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1 November 2016

Western Sydney Rail Needs Scoping Study: Feedback
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Dear Project Team

The transformative potential of North-South Rail for Western Sydney

We welcome the exhibition of the Western Sydney Rail Needs Scoping Study for public consideration and comment. Our submission is attached.

In framing the submission, we have had most regard for how the various rail options could fundamentally improve the economic productivity and the liveability of the western Sydney region. We also draw from a deep understanding of both the needs and opportunities that exist in Western Sydney.

Council's position is that:

- 1. Immediate steps be taken to reserve a rail corridor from the metro north-west at Cudgegong Road to Campbelltown Station via Western Sydney Airport.**
- 2. This corridor proceed to construction so that it is operational by the commencement of passenger services at Western Sydney Airport.**

It is without doubt that Western Sydney needs a vastly improved rail network. Each of the options 1, 2, 3, 4 and 6 have merit. Option 5 may be needed but not until several decades after commencement of the airport. Options A to E see Western Sydney's rail needs met by Eastern Sydney located projects.

However, Option 6 is clearly distinguishable from all other options. It is the only option which truly responds to the absolute imperative for structuring of the north-south outer metropolitan growth arc around passenger rail. This would be City and Regional shaping, and substantially enhance the economic, social and environmental performance of this planned high growth corridor. It provides the best opportunity for the benefits of a Western Sydney Airport to exceed the impacts – which is critical for public support for this major project.

As outlined in our submission Option 6 is the only option that will:

- Create a new connected 30-minute outer metropolitan growth city
- Add \$44.7 billion to the economy (from 2024 – 2040) reaching \$3.6 billion per year by 2040
- Support and improve access between the Growth Centres, the Western Sydney Priority Growth Area (including the proposed Western Sydney Airport) and the Regional City Centres of Penrith, Liverpool and Campbelltown



- Provide an unrivalled catalyst for employment, innovation and economic growth in the region to deliver the jobs of tomorrow
- Integrate with current rail plans to form an orbital network, supporting the existing east-west corridor with Penrith as the gateway between Sydney and the Central West
- Reduce the >90% reliance on motor vehicle for journeys to work in Western Sydney, significantly reduce commuting times and improve quality of life

Analysis by Deloitte and Arup (*titled A network of opportunity – Western Sydney Rail*) on behalf of Western Sydney Rail Alliance, of which Council is a member, is the central feature of our submission. It is included as attachment 1.

Attachment 2 describes other particular key matters that Penrith Council makes in its submission in addition to the attachment 1 document *A network of opportunity – Western Sydney Rail*.

We would welcome any opportunity to work collaboratively with appropriate State and Federal Government agencies, other local councils and key stakeholders on this critical project.

Council also requests that the final Study be made publicly available, upon completion.

If you would like to discuss any aspect of Council's submission, please contact Council's Assistant General Manager, Craig Butler, on (02) 4732 7716 or at craig.butler@penrith.city.

Yours sincerely

Alan Stoneham
General Manager

Encl. Attachment 1 – A network of opportunity – Western Sydney Rail, Deloitte & Arup (October 2016) for the Western Sydney Rail Alliance submission

Attachment 2 – Penrith City Council submission comments additional to A network of opportunity – Western Sydney Rail

Attachment 1:

Western Sydney Rail Alliance – Deloitte & Arup report

A network of opportunity – Western Sydney Rail



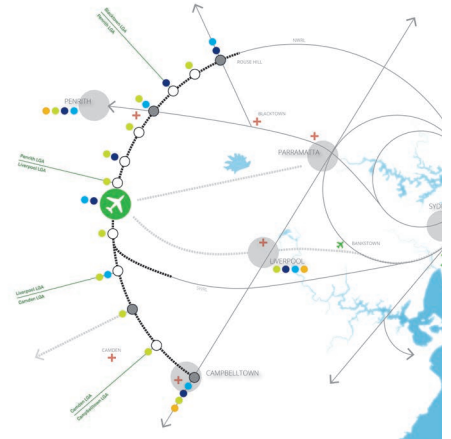
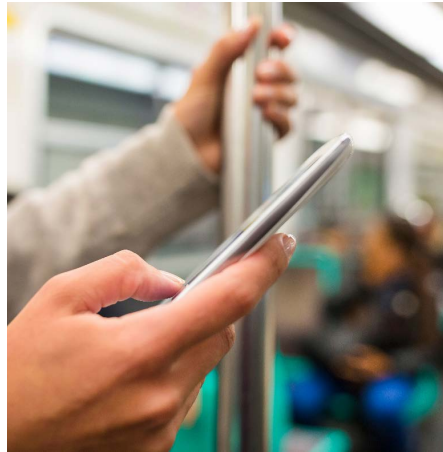
A network of opportunity

Western Sydney Rail

October 2016

Western Sydney Rail Alliance Members: Campbelltown City Council, Liverpool City Council, Penrith City Council, Celestino, Medich Corporation, Defence Housing Australia, Ingham Property, Lendlease, Perich Group, Sydney Business Park, The Committee for Sydney, Twin Creeks Golf & Country Club, University of Sydney, Western Sydney Leadership Dialogue.

Western Sydney
LEADERSHIP DIALOGUE

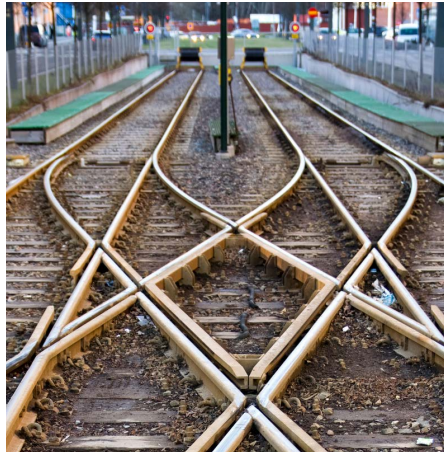


About the Western Sydney Rail Alliance

The Western Sydney Rail Alliance was formed in late 2015 to advocate for an integrated transport and planning solution that addresses the rapid development of Sydney's north-west and south-west growth areas and Western Sydney Employment Area along Sydney's Innovation corridor.

The group, comprising landowners, local councils, and advocacy groups, the Western Sydney Leadership Dialogue and Committee for Sydney, has commissioned consultants Deloitte and Arup to investigate a rail solution that is aimed at boosting town centre densities, addressing metropolitan housing affordability, improving connectivity across Western Sydney, supporting local employment generation and maximising the opportunities that Badgerys Creek Airport will deliver.

This report complements last year's Innovation Corridor Discussion Paper, released by Western Sydney University, which identified the need for an 'orbital' transport strategy that links the region's growth areas and can facilitate economic and education opportunities.



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The Western Sydney Growth Corridor

The ambition as developed by the Western Sydney Rail Alliance for an integrated transport and planning solution.

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Western Sydney's Future

The opportunity for Western Sydney with a north-south rail link.

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Funding rail by value cooperation

Outlines a mechanism to incentivise development investment through cooperation.

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Western Sydney Now

The current challenges facing Western Sydney that should be addressed by the north-south rail link

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Why Rail?

Provides a summary of the broad benefits that could be realised from the construction of a rail system connecting the nodes.



A network of opportunity

A rail connection along the Western Sydney Growth Corridor is the catalyst that will drive the jobs of tomorrow and, when integrated with current metro and heavy rail and light rail plans, will form a complete orbital network. North-south rail will:

- Support high growth cities like Liverpool, Campbelltown and Penrith
- Connect growth areas with the Western Sydney Airport and Western Sydney Employment Area
- Connect disadvantaged areas to employment centres, education and community services to drive transformation
- Create up to five new town centres
- Connect skilled labour with local jobs
- Induce further investment into the region including aviation, agribusiness, manufacturing, retail, transport and technology industries
- Reduce the need for residents to travel east for employment opportunities, reduce congestion, improve travel times, increase productivity and improve quality of life.



Currently 300,000 people leave Western Sydney for employment each day

corridor stretches over 60km

88% dependency on car travel for journey to work



Western Sydney will be home to over 4 million people

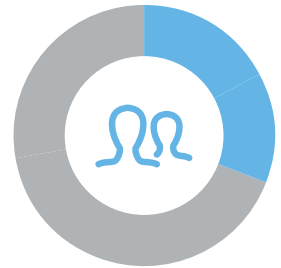
Western Sydney Growth Corridor in 2016:



\$38.7b
Gross Regional Product



335,000
Local jobs



973,000
People

Executive summary

Sydney will almost double in size by 2056 with the majority of that growth taking place in Western Sydney. More people will be living West of Parramatta at mid-century than East of it, as the demographic balance of Sydney shifts decisively away from the current CBD and the coastline.

The challenge will be to ensure that the significant jobs gap currently found in the region is addressed not merely to provide new opportunities in the West but also to improve Sydney's overall productivity and performance.

To do this will require game changing, city shaping infrastructure investment that exploits current economic opportunities but crucially connects to emerging ones to create

a new economic as well as residential geography for Sydney.

In our view that geography is the north south corridor of opportunity in outer Western Sydney running from Rouse Hill through Blacktown, Penrith and on to Liverpool, Camden and Campbelltown.

Rail infrastructure will unlock the potential of the corridor and deliver opportunities for communities that have been viewed as at the edge, but are increasingly at the heart of Sydney's future. Sydney needs a new north south strategic rail connection to realise the economic potential of growing communities and serve the new airport as part of a transformed Sydney network – and a rebalanced city. The level of current road and rail connectivity across the outer



The Western Sydney Growth Corridor will generate an additional \$44.7b in economic output from 2024 to 2040 with rail.

This unique proposal is backed by a coalition whose very purpose and ability is to bring the assets, powers, skills and community leadership they embody together.

Western Sydney region prevents the efficient movement of people and goods, isolates commercial activity, reduces workforce participation and disincentivises investment in emerging industries.

Development and infrastructure decisions made for the region will determine if economic opportunities are fully realised and are inclusive. As the region grows, a prolonged absence of north south connectivity will mean that the majority of

residents in Western Sydney will continue to travel east for employment due to the gap between Western Sydney residents and jobs. That movement will further increase pressure on already congested transport corridors.

Decentralising jobs and making the 30 minute city a reality for Western Sydney will improve liveability and provide access to a diversity of employment opportunities closer to where people live.

The Western Sydney city deal should set out the specific investments and reforms needed to unlock business and industry development and ensure community wellbeing.

The Western Sydney Growth Corridor could be an exemplar of the cooperative value creation approach, which by design necessitates integrated land use and transport planning to meet community expectations.

The Western Sydney Growth Corridor

To ensure sustainable and equitable growth, the Western Sydney Rail Alliance has developed a collective ambition for an integrated transport and land use planning framework that addresses the rapid development of Sydney's north-west and south-west growth areas by connecting them with public transport through existing and proposed health, education, transport, science, manufacturing, agriculture, hospitality and cultural activity centres.

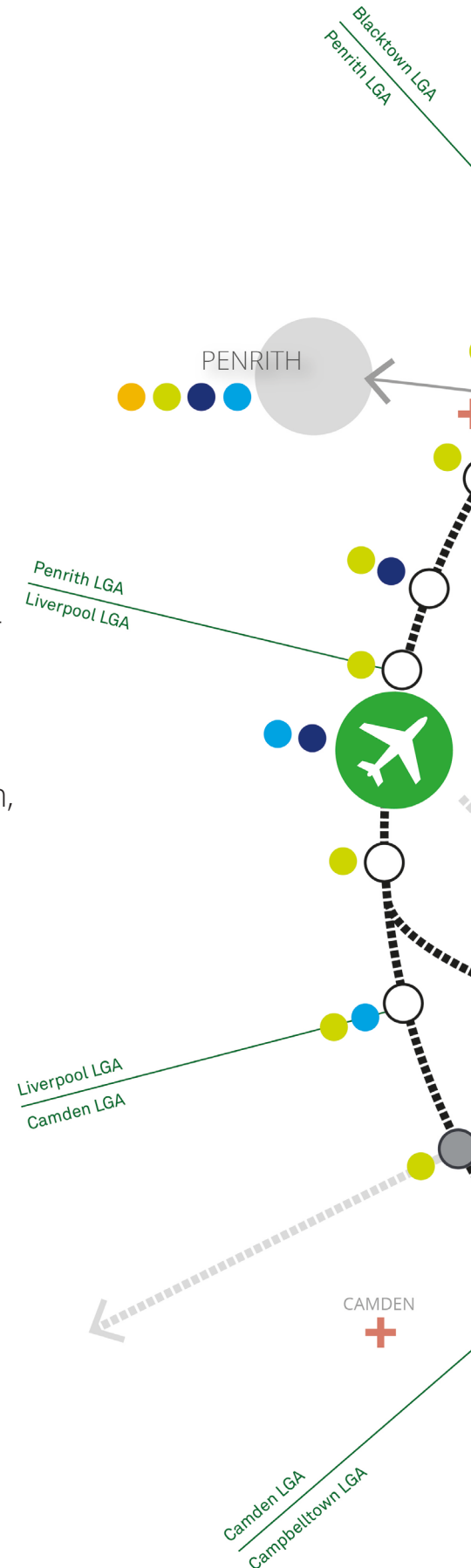
The development of the North and South West Rail Links is the start of a more comprehensive transit network that subject to community support needs to include connections that support high-growth cities like Liverpool, Campbelltown and Penrith, and the Western Sydney Airport and Western Sydney Employment Area.

