foundation for sustained prosperity across the state.

How we travel around South Australia

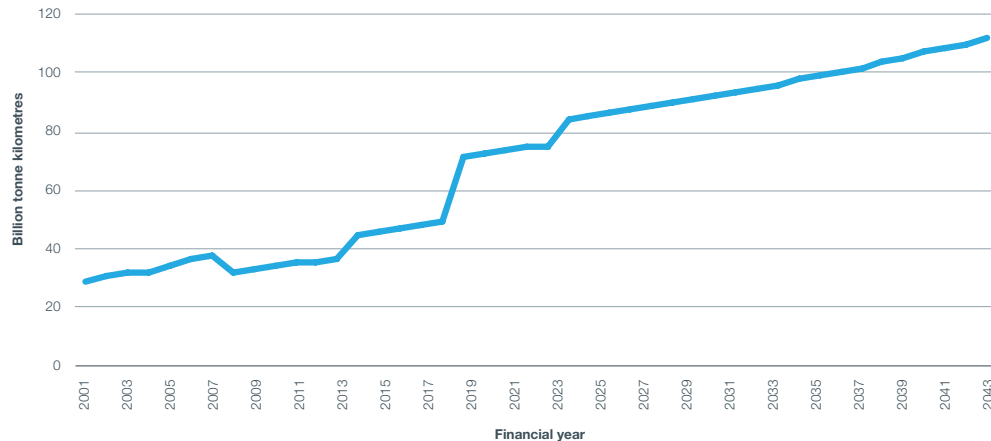
The overwhelming majority of travel in regional and remote South Australia is by private motor vehicle. Every day, an estimated 1.2 million trips are made by motor vehicles in our regions, compared to 1.4 million trips on the regional bus network over the course of a whole year. Regional aviation is becoming more and more important, with some 570,000 trips made in 2012 and growth expected at the rate of about 2.5 per cent per annum in the future.

Of course, car travel in regional and remote areas is very different to travel in Adelaide: trips to access services are much longer than in Adelaide and passenger transport simply isn't an option for the majority of journeys people need to make. This means that the regional road network is central to people's quality of life in the regions: it is essential to connecting people to jobs and services, to friends and family, and to Adelaide and other capital cities and major regional centres.

Moving freight

Approximately 53,000 freight and commercial trips are made on the regional road network every day and, while detailed data on regional use is not always available, the expected growth in our mining and agricultural industries points to a considerable increase in road and rail freight traffic in the years ahead.

Figure 3-5 Forecast total South Australian freight task



Source: DPTI analysis based on BITRE forecasts and *Regional Mining and Infrastructure Plan* forecasts

Historically, townships have developed along the busier road transport corridors and around export ports, leading to clashes between through traffic and local uses (such as shopping and walking) as traffic has grown. Anticipated growth in mining, tourism and agriculture will continue to place pressure on some of our busier towns, as well as highlighting gaps and mismatches in supply chains where cross-modal coordination is required.

Rail freight is largely confined to the interstate corridors linking Adelaide with Perth, Melbourne, Sydney and Darwin. The South Australian based Australian Rail Track Corporation manages this network, except for the Tarcoola-Alice Springs-Darwin route which is managed by the private company Genesee & Wyoming Australia. Rail lines on the Eyre Peninsula and Murray and Mallee regions are also owned by Genesee & Wyoming Australia.

South Australia's rail freight task has grown 106 per cent since 2000-01, compared with a national increase of approximately 36 per cent. This growth is being driven by the expanding mining sector, more freight being moved by rail on the east-west corridor and the completion of the Adelaide to Darwin Railway leading to significant growth in rail market share along this corridor. In the recently released *Australian Infrastructure Audit*, Infrastructure Australia has also estimated that the rail freight will double between South Australia and Western Australia between 2013 and 2030.

As the rail freight task continues to grow, we will need to increase the efficiency of our rail network, especially for moving minerals and grain. Issues that are likely to emerge include capacity constraints on a number of specific links (such as between Tarcoola and Crystal Brook) and the limitations imposed by the central and western Eyre Peninsula narrow gauge network.

South Australia's network of ten commercial ports handles 95 per cent of the state's international trade (by volume) and a third of the domestic freight task. These ports are operated by the private sector. Growth and diversification of bulk exports from the mining and agricultural sectors, as well as continued growth of containerised freight, will require increased capacity and efficiency at our ports. Landside connections (road, rail and/or pipeline) will need to be balanced with any expanded capacity of these critical gateways.