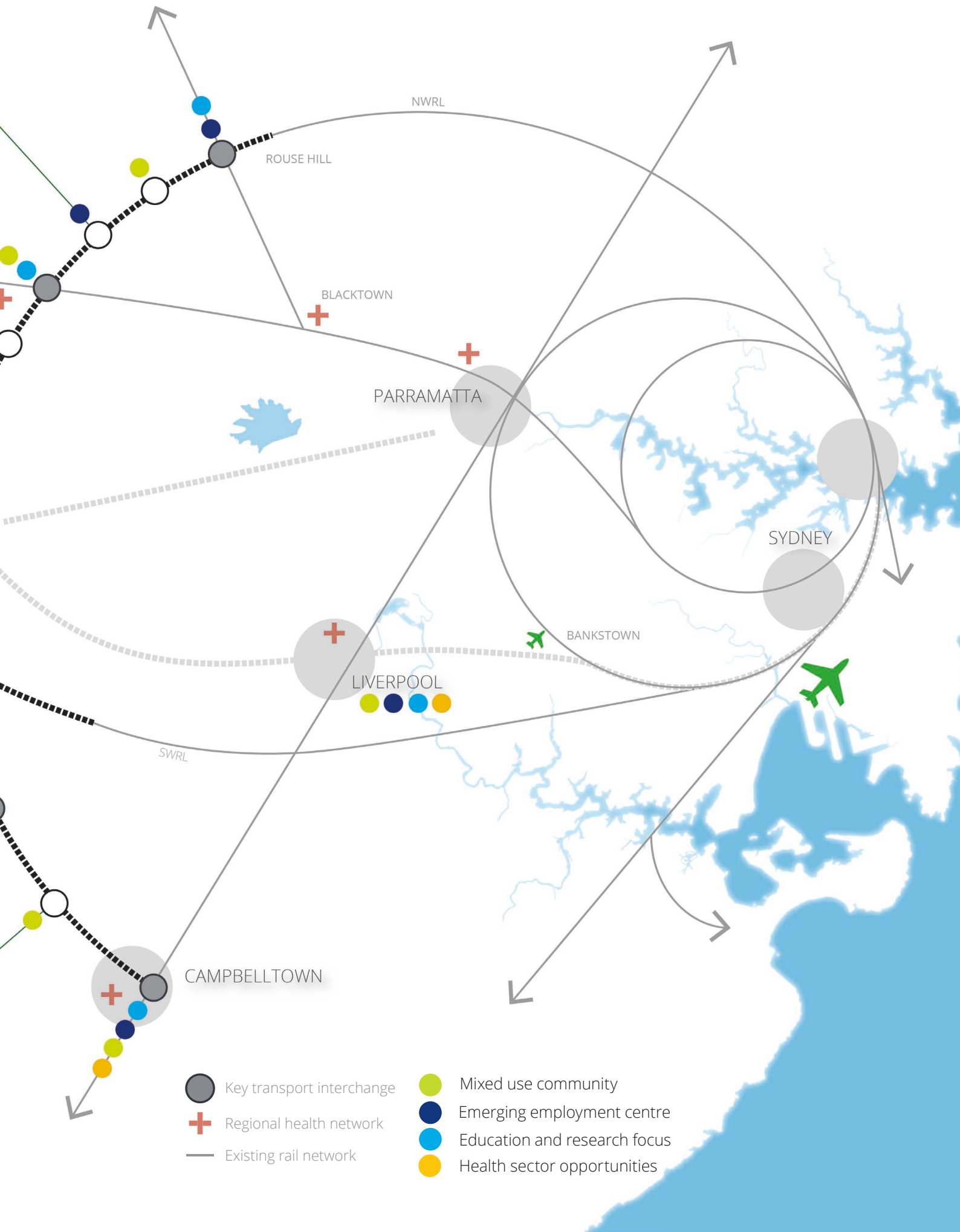
The corridor will connect the surging growth in the North West with the emerging growth region of South West Sydney. It will enable specialist centres (both existing and proposed) to grow and mature but more importantly realise the benefits of a networked ecosystem.

The corridor is 60 kms in length — 3 times the distance between Sydney and Parramatta. It is currently

a mixture of residential sprawl, paddocks, small scale town centres, business centres and university campuses. If the region is going to thrive and become a 30 minute city to 2 million residents, it needs a transport and land use mix that enables efficient movement of people and goods.

Travel in the corridor is dominated by private vehicles with average commute times north to south between 45 and 70 minutes without traffic. To travel from Marsden Park, Riverstone or Mt Druitt south to Camden or Campbelltown by public transport takes at present upward of 1.5 hours each way. Unless ease of movement is addressed, the region's economic prosperity will remain unfulfilled.





- Key transport interchange
 - Regional health network
 - Existing rail network
- Mixed use community
 - Emerging employment centre
 - Education and research focus
 - Health sector opportunities

Western Sydney now

Key centres in the five LGAs are developing. There is a planning framework encouraging growth in the corridor focussed on the North West and South West Growth Centres, strategic centres and the Western Sydney Employment Area adjacent to Western Sydney Airport. The corridor largely remains undeveloped.

A lack of certainty in rail investment means that the existing jobs and activity centres are dislocated from population growth centres in the region.

Roads connecting the centres of employment in Western Sydney are congested, affecting private and bus transport, while heavy rail commutes are indirect and require interchange.

In the absence of new orbital transport infrastructure, this is not expected to change and the job deficit of Western Sydney will continue to grow as will the mass jobs migration to the east. Currently 300,000 workers travel to other parts of the city for jobs every day according to the Department of Planning and Environment. This drain is likely to be exacerbated when an increased number of tertiary and post-graduate qualified Western Sydney workers exceed the growth of local knowledge based jobs as observed by the Western Sydney University in their study 'Addressing



Western Sydney's Job Slide' (2016).

Like other fringe areas in cities across the globe, the Western Sydney Growth Corridor is highly car dependent. As urban sprawl has continued, dependence on private transport has increased even further, leading to congestion and lost productivity with some worker trips into and out of the Sydney CBD taking 2 hours each way.

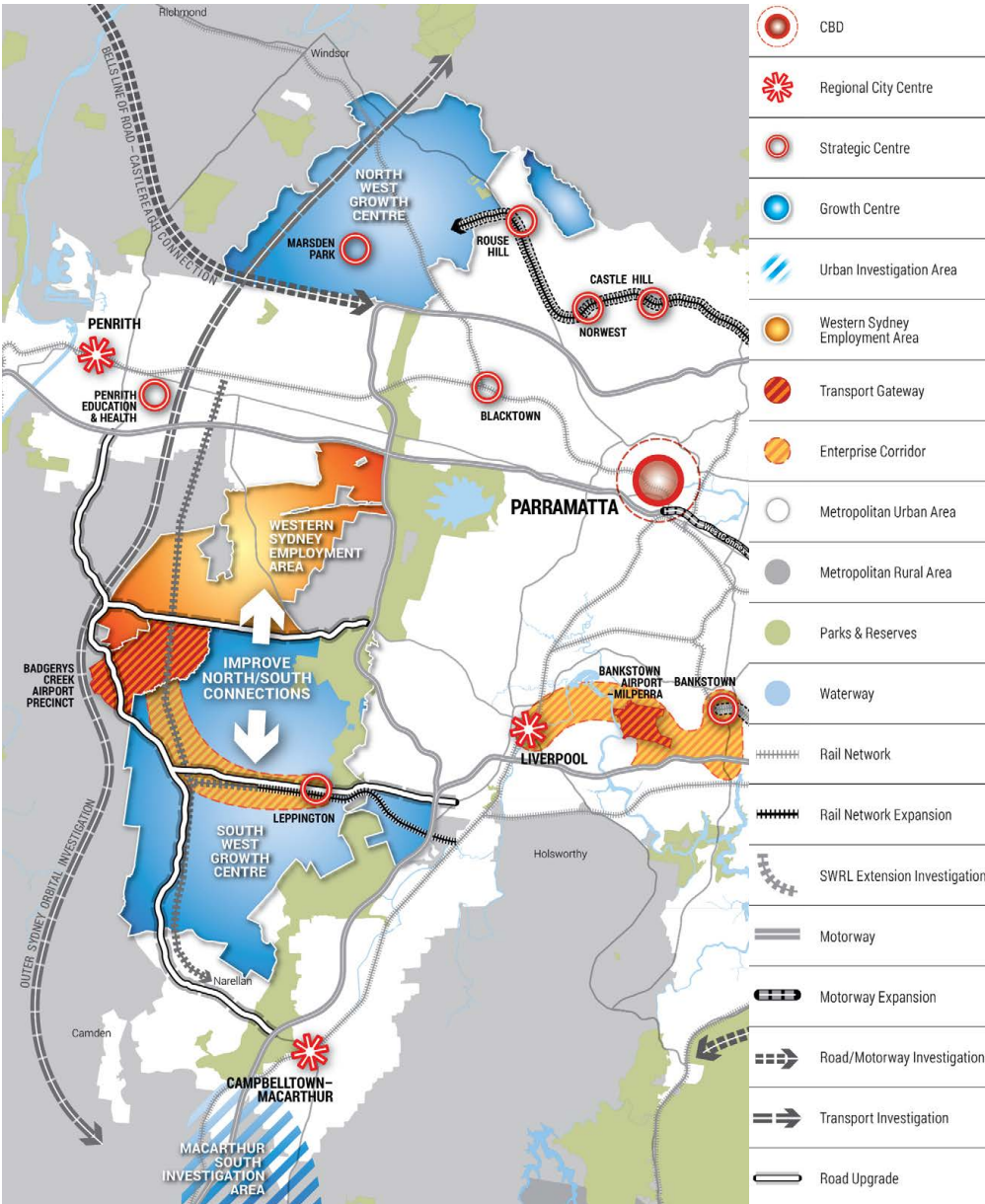
By way of example, workers, businesses and visitors at the Sydney Business Park in the northern part of the corridor are heavily reliant on the road network to access the business park, with limited public transport options available. While road use is crucial for key freight and logistics purposes (reflective of the sophisticated road network in place around the Sydney Business Park including the M7, Richmond Road and internal road network), the

80% of workers commuting by car are faced with significant congestion issues as the region continues to grow.

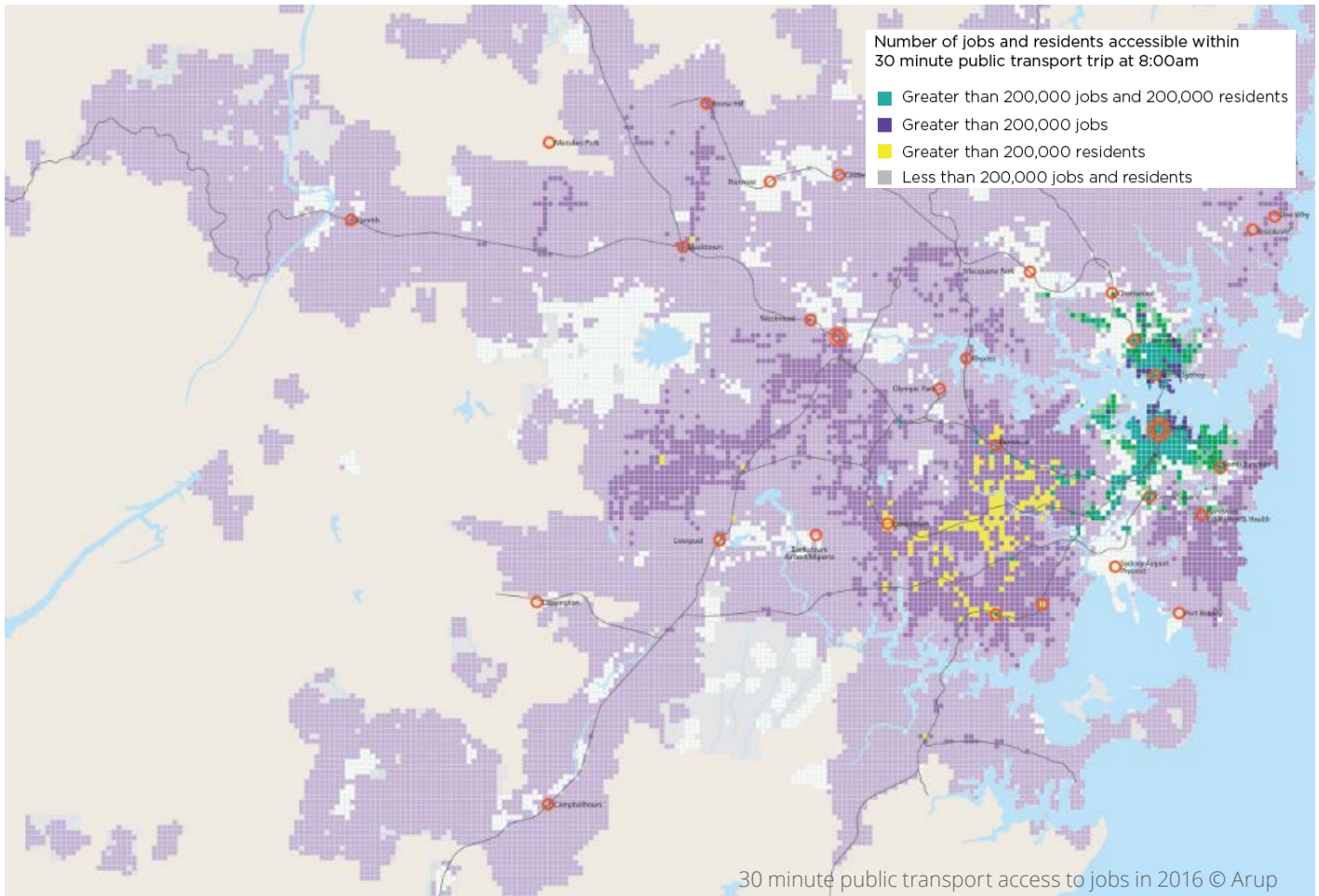
Given the expanse of the corridor, at 150,000 hectares, compared with other global cities the connectivity is severely limited and largely directed towards the east, based on Sydney's radial network.

With expected population growth, federal and state government investment in Western Sydney Airport and a Western Sydney City Deal, effective land use and transport integration is required to ensure growth and investment outcomes in the corridor.

The corridor's five LGAs span 150,000 hectares, which is approximately the same size as Greater London.



Connecting Western Sydney's population to jobs (Source: "A Plan for Growing Sydney")



30 minute public transport access to jobs

Western Sydney is primarily reliant upon road based transport connections. Public transport is focussed on east west radial rail corridors, however the frequency of services is low outside of the peak hours. Two bus transit ways provide dedicated, frequent bus services from Parramatta to Rouse Hill and Liverpool. As a result of the transport provision and land use patterns, access in the area is primarily facilitated by car travel accounting for about 90% of all travel (refer to table on page 13).

The number of job opportunities that can be reached by car often

significantly exceeds those reachable by public transport, walking or cycling. Western Sydney's imbalance between jobs and employment — less than 0.75 jobs for every worker in the region — means that people need to travel longer distances to get to work or to access other essential services.

Comparatively, Sydney's Central District has more than 1.75 jobs for every resident worker, which results in shorter commutes and overall shorter distances travelled throughout the day.

The concentration of jobs in Eastern Sydney means that Sydney's west has significantly lower numbers of jobs that can be reached within a

reasonable travel time. Just 1-2% of Sydney's knowledge intensive jobs are reachable within a 30 minute public transport trip of Penrith — an area with some of the best jobs access in Western Sydney. Locations such as the Eastern Suburbs, Lower North Shore and Inner West have access to nearly 10% of Sydney's knowledge intensive jobs within a 30 minute public transport trip. These locations have much stronger public transport links with faster and more frequent connections between where people live and work.

Journey to work using car (driver and passenger, ABS 2011)

Origin > Destination	Blacktown	Penrith	Liverpool	Campbelltown	Camden	Wollondilly	Total
Blacktown	85%	87%	91%	92%	98%	85%	86%
Penrith	92%	89%	95%	96%	95%	93%	90%
Liverpool	95%	94%	83%	92%	96%	94%	86%
Campbelltown	94%	94%	90%	87%	95%	92%	88%
Camden	99%	100%	96%	95%	90%	97%	94%
Wollondilly	97%	95%	94%	94%	96%	89%	93%
Total	88%	89%	87%	89%	93%	91%	88%

Travel between some locations is fully weighted towards private vehicle use such as Camden to Penrith, reflecting limited public transport and other alternative options. Without action, the forecast growth in the corridor will exacerbate the congestion already experienced.

BTS Data (2011) confirms that connectivity between the nodes along the Western Sydney Growth Corridor is extensively weighted towards car dependence with 88%

of all residents use cars to get to work. The 30 minute city is where people can comfortably access their daily needs within a one hour travel budget – ideally by walking, using a bicycle and catching public transport. Fundamental to delivery of the 30 minute city are urban rail networks, urban density and integrated land use planning.

The concept aims to ensure that communities and businesses have access to the skills they

need to successfully participate and compete in the transition to an economy based on services, knowledge and innovation. Places and neighbourhoods with cafes, bars and restaurants and other services close to jobs, research or educational facilities have a premium in the knowledge economy – because they are where the collision of ideas and talent at the heart of modern business innovation takes place.

Outer Western Sydney can provide this amenity including parklands, hospitals, schools, sports grounds, business parks and community services. Currently what is there is poorly connected to residential areas.

The following pages provide a perspective on Western Sydney's people, jobs, workers and the industry sectors that are growing in Western Sydney.

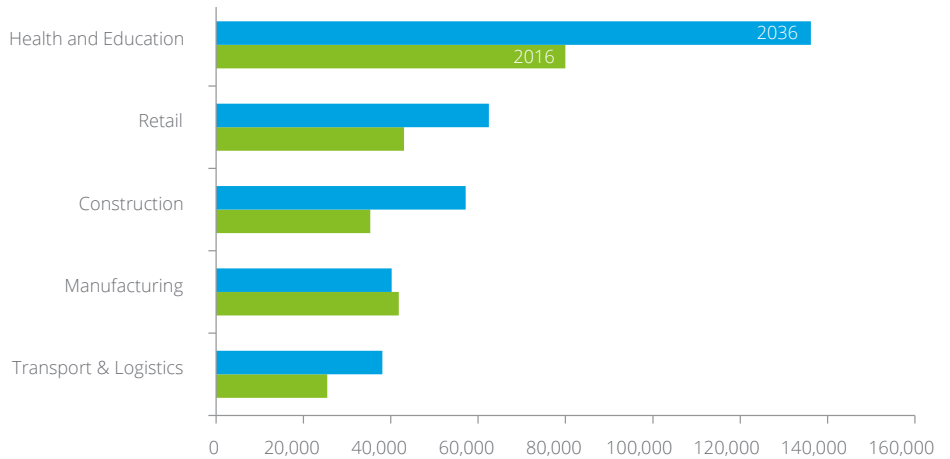
The average family from Western Sydney pays approximately \$22,000 a year in transport costs (Transport Affordability Index).

People and jobs

Currently there are over 1 million residents in the Western Sydney Growth Corridor, by 2036 it is expected there will be almost 1.6 million people living in the corridor.

The population in Western Sydney is young, with just over half of the population under 35. The innovation generation (the population aged 25 and under) is expected to increase by almost 130,000 or 35%, by 2036, double that of the NSW growth rate of 17%. This growth in the innovation generation will result in higher demand for educational facilities as seen in the uptake of post secondary qualifications in Western Sydney.

Employment demand in Western Sydney

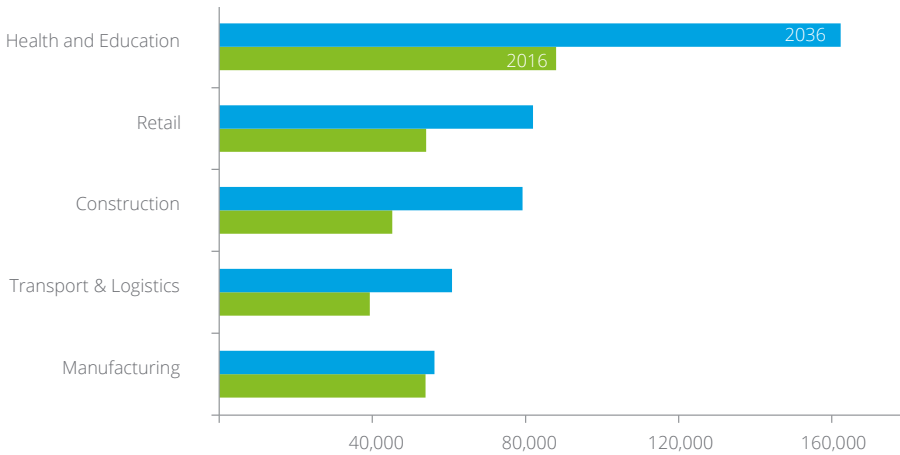


According to Deloitte Access Economic employment data there are currently 345,075 jobs in the Western Sydney Growth Corridor (Penrith, Blacktown, Camden, Campbelltown, & Liverpool). Health and Education jobs represent the highest proportion of jobs at 26% or almost 80,000 jobs, followed by Retail, Construction, Manufacturing, and Transport & Logistics.

By 2036, it is expected there will be over 517,000 jobs in the Western Sydney Growth Corridor, representing a 50% increase in jobs in the region. It is expected that Health and Education jobs will continue to represent the highest proportion of all jobs at 26% or almost 140,000 jobs.



Workers in Western Sydney

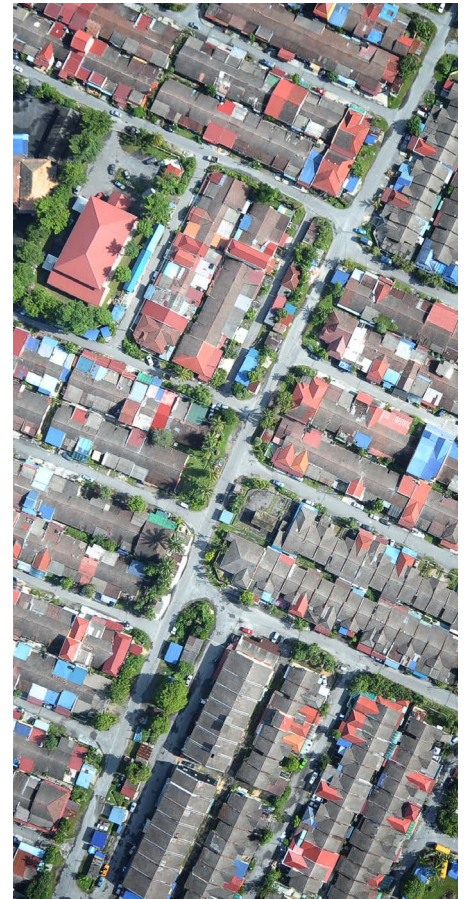


While Western Sydney is relatively young now, the proportion of young people is expected to reduce. The share of people aged 70 and over is expected to double between now and 2036, resulting in increased demand for health services.

Of those residents living in the Western Sydney Growth Corridor just under half a million are workers. The top 5 industries for all workers are Health and Education, Retail,

Manufacturing, Construction, and Transport & Logistics. Health and Education workers represent 18% of all workers in the region or over 88,000 workers.

By 2036, it is expected there will be 60% more workers, representing over 767,000 workers in the corridor. It is expected the number of health and education workers will increase by 84% or over 74,000 workers to 162,000.



Road infrastructure expenditure

The Government has begun work on a \$3.6 billion program to upgrade road infrastructure over the next 10 years to support and provide vital links to Western Sydney Airport. Investment in road based infrastructure without effective rail connectivity will run counter to government targets to grow journey to work by public transport. Any economic benefits to the region will be far less than what can be achieved with a multi modal approach.



Supporting these industries to innovate will enable better growth in the corridor.

Manufacturing, Wholesale Trade and Transport & Logistics



The Western Sydney Growth Corridor has a number of specialised industries including manufacturing, wholesale trade and transport and logistic sectors. These industries are increasingly knowledge based and are highly concentrated in the corridor. The importance of these industries is evident in the number of workers and jobs in these industries.

For example, the Sydney Business Park in the rapidly expanding North West is home to world class businesses including ALDI, Bunnings Warehouse, Coles Express, Costco Wholesale, Dulux, Home Hub Marsden Park, IKEA Marsden Park & Distribution Centre, Lindt & Sprungli, Linfox, Masters Home Improvement, Reece, Medline Pharmaceuticals,

Actron Air and Toll. The Business Park facilitates the co-location of bulky warehouses with corporate operations in a campus style precinct and significant access to potential upstream and downstream businesses. Given the current tenants, it is expected there will be 17,000 jobs in the Sydney Business Park.

These “classic” industries of retail and warehousing are at a critical point in their evolution. In an increasingly competitive and disrupted world these industries need to grow and innovate to maintain their growth and successes.

Health and Education Sector



The health and education sector contributes the highest proportion of jobs and workers in the region compared with any other industry.

The southern part of the Western Sydney Growth Corridor has attracted significant investment from the health industry with Liverpool now being the largest trauma hospital in the state and Campbelltown investing in upgrading its health and education precinct with a focus on paediatrics.

Additionally, there are a number of higher educational institutions expanding a presence in Western Sydney including Western Sydney University, the University of Sydney, University of New England, the University of Wollongong and the Australian Catholic University.

Health care and education could be further developed to ensure the corridor continues keep pace with residential growth.

This is further emphasised when it is acknowledged that along with an ageing population, the incidence of lifestyle-related chronic diseases is increasing, at the same time, the innovation generation in the corridor is expected to grow almost double the rate of NSW. These events will result in an increased demand for health and educational services in the Western Sydney Growth Corridor.

Given this expected growth in demand and the population growth, it is unsurprising the health and education sectors are among the corridor's most effective sectors for fostering jobs, skills and innovation.

Given the population growth in Western Sydney, the ready labour force and the changing dynamics of demand, the health and education sector offers a great opportunity for growth. Almost 80,000 jobs are within this sector.

Tourism

In 2015 Western Sydney welcomed over 9.6 million visitors representing 30% of all visitors to Greater Sydney. The region's visitors spent over 15 million nights in Western Sydney, contributing more than \$2.5 billion to its economy.



Domestic day trip visitors make up 75% of all visits to Western Sydney and are driving the majority of the region's visitor economy growth. Over the last decade, overnight visitation to Western Sydney has grown 96% driven primarily by domestic visitors.

Western Sydney has a range of existing natural and man-made visitor infrastructures including Olympic legacy sporting facilities, regional parklands, motor sport and cultural facilities – all with significant scope to play larger roles in attracting and servicing visitation in the region. Namely, places such as Twin Creeks will facilitate and attract new business investment as it ramps up its hospitality, conference and leisure offerings.

Western Sydney has nearly 3,600 square kilometres of unspoilt national parks that include, or are at the confluence of some of NSW's most stunning river systems and land formations. The state's largest single wilderness area, the Greater Blue Mountains World Heritage Area, is almost entirely located in Western Sydney.

The future airport at Badgerys Creek represents a once in a life time opportunity for the region, particularly its visitor economy. When established post 2026, Western Sydney Airport (WSA) will significantly expand opportunities for the region's visitor economy.

WSA will channel new international and domestic visitors into Western Sydney, providing opportunities to create tourism offerings that capture and retain new visitor markets in the region.



Western Sydney's future

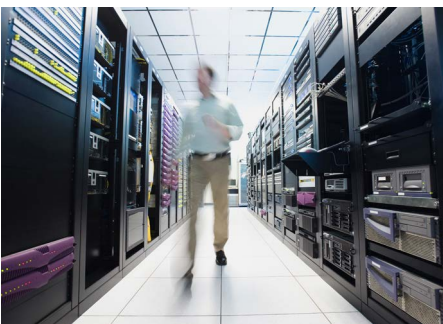


Cities in the knowledge economy compete for clever people. Typically, cities with agglomerations of knowledge intensive jobs and the productivity and innovation that flows from clustering knowledge workers and the economic spill-overs they create when they interact, are outperforming cities that offer more dispersed economic activities.