Recently, the Council of Australian Governments established single national regulators for heavy vehicles, rail safety and maritime safety; the National Heavy Vehicle Regulator, National Rail Safety Regulator and National Maritime Safety Regulator. South Australia has been party to these national reforms, particularly as the host of the National Rail Safety Regulator. These national regulatory regimes will improve the safety and efficiency of the freight and logistics sector and provide consistent regulatory frameworks and standards across state borders. In particular, they remove duplication of monitoring and inspection requirements.

Transport to support growing, competitive industries

Connecting businesses to markets is a core focus of The Plan. We need to build efficient supply chains for our most important strategic industries.

In determining economic goals for the state, the South Australian Government has set growth targets for our most important freight-related industries. This includes:

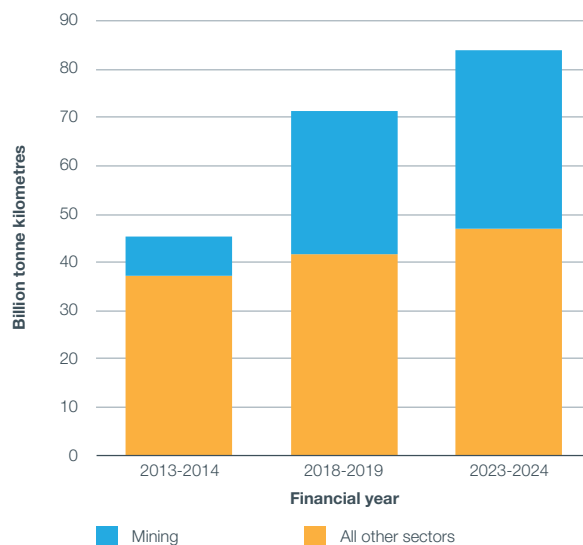
- growing the contribution made by our food industry to \$20 billion by 2020
- increasing the value of minerals production and processing by \$10 billion by 2020
- increasing the value of South Australia's export income to \$25 billion by 2020.

South Australia is an export-oriented economy that can gain great benefit from trading competitively across international and state borders. The challenge for our transport system is to ensure capacity and efficiency in end-to-end supply chains from our farms, mines and factories to our international air and sea gateways and state borders.

Supply chains are multi-modal. Minerals and agricultural products travel by road or rail to ports for export, where loading to ships needs to be timely and efficient. Supply chain capacity must be end-to-end, requiring coordination across modes, across different authorities and different investors and operators.

Mining output is set to grow strongly in South Australia, with growth in commodities such as iron ore and copper set to grow from seven million tonnes in 2010-11 to just under 100 million tonnes by 2023. This growth flows through to a significant increase in the mining freight task.

Figure 3-6 Mining's forecast contribution to the South Australian freight task



Source: DPTI analysis based on BITRE forecasts and *Regional Mining and Infrastructure Plan* forecasts

Mining, oil and gas growth will bring private investment and much of the new transport investment needed to support the industry will be privately funded. But with this growth will come multiple road, rail and port development projects across the state. Port capacity enhancements are likely to be needed in order to support forecast demand in the Central Eyre region, the Yorke and Mid-North/Braemar region and the Far North region.

In 2012/13 food, wine, fibre and other agricultural exports accounted for \$4.75 billion or 44 per cent of the state's total merchandise exports. As the world's population increases and the economies of developing nations grow, the global demand for food is expected to increase by 70 per cent to 2050 with the fastest growing markets in Asia*. As our food and wine industries grow, so too will the freight task in our regions and through to our ports. In particular, significant increases in freight traffic are likely to occur along connections between major viticulture regions and due to growth in moving onions and potatoes from the Murray and Mallee, citrus produce from the Riverland, livestock from the Mid North, grain from Limestone Coast, Murray and Mallee, Yorke and Mid North and the Eyre and Western regions and timber across the South East and from Kangaroo Island. A better understanding of the changing needs of these various supply chains is necessary to inform planning and investment decisions.

Supporting our tourism and business travel sector means keeping access open to all our key destinations. Over six million people visit South Australia each year, boosting our economy by \$5 billion. Visitors to South Australia travel to a wide variety of locations, making about 11 million trips and presenting a growing challenge to our transport system in popular places such as the Barossa Valley, Kangaroo Island and the Flinders Ranges.