Rail is an organising element of economic activity and that view was firmly established in the Innovation Corridor Discussion Paper, released by Western Sydney University.

density locations, more liveable suburban areas and greenfield sites with an impact on Western Sydney's relative affordability.



Placemaking, innovation and technology have become embedded in the contemporary city. To grow capabilities in the service and knowledge economies, Western Sydney is required to focus on what makes it unique. An integrated approach to regional health services and medical research is already emerging. Certainty of airport investment means aerospace and aviation research opportunities will emerge in Western Sydney.

The Western Sydney Rail Alliance has identified the areas of opportunity that will be enhanced and in some cases made possible by rail investment. They give Sydney's third city a planning framework based on a transport network linking Campbelltown in the south with Marsden Park in the north.

The development and land release opportunities that result from rail investment will enable new supply of diverse housing types in higher

The corridor includes centres of activity, business parks, Sydney Science Park, the new Western Sydney Airport, at least two large university campuses, regional open space and a diversity of housing types that respond to lifestyle needs. The ecosystem that supports growth is larger and includes the established centres such as Liverpool, Penrith and Camden.

North West Priority Growth Area

Health, tourism, education, advanced manufacturing, skilled workers supporting airport

Renewed social housing, health, resaearch and education opportunities

Innovation jobs and new opportunities for manufacturing

PENRITH

BLACKTOWN

Airport services, aerospace, defence and advanced logistics opportunities

Innovation opportunities: science, technology and research

Western Sydney Employment Area

PARRAMATTA

Airport city: professional services, residential and mixed use

Transport, logistics, warehousing and distribution

Western Sydney Priority Growth Area

LIVERPOOL

New and renewed mixed use communities

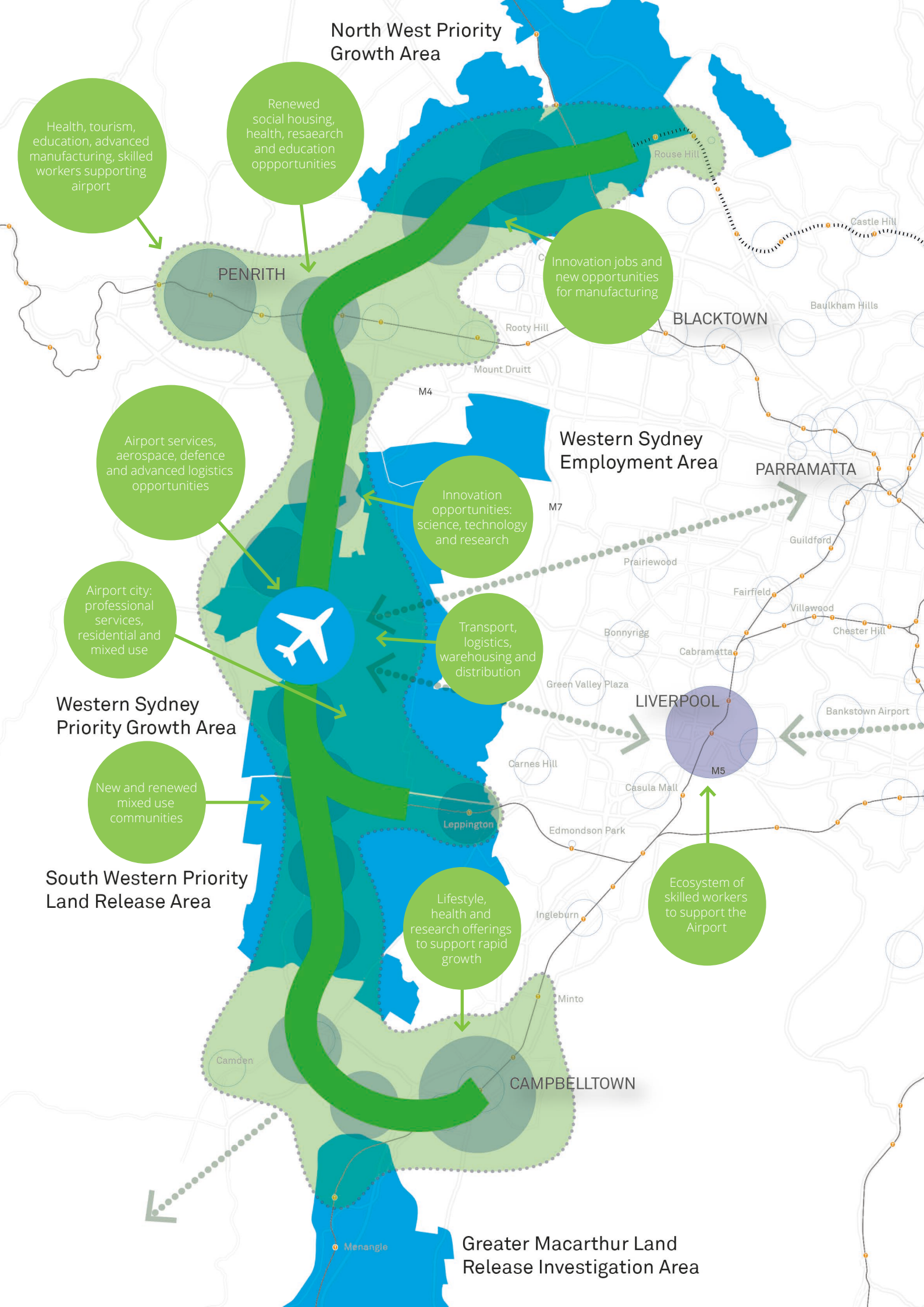
South Western Priority Land Release Area

Lifestyle, health and research offerings to support rapid growth

Ecosystem of skilled workers to support the Airport

CAMPBELLTOWN

Greater Macarthur Land Release Investigation Area





Western Sydney needs more than a 'business as usual' approach to protect and indeed enhance its character and environment, achieve its fullest potential and deliver the successful and equitable city the communities of Western Sydney seek. In an era of great economic and urban transformation, a changing climate and the re-design of services, business models and indeed digital platforms, standing still is not an option for any Australian city, let alone Western Sydney.

People used to follow jobs and firms. In the knowledge economy these opportunities now follow the people and people follow liveable places. In Australia the collection of places has been defined as the 30 minute city. Advanced firms will locate where talented workers are willing or wanting to live. The quality of life and place, the amenities and facilities of cities becomes a critical competitive tool in attracting knowledge workers, who are themselves the magnets for external corporate investment and high quality growth.

This is why leading science centres such as Singapore, San Francisco/Bay Area, Basel, and others are placing great stress on high quality of life, but it is also why established financial centres like London and New York seek to become greener and cleaner, and why emerging world cities like Helsinki, Frankfurt, Seattle, and Seoul must become better places to live and offer richer opportunities to enjoy life. All of these places

have exceptional public transport infrastructure and its provision is accelerating not declining.

Western Sydney will only do well if investment opportunities are clearly defined. Identity and reputation also matter in the next economy: city branding and communication, when done well, make the city and its opportunities more credible, visible, and attractive. Improved public transport is critical to Western Sydney's credibility on the national and indeed global stage.

Enabling fast public transport access to jobs is fundamental to the notion of the 30 minute city. The Western Sydney Growth corridor provides 30 minute rail connectivity between the region's booming population centres, its town centres and the thousands of jobs expected to emerge around Western Sydney Airport.

Growth by numbers

Sydney's population is forecast to reach eight million people, in the next 30 - 40 years. Half of all population growth is expected in Western Sydney. The five LGAs considered in our analysis will eventually be home to around two million people.

Current Density	Population (2015)	Land Area (Ha)	Population Density
Blacktown	339,328	24,019	14.13
Camden	72,256	20,132	3.59
Campbelltown	158,941	31,222	5.09
Liverpool	204,594	30,552	6.7
Penrith	197,922	40,400	4.9
Total	973,041	146,325	6.65

Dwelling growth	2031	8 million Sydney
Blacktown	168,350	229,757
Camden	58,500	79,838
Campbelltown	79,550	108,566
Liverpool	100,750	137,499
Penrith	99,850	136,271
Total	507,000	691,932

Population growth	2031	8 million Sydney
Blacktown	473,300	645,939
Camden	162,350	221,568
Campbelltown	215,750	294,446
Liverpool	288,950	394,346
Penrith	261,450	356,816
Total	1,401,800	1,913,116

Smart growth in Western Sydney will rely on:

- Future development that responds to a networked public transport system efficiently connecting people to centres.
- A clear narrative of pursuing and realising the well-connected Western Sydney of short journeys: integrated transport as a top priority that connects people to jobs.
- Grasping the opportunity for Western Sydney to become a world leader in supply chain technologies.
- Building firm foundations: a well planned, balanced and integrated city with intense centres and flourishing suburbs that support each other, but offer different lifestyles.
- Increasing the diversity of housing types and tenures as well as providing new housing in Western Sydney.
- Encouraging Western Sydney to mature as a city with global reach: leveraging the advantage of Greater Sydney while promoting the Western Sydney brand.

Western Sydney Airport



The Western Sydney Airport will provide the connectivity needed to support Australia's third largest economy - Western Sydney.

When the airport opens in the mid-2020s, the single runway will support approximately 5 million passengers plus freight, which if realised would bring approximately 4,000 jobs. The passenger catchment is likely to be Greater Western Sydney until around 2040 when aviation services expand. By 2050 the airport is likely to be a curfew free, dual runway, international passenger and freight airport.

The airport development is expected to create 35,000 jobs by 2035, increasing to 60,000 jobs over time. The Greater Sydney Commission has outlined plans for up to 90,000 jobs in adjacent employment lands by 2036. More broadly, it is anticipated that the airport will eventually support an additional 15,800 to 20,600 full time jobs in the Liverpool area alone and be responsible for an \$11.5 billion increase in the region's output.

For every million passengers that come through the airport, the airport is anticipated to add 750 jobs in the region. These jobs should be most accessible for the 500,000 people that will be living in North West and South West priority growth regions by 2040. Western Sydney residents are well placed to fill many of the construction and engineering positions that will be

available during the initial phases of the airport's development. Wollondilly, Hawkesbury, Camden, the Hills Shire, Penrith and the Blue Mountains all have more engineering and related technology qualifications per head of population than either the Sydney, NSW or Australia on average. In particular, almost 10% of the Wollondilly population holds an engineering or related technology qualification.

The Western Sydney Airport will be an international gateway for Greater Sydney. Western Sydney, including the Blue Mountains, is already the fastest growing visitor region in NSW and will be a large part of the market for the airport. Visitor numbers to Western Sydney grew by 51% over the decade to 2015. Over 13 million visitors came to the region in 2015. Many of these visitors come to visit friends and family living in the region, as well as to access education, medical services, national parks and cultural attractions.

Aside from tourism, the Western Sydney Airport is anticipated to facilitate the large supply chain and logistics industry in Western Sydney and to enhance the international competitiveness of the advanced manufacturing, agribusiness and food manufacturing industries.



The Southern corridor

Within the southern corridor rail will invigorate and drive greater employment development synergies in existing and expanding centres in the South West such as Campbelltown and Macarthur and link these centres with surrounding employment lands. It will add value to the region dovetailing into the key economic drivers associated with the aerotropolis as well as demonstrating a 30 minute city.

Significant growth catalysts that could be further enhanced by the Southern corridor include:

- Western Sydney University, including the School of Medicine
- TAFE South Western Sydney Institute – Campbelltown
- Campbelltown Hospital, currently undergoing a \$139 million redevelopment
- Western Sydney University's Clinical School of Medicine
- Macarthur Square Shopping Centre
- Campbelltown Sports Stadium
- Harness Racing at Menangle Park
- Dharawal National Park
- The Georges River Regional Open Space corridor.

Campbelltown will be one of the key destinations accessible via the southern corridor. It is the epicentre of a population boom in the South West that is driving infrastructure, investment, innovation and jobs. It has outstanding education, health, arts, retail and sporting facilities and significant tracts of undeveloped land available for development, all set within an attractive natural environment. The southern rail connection will link a local population expected to reach over 250,000 and a regional population of over

500,000 by 2036 to both existing and new infrastructure and employment opportunities. Enhanced rail connectivity will provide for more than 30,000 new homes and 20,000 new jobs in the Campbelltown LGA alone, detailed in the below table.

It is also expected that Campbelltown City will accommodate significant additional housing opportunities within its centre and increases in dwellings through redevelopment of existing suburban areas.

A rail connection linking to the new airport as well as the rest of Western Sydney will also link socially and economically isolated communities with access to employment. This synergy of growth and opportunity will significantly improve social equity outcomes.

The Southern Rail corridor is a key connector linking the Western Sydney Airport with a rapidly expanding population and an accessible, skilled workforce.

Opportunity	Potential Dwellings	Potential Jobs
Menangle Park and Mount Gilead	18,000+	*
Macarthur	5,000	4,320
Campbelltown	4,000+	6,850
Leumeah	1,000	1,880
Minto	400	1,900
Ingleburn	1,400	4,000
Macquarie Fields	400	780
Glenfield	2,800+	970+

* 21 hectares to accommodate a proportion of the anticipated 17,000 jobs expected in the Greater Macarthur Priority Growth Area

The Northern corridor

A north south rail connection will enable the rejuvenation of the region north of the Western Sydney Airport. This will create a transport link between key Western Sydney business hubs in Penrith, St Marys, Dunheved, Marsden Park, Rouse Hill, Norwest, Macquarie University, North Ryde, North Sydney and Sydney Central Business District.

Connecting WSA to the North West Growth Centre will enable the creation of up to five new town centres. The centres will attract investment into industries such as aviation, agribusiness, manufacturing, retail, transport, science and technology. With rail, the northern corridor has the potential to connect a total of over 89,000 new dwellings and 84,000 jobs.

A rail link will enable consolidated renewal efforts in disadvantaged areas such as Willmot, Bidwill, Mount Druitt and Blackett by improving access to employment and education opportunities. Rail will provide access from these areas to the rest of Sydney and create opportunities for a greater diversity of housing type and tenure including social, affordable and market price housing, similar to the proposed renewal of Telopea and Dundas Valley as part of the Parramatta Light Rail project.

Rail will connect isolated and disadvantaged suburbs in the Mount Druitt area to thousands of jobs in nearby Marsden Park, and provide unprecedented access to work and study opportunities throughout Greater Sydney.

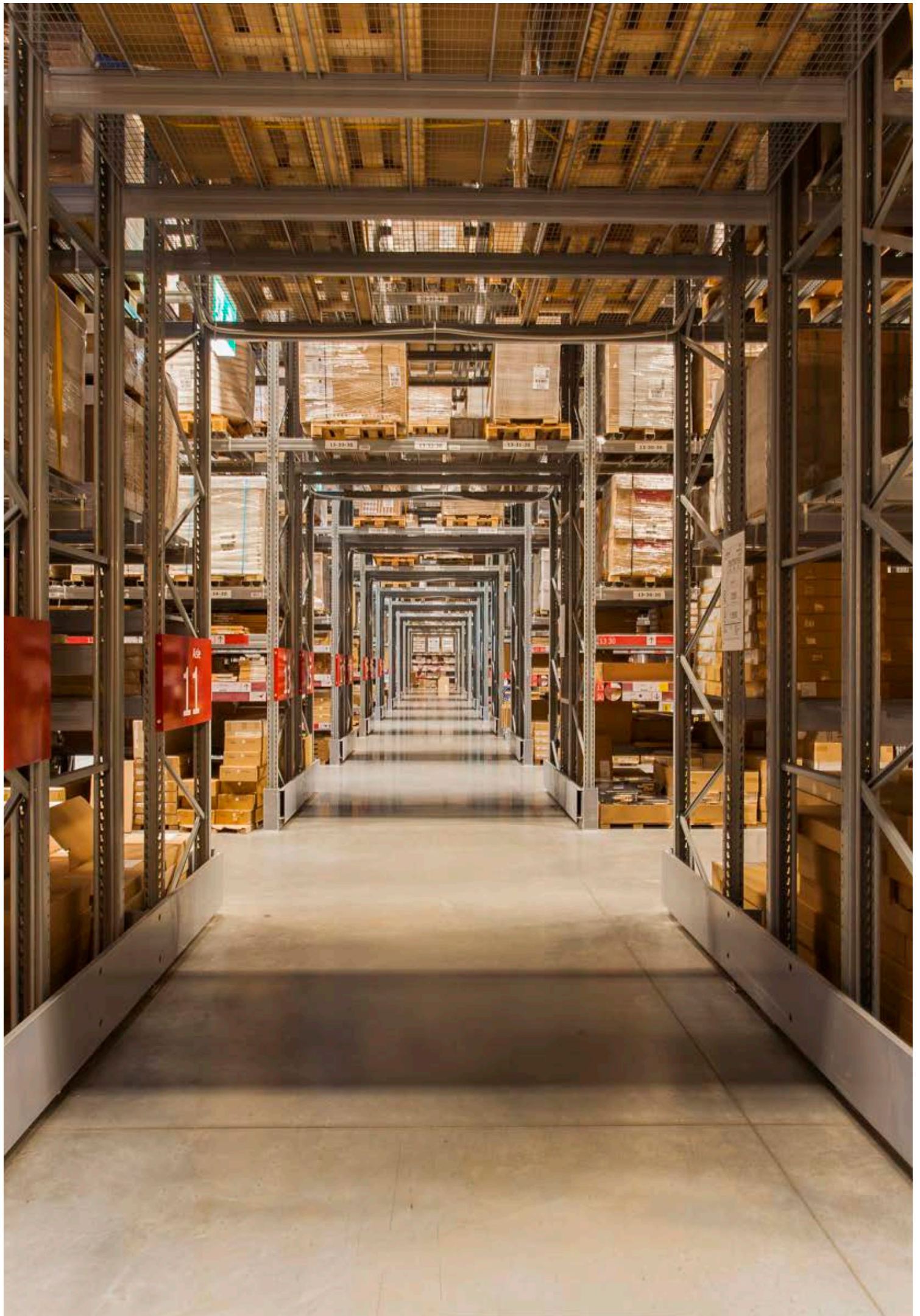
Additionally, rail will allow for the up-zoning, redevelopment and intensification of higher uses around Werrington, St Marys and Dunheved employment areas, providing new job opportunities to low employment rate suburbs in the area.

A station at Marsden Park for example, would lift the employment forecast for Sydney Business Park from 17,000 to 30,000 jobs, enable an increase of the town centre footprint from

35,000sqm to 75,000sqm and an increase from 1,200 to 4,000 dwellings in the precinct. Similarly, a rail connection to Sydney Science Park would allow for an increase from 3,400 to at least 20,000 dwellings and from 12,000 to as many as 50,000 jobs in the precinct.

Rail connectivity for Sydney Business Park and Sydney Science Park could theoretically provide for an uplift in jobs of up to 300% and up to 480% more dwellings, compared to the business as usual scenario.

Additionally, the north south rail link will provide networked rail services for the 65,000 new homes within the North West Growth Centre. The north south rail connection will reduce the need for residents of Western Sydney to travel east for employment opportunities ensuring jobs are located closer to where people live and improving quality of life.

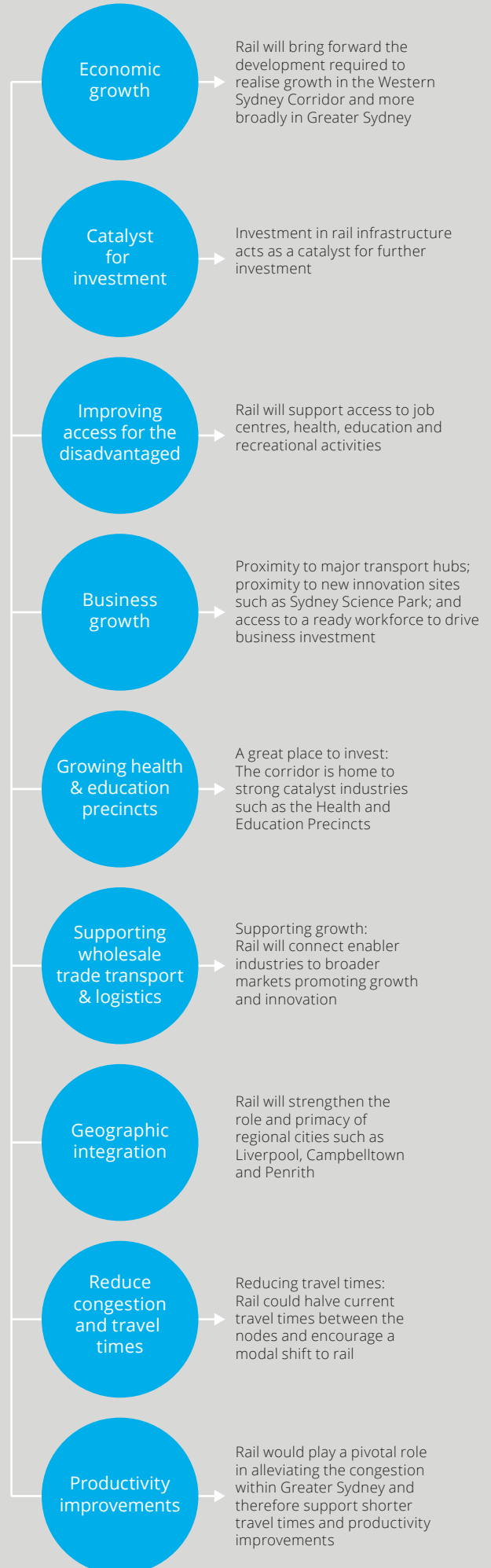


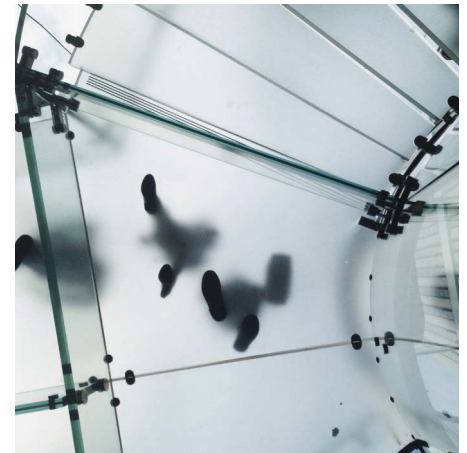
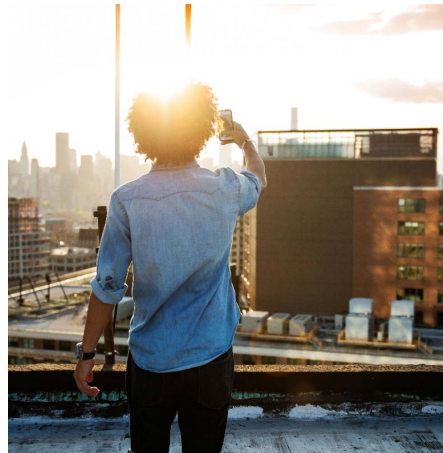
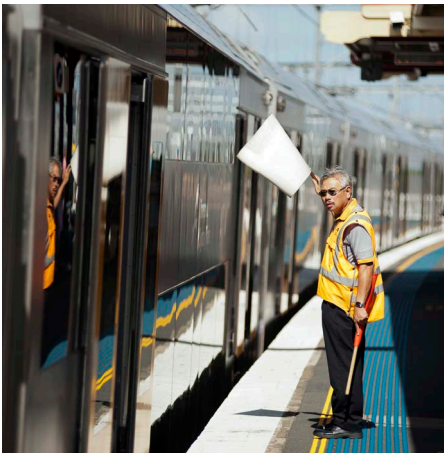
Why rail?

As well as supporting the government's strategic vision for Greater Sydney, investment in public transport infrastructure connecting the Western Sydney Growth Corridor has the potential to provide significant benefits, both to the broader economy and to the community.

This section provides a summary of the broad benefits that could be realised from the construction of a rail system connecting the nodes within the corridor drawing on previous studies and research into the benefits of public transport. Further detailed analysis would be required to estimate the specific benefits from the proposal.

Western Sydney Rail





Rail as a structuring principle

There are signs that disadvantage in the emerging global city is moving towards lower density suburbia and exurban locations with poor public transport access and a less diverse land use mix. The Western Sydney Airport with north-south rail connectivity offers the opportunity to buck this trend, but only if the benefits are delivered in Western Sydney and spread by investment in big city infrastructure.

Within Western Sydney there is the challenge to ensure that population growth is managed so as to maximize the economic and social benefits while maintaining affordability, housing options for all incomes and environmental quality. And to do so across the city, ensuring the whole community, whether living in new mixed use precincts in the inner city, the leafy suburban centres, or greenfield development, can access and share the economic and social benefits of urbanism.

Catalyst for investment

Investing in high quality public transportation, and in particular rail, has been shown to induce further investment in a region. This is because businesses and residents become better connected.

Investment is often supported by developments utilising mixed use density along a rail corridor, which in turn reduces the demand for road and parking, allowing these spaces to be put to more valuable uses, reflecting positively on the general urban amenity.

As identified in BWSEA 2013, significant drivers of investment from businesses, especially in peri-urban regions are: proximity to major transport hubs; proximity to other industrial lands; and access to a ready workforce.

There are numerous studies that identify the benefits of improving accessibility in peri-urban areas through rail and other public transportation which in turn encourages agglomeration. This in turn results in increases in urban densities.

Productivity Improvements

Congestion and extended travel times are widely regarded as one of the greatest barriers to productivity in developed economies. For example, in Australian capital cities, the estimated avoidable cost of urban traffic congestion is \$12.9 billion (2010) and by 2020 it is expected to cost over \$20 billion (BITRE).

Public transport can play a pivotal role in alleviating urban congestion with each train on Sydney's rail network removing approximately 1,000 cars from its roads.

Travel times to and from work in Western Sydney can be up to 2 hours in each direction for some commuters.

Reduced congestion and improved travel times are therefore a significant benefit of investment in rail, and this is especially true for peri-urban areas and regional centres where investment in public transport infrastructure is low.



Economic Growth

Rail plays an important role in facilitating economic growth in a region by efficiently moving skills, labour and knowledge within and between markets. This phenomenon can be paralleled to the global economy.

In the global economy, labour, capital and enterprise seek out the most productive markets, which in turn encourages competition and mutual economic growth. Efficient public transport systems, such as rail, promote geographic integration between residential and employment hubs, increasing the capacity of more dispersed populations to generate wealth.

Investment in public transport further perpetuates the cycle of economic growth. For example, the American Public Transport Association estimates that for every \$1 billion invested in public transport infrastructure, 36,000 jobs are created, in turn generating over \$3 billion in commercial transactions and approximately \$500 million in government tax revenues.

Improved access for the disadvantaged

In many cities a disproportionate number of disadvantaged reside in peri-urban areas (partly because of involuntary resettlement and informal settlements). As identified previously, peri-urban regions such as the nodes in the corridor are characterised by a significant dependence upon private transport modes. Consequently residents face longer and more expensive journeys.

The SEIFA Index of Relative Disadvantage shows communities that are classified as most disadvantaged within the Western Sydney region are located in Penrith, Emu Plains, Richmond and North Richmond.

Evidence from transportation and welfare studies indicates inadequate access to transportation poses significant barriers to those trying to enter the labour market. These challenges are particularly acute for welfare dependent households in peri-urban areas who do not have access to private transport.