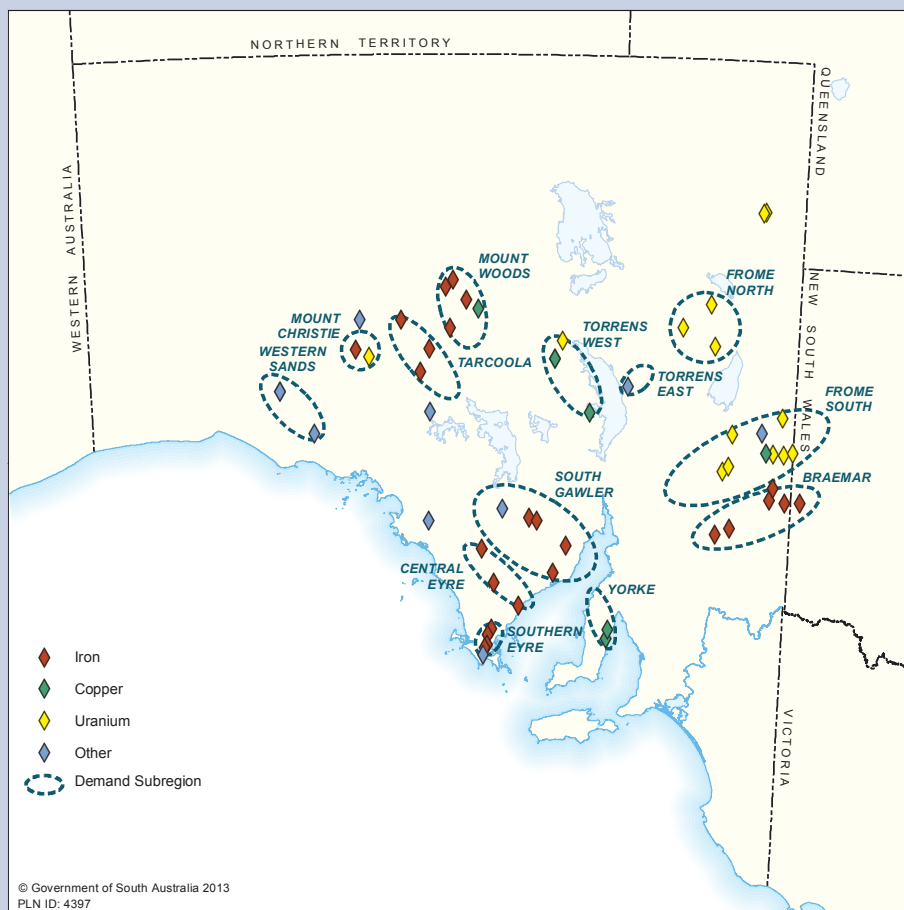
* Government of South Australia (2013) Premium Food and Wine from our Clean Environment, Primary Industries and Regions South Australia.

THE MINING BOOM – PLENTY LEFT TO COME

Projected increases in mining output in South Australia over the next twenty years are extremely significant. Estimates point to a massive increase in output volumes, with a medium growth scenario of just under 100 million tonnes by 2023 compared to less than 15 million tonnes today – placing great strain on our supply chains from pit to port. Indeed, projections show that within six to 10 years, several mining clusters will face severe capacity constraints in shifting mining output.

New port facilities will be needed with good rail and road connections if South Australia is to enjoy the fruits of this economic growth and export income. The map below shows where mining development is expected to occur. While this development will be led by the private sector, the scale of development will require good coordination between government and industry to enable assets to be shared, the potential for duplicated infrastructure eliminated and port development to be carried out sensitively and efficiently. Following the release of the *Regional Mining and Infrastructure Plan* a Resources Infrastructure Taskforce has been established to achieve this coordination.

Figure 3–7 Mining in South Australia



Connecting people and businesses – a high quality, well maintained road network

Maintaining a high quality, safe regional road network will continue to be a high priority. While each of South Australia's regions has different needs, they share a need for an increased focus on road maintenance. The main challenges that we need to address are:

- many rural highways have been constructed as narrow two-lane roads, often with no sealed shoulders. These roads do not meet modern road standards and do not match the needs of today's traffic mix
- one third of serious road crashes occur on regional roads and the safety of indigenous South Australians is a significant issue: Aboriginal people make up 1.7 per cent of the state's population but are three to five times more likely to be killed in a crash, and 1.5 to three times more likely to be seriously injured, than non-Aboriginal people
- growing numbers of freight vehicles, alongside increasing local and tourist vehicle traffic, are increasing the level of maintenance required for our regional roads
- the cost of maintaining remote outback roads is more than the cost needed for maintaining roads in metropolitan areas. Forecast strong mining growth means that we will need to re-assess the quality of these roads and examine ways for the resources sector to directly fund such upgrades
- there are growing conflicts between freight, tourism and local travel needs in our towns, especially in popular visitor destinations.