Existing public transport systems often do little to bridge the gap between where the poor live and where jobs are located. This is because these existing systems were established on a monocentric basis, moving inner-city and suburban residents to city locations. However, the majority of entry-level jobs that are best suited for those looking to move off welfare are located in adjacent suburban and peri-urban areas.

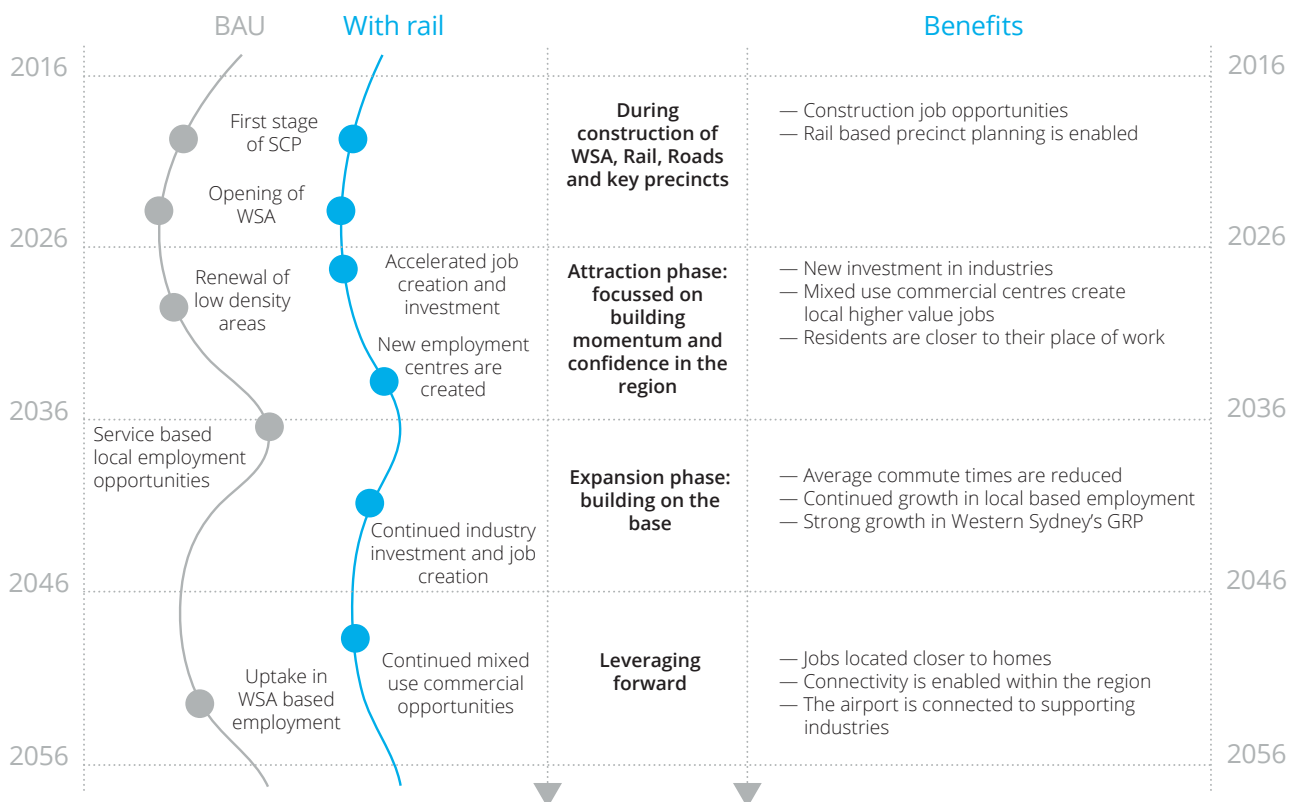
An investment in the north-south rail link connecting the nodes will support accessibility, connecting the disadvantaged to employment opportunities, education and health services as well as recreational facilities.

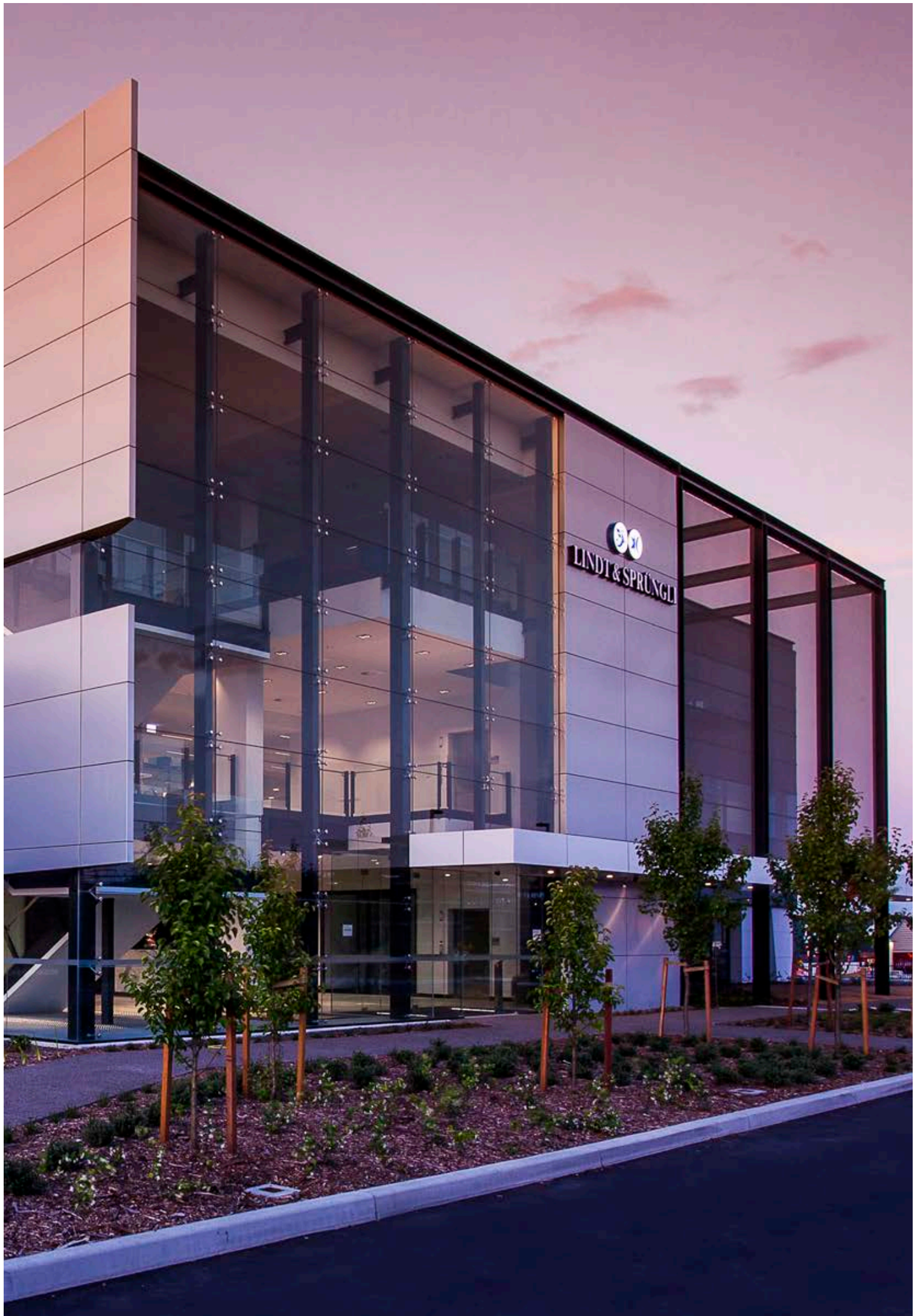
Do we really want to miss this opportunity?

Currently in Western Sydney, there are more developable employment lands than eastern Sydney.

There are strong pools of capital available for investment and we are fast approaching an era of global connectivity for the region through WSA.

Rail provides the opportunity to accelerate and amplify the economic benefits flowing from growth in the region and, in particular, the commencement of operations at WSA. The diagram illustrates how rail connectivity for the Western Sydney Growth Corridor can influence economic progress over the next 40 years, compared with a business as usual scenario.






LINDT & SPRÜNGLI

Benefits of Western Sydney Rail

Western Sydney's economy is growing strongly, attracting strong investment from both the public and private sector. As it sits today, Western Sydney's economy is the Australia's third largest economy and is positioned well to take advantage of both domestic and global opportunities as investment in the region continues to grow industries present and attract global supply chains through Western Sydney Airport.

The following section examines the impacts of the proposed Western Sydney Rail Link on the Western Sydney Corridor. In doing so, Deloitte Access Economics has used its in-house Computable General Equilibrium (CGE) model to assess the productivity improvements of rail in Western Sydney. The CGE modelling has been used as it considers (1) the resource constraints within the economy, and (2) the flow-on impact for supplier industries.

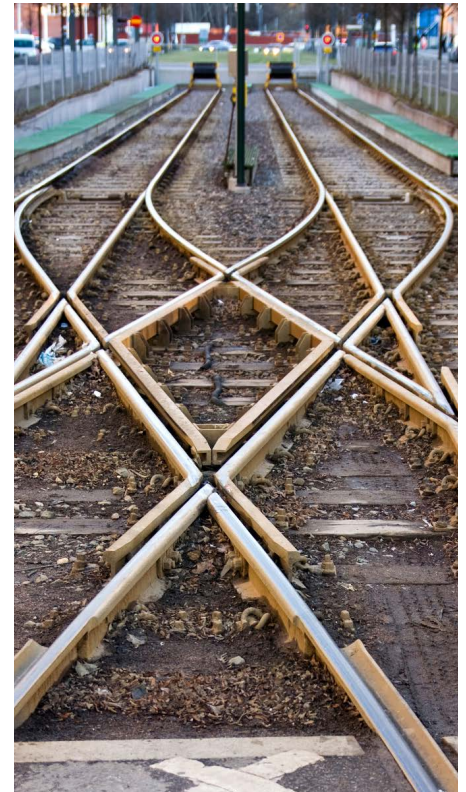
These impacts have been measured by testing two scenarios incremental to a Business as usual (BAU) scenario. In a BAU scenario, the region's economic productivity will increase off the back of the investment in Western Sydney Airport and Sydney Science Park. However, the ability to efficiently connect the pools of labour agglomerating in northern and southern parts of the corridor will be limited as transport options to such centres will be limited.

The first scenario examined the economic productivity improvement by connecting the nodes on the

north south corridor, namely from Rouse Hill in the north to Campbelltown/Camden region in the south crossing the Western Line at Werrington. This enables connectivity of emerging labour markets in the north and south to newly activated employment centres along the Corridor.

The second scenario assessed the economic productivity improvement of extending the line to connect the Corridor to existing and new east west rail connections, including the North West Rail Link and South West Rail Link. This scenario measures the impacts to the broader Western Sydney region.

The assessment measured the productivity impact during the construction phase of 5 years and a subsequent operational phase of 12 years to 2040. The results are categorised into two periods; the construction period and the initial the operational period. The analysis considers local and state wide impacts.



The BAU scenario assumes the LGAs in the Corridor grow at around 2 per cent in real terms over the long-term. The productivity improvements and job growth modelled under the two scenarios is incremental to the BAU scenario.

During the construction phase the large capital stimulus, as well as higher activity over the long term from potentially increased direct productivity improvements the project provides to business workers in the Western Sydney regions. The construction phase not only draws resources from the market but also generates demand for products produced locally and imported.

The time saved during the operational phase is equivalent to an increase in labour productivity in the region. There is solid growth in employment over the operations phase as the effects of the productivity improvement flow through the regional economy and this is reflected in particular across services industries as labour has become more productive and with these industries being relatively more labour intensive.

Deloitte Access Economics estimates that delivering rail to Western Sydney will create an additional total economic output of \$32.4 billion under scenario 1 and \$44.7 billion under scenario 2, in 2016 dollars. Under scenario 2, benefits are increase as broader labour markets are connected to new growth job markets and industries.

This output is incremental to the business usual scenario. In both the corridor and the broader Western Sydney region manufacturing contributes the most to output, followed by the construction, health and education sectors. Rail will also enable the development and connectivity of emerging industries in Western Sydney such as agribusiness, bio tech, tourism and services.

The modelling estimates the average annual increase in Western Sydney could range from 2,312 to 3,978 FTE jobs. This translates to employment years ranging from an estimate 39,308 to 67,629 over the period 2023-24 to 2039-40.

The jobs and economic contribution delivered by rail in the construction and operational phase are in addition to the 60,000 jobs estimated at Western Sydney Airport.

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Business as usual (BAU)

Considers the economic impacts of additional connectivity to the Western Line, North West Rail Link and the existing rail network in the south of Sydney.

S1

Connecting the Western Sydney Growth Corridor

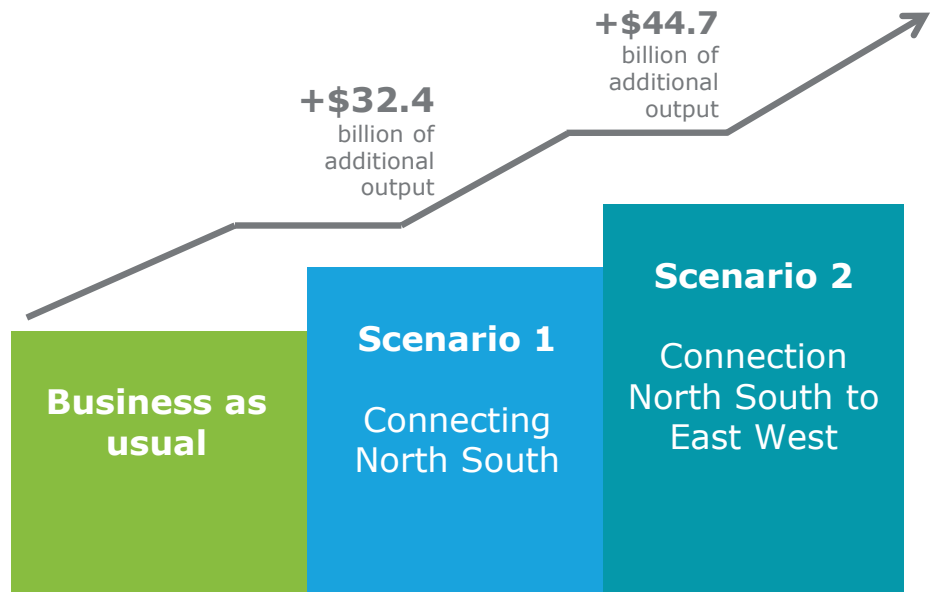
Considers the economic impacts of additional connectivity to the Western Line, North West Rail Link and the existing rail network in the south of Sydney.