The Plan gives priority to addressing these challenges through measures such as targeted road duplications and town bypasses, increased maintenance investment and better management of our transport assets, road safety programs in the Anangu Pitjantjatjara Yankunytjatjara (APY) lands and the implementation of the *South Australian Road Safety Action Plan*.

Where freight and tourist networks cross government boundaries, we also have an opportunity to improve coordination and planning to avoid unforeseen uses, such as over-dimensional freight vehicles.

To better target and plan regional road network initiatives, the Department of Planning, Transport and Infrastructure is progressively developing detailed Regional Road Development Plans, Regional Road Management Plans and Regional Network Operating Plans to apply across the state. These plans will ensure a strategic approach to road upgrades, local road projects and safety initiatives as funds become available.

Connecting people and towns – passenger transport for regional communities

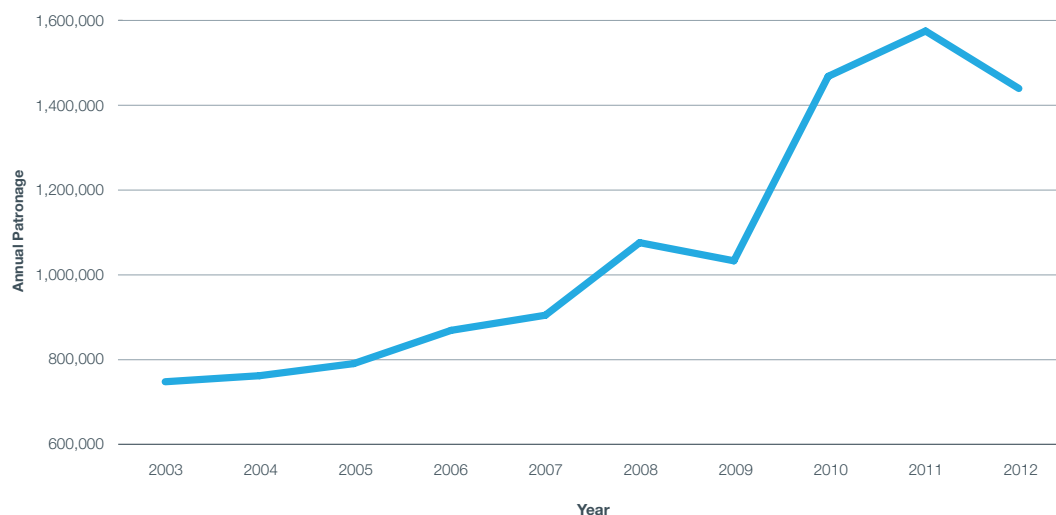
Patronage on regional passenger transport has grown considerably in recent years with the introduction of integrated passenger transport plans since 2002 successfully filling service gaps and enabling more efficient shared use of vehicles through pooling and cross-sector coordination and funding partnerships.

The State Government regulates and contributes to funding transport services in some regional areas and fosters regional transport initiatives that provide transport solutions identified through extensive community consultation and detailed transport studies.

While there will always be issues of affordability due to small, dispersed populations being served by such passenger services, the anticipated growth in tourism and mining communities will require investment in services to meet seasonal and fluctuating demands in specific locations. The State Government will continue to partner, support and invest in regional passenger services.

We will undertake a review of regional passenger transport to identify key needs, including service linkages between major regional centres and surrounding townships, and provide more innovative and targeted solutions for regional communities.

Figure 3–8 Overall regional passenger services patronage, 2003 to 2012



Source: DPTI Bus contracts patronage data 2003 – 2012

The State Government also supports a range of community programs in regional South Australia that promote safer, greener and active transport options using behavioural change techniques and grant funding – often partnering with local councils and schools. These programs have become increasingly important in recent years as people in regional towns seek to reduce localised congestion while improving their health.

Regional aviation is also growing – largely due to growth in fly-in-fly-out mining communities and tourism, but also due the growth in general economic activity. Regional air links are also important for many regional and remote communities, providing critical connections in medical and other emergencies, bringing perishable goods to isolated towns and giving residents fast and direct access to Adelaide and major regional centres. There are over 400 aerodromes, airstrips and airports across the state, mostly privately owned. Eight key regional airports have connections to Adelaide and are mainly the responsibility of local government. Services are privately provided, with a limited regulatory role for the State Government.

With growth set to continue, it is important that airstrip maintenance, safety-related services and equipment, and overall capacity issues are addressed.

The South Australian Government will work with local councils to ensure key regional airports are fit-for-purpose and meet the demand for regional air services. The South Australian Government will also work with the Australian Government to provide, where feasible, a network of aerodromes suitable for 24-hour all weather access by emergency service providers, including emergency medical services provided by the Royal Flying Doctor Service (RFDS).