S2

Connecting North-South and East-West

Considers the economic impacts of additional connectivity to the Western Line, North West Rail Link and the existing rail network in the south of Sydney.

Under both scenarios, two productivity improvements for the average commuter on their daily commute, 15 minutes and 30 minutes, expected from the provision of rail in the region are tested.



During construction

The primary source of direct employment is through the construction of the rail corridor. These figures were estimated outside the CGE modelling process and will be influenced heavily by the form and staging of the corridor.

The development of the rail corridor will enable the creation of between 43,800 – 65,800 total direct jobs and up to 98,600 total indirect jobs during the 5 year construction from 2024 – 2028 (based on NSW Treasury job multipliers for infrastructure projects).

Operation Impacts

The analysis demonstrates that with rail there is solid growth in employment over the operations phase as the effects of the productivity improvement flow through the regional economy. This is reflected in particular, across services industries as labour has become more productive and these industries are more labour intensive.

Connecting the Western Sydney Growth Corridor (Scenario 1)

The expected economic impact to the Corridor from connecting the nodes north south via rail with a productivity improvement for the average commuter of 15 minutes (conservative) or 30 minutes (high) is \$19.6 and \$26.7 billion over 12 years respectively.

This represents between 3-4% growth above current growth expectations. It is expected the rail and productivity improvement would also result in additional FTE jobs in the Corridor of 1,940 FTE in 2024 – 2,882 FTE in 2036.

This does not include the increase in jobs in different precincts along the corridor that will be enabled by rail connectivity.

Connecting the corridor north-south and integrating into existing rail network (Scenario 2)

The expected economic impact to Western Sydney from connecting the Corridor both north south and integrated into the current rail network with a productivity improvement for the average commuter of 15 min (conservative) or 30 min (high) is \$31.3 and \$37.8 billion over 12 years respectively.

Under this scenario, the Greater Western Sydney region will achieve a productivity improvement of up to \$44.7 billion between 2024 and 2040.

Under a 30 min scenario it is expected the rail and productivity improvement will generate an additional 3,978 FTE in average

State Wide Impacts

The impacts presented below represent the additional GRP that would be created across the state economy under Scenario 1 and 2 in relation to the expected productivity improvements.

Under Scenario 1 the Western Sydney Growth Corridor is expected to contribute between \$28.1 and \$36.3 billion in GSP to the State economy.

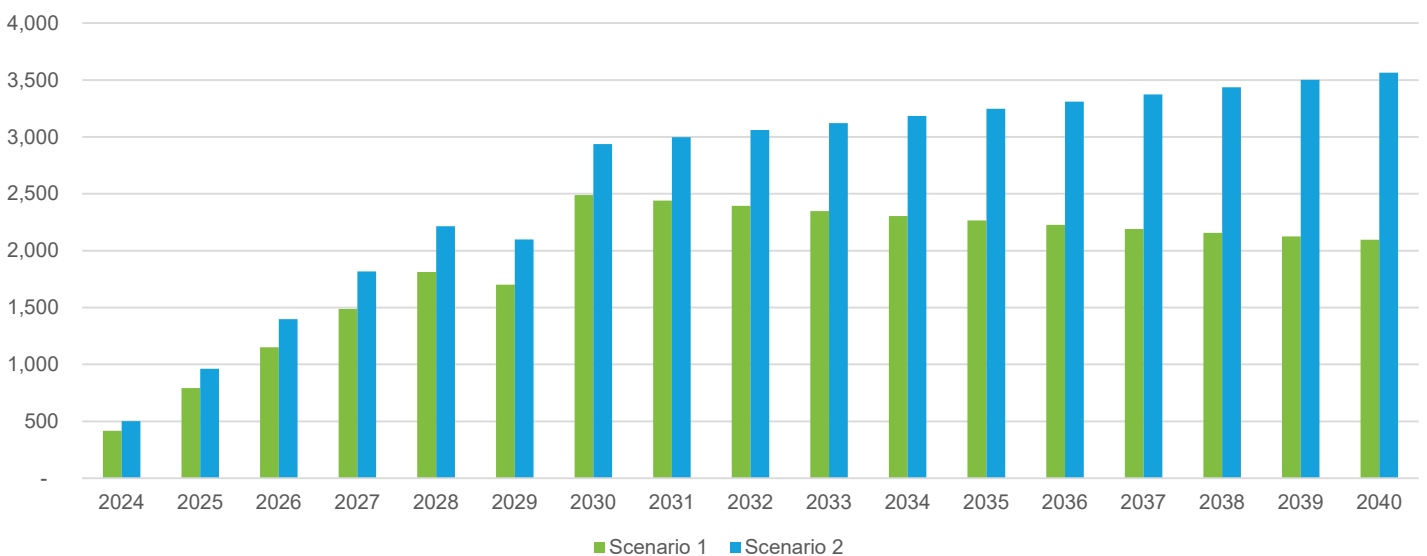
Under Scenario 2 the Western Sydney Growth Corridor is expected to contribute between \$41.6 and \$48.7 billion in GSP to the State economy.

A summary of the analysis is presented in the table below.

Summary impacts, 2024 - 2040

WS Growth corridor	2024-40	2024	2028	2032	2036	2040
GSP deviation from BAU (NPV, \$m)						
Scenario 1	32,352	418	1,812	2,393	2,228	2,097
Scenario 2	44,652	501	2,215	3,061	3,310	3,566
Employment deviation from BAU (average, FTE)						
Scenario 1	2,865	1,940	3,787	3,111	2,822	2,571
Scenario 2	3,978	2,351	4,841	4,024	4,264	4,524

Western Sydney Growth Corridor output (\$m), 2024 - 2040



Leveraging rail to deliver the Smart City

The Smart Cities Plan sets out the Australian Government's vision for our cities and its commitment to smart investment, smart policy and smart technology.

It is a plan for supporting productive, accessible, liveable cities that attract talent, encourage innovation and create jobs and growth.

For Western Sydney, it comes at a time when there is a decisive shift away from conventional resource and manufacturing employment to services and an economy based on knowledge, innovation and talent. Employee, entrepreneur and student preferences are increasingly for mixed use urban centres over ex-urban business parks – and the distinction is largely access to integrated transport infrastructure.

It also comes at a time when Western Sydney is at a cross roads to stay on the unsustainable low density path devoid of transport options and nearby jobs, and developing a truly smart third city for Sydney.

The Western Sydney Innovation Corridor was designed to take advantage of the Western Sydney Airport and incorporates health, agribusiness, engineering and science opportunities. With access to rail, manufacturing can be reimagined so that production facilities are stacked and mixed with other uses that make up the complex inner urban environment. Connecting these places with quality tertiary education and research opportunities, such as Sydney Science Park, and Western Sydney becomes an attractive proposition for new and emerging economies and therefore the right place to pioneer the idea of a City Deal for Western Sydney.



The 30 minute city aims for a Western Sydney where people can comfortably access their daily needs within a daily one hour travel budget – ideally by walking, using a bicycle and catching public transport. Fundamental to delivery of the 30 minute city is urban rail, urban density and urban land value capture.

The concept aims to ensure that Western Sydney communities and businesses have access to the skills they need to successfully participate and compete in the transition to an economy based on services, knowledge and innovation. Places and neighbourhoods with cafes, bars and restaurants and other services close to jobs, research or educational facilities have a premium in the knowledge economy – because they are where the collision of ideas and talent at the heart of modern business innovation takes place.

Funding rail by cooperative value creation

Land use and transport integration helps to realise innovative funding opportunities for rail.

Investing in rail infrastructure now requires a clear benefits realisation approach and this comes from integrated land use and transport planning.

The Alliance is developing a unique Western Sydney approach to get all public, private and community partners around the table to solve problems and exploit opportunities. Western Sydney Rail could be the exemplar of this approach which, by design, necessitates fully integrated land use and transport planning to meet community needs.

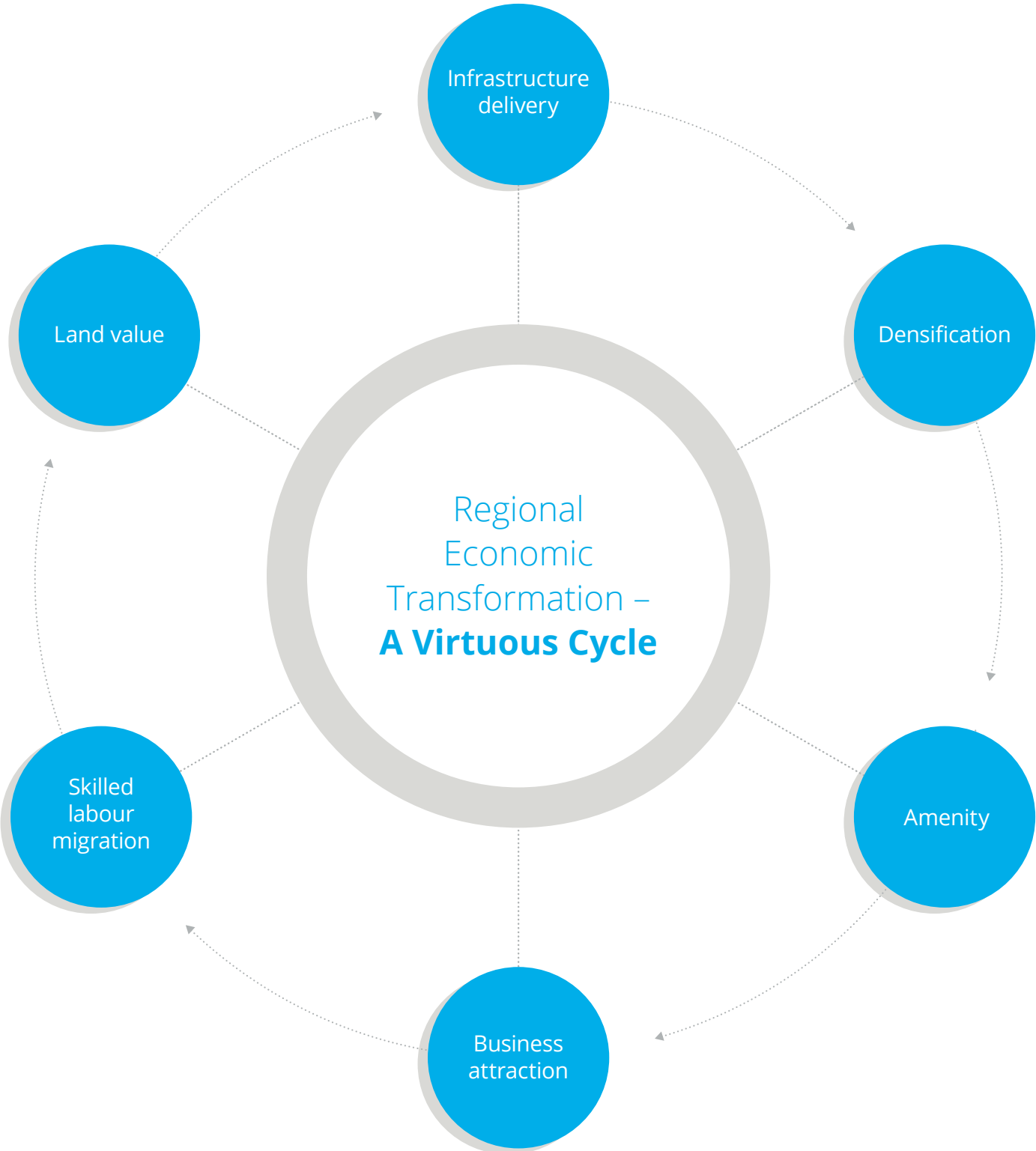
At the heart of Sydney's planning, transport and cross government coordination activities led by the Greater Sydney Commission is the understanding that in the knowledge and services economy, place matters. And establishing places requires a genuinely integrated land use and transport approach. It is no different in Western Sydney.

City deals provide a partnership framework between the Australian Government, state government, local governments, industry and communities to help develop collective plans for growth and collective commitment to the actions, investments, reforms and governance needed to implement them. Western Sydney has been slated as one of Australia's first city deals, but the details are yet to be finalised. The Western Sydney city deal should set out the specific investments and reforms

needed to unlock business and industry development and ensure community wellbeing.

A rail link that delivers circumferential coverage, greater liveability and productivity for Western Sydney should be central to the city deal proposition.

The collaboration behind this proposal is an exemplary public-private partnership of the kind we believe that all tiers of government are looking for from the emerging City Deal for Sydney with the catalytic opportunities arising from the new airport at its heart.





The Problem

Value capture derived from an uplift in the value of land in a transport corridor is imposed as a condition of development consent. In areas surrounding a transport hub, the incentive to develop is great. However, when the transport corridor is outside the area of a transport hub, there may be little incentive to develop, thereby losing value capture returns for financing rail.

It is therefore necessary to find a value capture methodology for transport infrastructure across a region where the rail will traverse areas of different land uses with different development potential. There may also be land within areas not considered suitable for development, where land ownership is too fragmented to provide for land assembly to facilitate development, or land is environmentally sensitive or contaminated.

The present system for infrastructure levies is contained in the Environmental Planning and

Assessment (Special Infrastructure Contribution – Western Sydney Growth Areas) Determination 2011. It allows for contributions to be made for land which is within a Growth Centre as defined by the Growth Centres SEPP. The levy is imposed as a condition of development consent under the Growth Areas Direction 2011 and the means of imposition is by a Voluntary Planning Agreement.

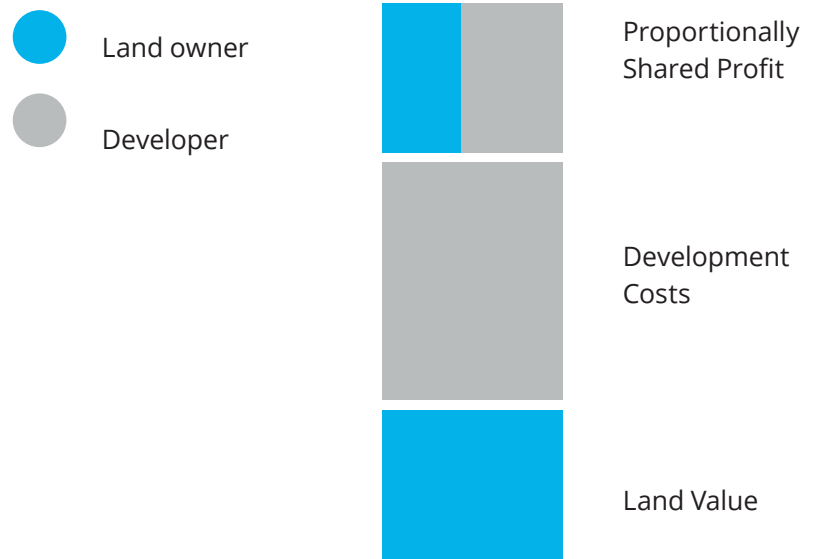
Focus on Cooperation

The duty of development that triggers value capture falls entirely on the developer and no cooperation on the part of the government is offered in terms of development risk, provision of expertise, initial cost for preparing an application, obtaining borrowings for the development and contribution, and completion. There is no legislative form providing for cooperation between land owners, with potential developers, Transport for NSW (TfNSW), the local authority, the Department of Planning and Environment, or the Greater Sydney Commission.

A landowner may need assistance in creating value for their land and overcoming inherent difficulties in making an application for development consent; they might not recognise the possibilities of value creation through development or be unable on their own initiative to turn the possibilities into actualities. The advantages of a cooperative arrangement where the transport agency assists the landowner to create value are:

- It accelerates both value creation and realisation, bringing development on stream in advance of its normal development cycle
- It provides for accurate feasibility forecasting and timing of funding
- It reduces risks to government of not receiving the value capture
- It improves integration of planning with transport and local planning agendas by exploiting appropriate place based development possibilities
- It creates cooperative participation of the community in transport decisions;

A cooperative approach to value creation and capture is superior to a compulsory levy. A Netherlands



study concluded: “a compulsory type of VC (Value Capture), coordinated through taxation of land ownership, is associated with low or even counterproductive cooperation between actors” (Heeres, Lenferink, Tillema & Arts 2016).

It determined that a positive result in obtaining in-time financing by cooperation in exploiting development opportunities arose from “partnership-based” value capture.

The study added other benefits: a discussion of mutual interests creates functional relatedness to maximise land value, the relationship between the transport solution and land uses is understood, and the financial exploitation of value creation becomes of mutual interest, encouraging other landowners to cooperate.

Cooperative Value Capture Methodology

When there are diverse land holdings across a region earmarked for transport infrastructure there are different land-use opportunities. Each place requires a unique solution. The realisation of these opportunities by value creation is the goal of any cooperative arrangement.

There are two possible participants in the cooperative arrangement with the landowner. The first is a developer who can work with a landowner to manifest a project. In areas where the opportunity creates a possible high yield, the developer will work with the landowner to unlock potential value in a simple arrangement; a Western Australian study illustrates the manner in which this can occur (Curtin University 2015):

The study indicates that this is an “entrepreneurial model” where private funding is employed but does not preclude also working with government for assistance in land assembly, grants of public land, or

other efficiency gains. However, the respective roles are assigned to the developer and landowner outside the participation of government.

The relationship appears straightforward where the size of a project attracts a developer. However, as there are diverse holdings, some land in the corridor may not readily be able to be developed due to environmental constraints, contamination, irregular lot sizes, subdivision restrictions, or the myriad of issues that confront exploitation of land. Where there are situations where there is no developer willing to seek a profit, this would require TfNSW to enter into a cooperative arrangement with an owner or contiguous owners for the purpose of developing the land, pooling land where necessary, or, alternatively, acquiring land for the transport corridor.

A technique that is used where there are irregular shaped lots in the path of the transport corridor, inaccessible land, or land that is environmentally sensitive is land “readjustment.”

We are developing a unique Western Sydney capacity to get all public, private and community partners around the table to solve problems and exploit opportunities. Western Sydney Rail could be the exemplar of this approach, which by design necessitates fully integrated land use and transport planning to meet community needs.

In this arrangement, land is pooled and then readjusted into parcels that are returned to owners, and some can be the subject of development and create value for all landowners. This has the advantage of inducing smaller land holders to develop, to overcome land ownerships that are not productive, and also to create a land bank, where some land can be sold off to finance development costs. This process involves the preparation of a layout plan including the allocation of land for a transport corridor.

Risk Allocation and Management

A primary consideration in a cooperative arrangement for value creation is an assessment of relative risks. At present, risk allocation in infrastructure contributions falls entirely on the landowner or developer who must obtain development consent, then accept the payment of a contribution based on a Voluntary Planning Agreement. The expense of consultants, application fees, planning agreement negotiations, and financing, not only the project but the contribution, falls

on the applicant.

The role of TfNSW in a cooperative arrangement would be to assist owners to manifest value and to obtain development consent in order to create value and, as well, assist if possible to create value realisation. There may be situations where the agency would want to take on some of these risks such as ceding land to expand a highly developable parcel, or acquiring land by agreement and then selling at a profit. Each arrangement obviously requires a separate analysis of risk.

Ranking of Cooperative Arrangements

A recent and thorough 2016 World Bank study examined and rated 24 financing instruments for transport (Ardila-Gomez, A. & Ortegón-Sánchez, A. 2016, pp. 27-29), all of which would create different relationships and operators. It was found that the highest scoring instrument for direct and sustaining benefits for transport was a PPP for an entire project, followed by an increase in property taxation, the later not being possible in Australia.

Most importantly, joint Development scored the highest for indirect benefits, along with a development impact levy (or infrastructure contribution) and a betterment levy. The ratings of Joint Development cooperative arrangements as the best method for indirect financing have a sound theoretical underpinning because unlocking land value is the most effective method of transport financing other than direct grants.

At the heart of Sydney's planning, transport and cross government coordination activities lead by the Greater Sydney Commission is the understanding that in the knowledge and services economy, place matters. And establishing places requires a genuinely integrated land use and transport approach. It is no different in Western Sydney.

City Deals provide a partnership framework between the Australian Government, state government, local governments, industry and communities to help develop collective plans for growth and



collective commitment to the actions, investments, reforms and governance needed to implement them. Western Sydney has been slated as one of Australia's first city deals, but the details are yet to be finalised. The Western Sydney city deal should set out the specific investments and reforms

needed to unlock business and industry development and ensure community wellbeing.

A rail link that connects communities, delivers circumferential coverage, greater liveability and productivity for Western Sydney should be central to the city deal proposition.

Ideal arrangements include the formation of an organisation internally or engagement of an organisation external to TfNSW to (among other roles):

- Explore a mix of land uses
- Explore the barriers to development and possible solutions for each place
- Work with landowners and appoint developers to create value
- Create a new Ministerial Determination for the corridor
- Including all land surrounding the corridor
- Allowing for installment payments for contributions where appropriate.

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Curtin University. 2015. Entrepreneur Rail Model: Unlocking Private Capital for Urban Development and Private Transport: Discussion Paper 2: Stirling to Curtin Case Study.

Heeres, N., Lenferink, S., Tillema, T, and Arts, J. 2016. Beyond financial value capturing? Interactions between value capturing and cooperation at the interface of road infrastructure and land use planning. *Town Planning Review*. 87 (2): 179-204.

Mittal, Jay. 2014. Self-financing land and urban development via land readjustment and value capture. *Habitat International*. 44 (3): 314-323.

Conclusion

In the next 15 years, population within the Western Sydney Growth Corridor will grow by approximately 500,000 people or 45%. When Sydney reaches 8 million people, the corridor will be home to a city the size of Perth.

The Growth Corridor presents a once in a generation opportunity to build infrastructure ahead of the growth curve. The proposed north-south rail line will realise the ambition for Greater Western Sydney to become a modern, connected 30-minute city. Without it, the region will remain reliant on lengthy west-east commutes to access economic opportunity. In addition to isolating the outer suburbs, the ongoing absence of rail connectivity in the region places an unsustainable strain on the existing radial transport network and reinforces the spatial imbalance of accessible jobs in Sydney.

It is time to break the nexus between Western Sydney's growth centres and transport disadvantage.

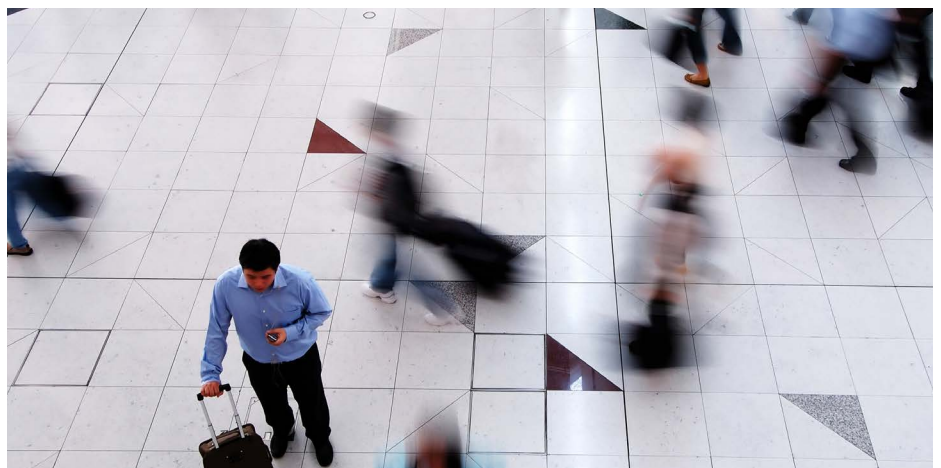
The Western Sydney Airport is already a catalyst for a boom of investment in the region and will

serve to rebalance the jobs deficit of Western Sydney – currently some 300,000 people must travel east every day to get to work. While the Greater Sydney Commission is yet to finalise its long-term land use plan for the region, indications are that WSA and surrounding employment lands will accommodate up to 150,000 jobs by 2036. The Western Sydney Rail Alliance's proposed corridor connects the people of Western Sydney to these jobs.

Passenger forecasts for WSA show that the primary passenger catchment for the airport will be local, with services not expanding to compete with Kingsford Smith Airport until the mid-2040s. A rail solution that services WSA customers and provides primacy of access to local workers should be the immediate priority.

The economic benefits of the corridor are clear. From 2024 to 2040, north south rail will add \$44.7 billion in benefits to the economy, reaching \$3.6 billion per year in 2040. With rail connectivity, precincts along the corridor will be able to provide up to four times more jobs and six times more dwellings than they would under a business as usual scenario. Rail enables the densification of established town centres along the corridor and the establishment of new activity centres. Unlike roads, rail provides for a more compact urban form, limiting the footprint of development and encouraging the agglomeration of service industry jobs.

There can be no doubt that a north south rail solution is crucial to the sustainable development of the Western Sydney Growth Corridor and its future as a smart city.



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Attachment 2:

Penrith City Council Submission – Discussion Paper on the Western Sydney Rail Needs Scoping Study

Council's Preferred Rail Option

It is Penrith Council's position that only Option 6 provides the connectivity critical for Western Sydney and has the city-shaping potential to lift productivity and liveability in the region through economic transformation along the Option 6 rail corridor. In particular:

- It provides a vital and more inclusive north-south rail connection linking more Western Sydney communities to jobs, education, health and other services and opportunities across the region;
- It links the Growth Centres, the WSPGA, the WSA and other key centres such as Sydney Business Park, Penrith Health and Education Precinct (PHEP), Sydney Science Park and Western Sydney University (WSU) campuses in the region;
- It provides a catalyst for employment, innovation and economic growth in the region to deliver local jobs where people live, helping to address the significant and escalating jobs shortfall in Western Sydney;
- It supports and improves access between the Regional City Centres of Penrith, Liverpool and Campbelltown-Macarthur;
- It reduces the need to travel east for jobs, reducing congestion, improving travel times, increasing productivity and improving quality of life; and
- When integrated with current rail plans, it forms a complete orbital network, supporting the existing east-west corridor and Penrith as the gateway between Sydney and the Central West.

Objectives and Criteria for Assessing Options

Council believes that Option 6, extended to the Sydney Metro Northwest Line, meets the project objectives as outlined below:

<i>Customer Focus</i>	Greatest potential to service the existing and future communities of Western Sydney, including people expected to work at and use the WSA
<i>Connectivity and City Shaping</i>	<p>Provides critical and more equitable north-south connections linking Western Sydney communities to jobs, education and services</p> <p>Connects the Growth Centres, WSPGA, WSA, Sydney Business Park, Sydney Science Park, PHEP, WSU campuses and other opportunities to shape the region</p> <p>Improves connections between Regional Cities and major centres in the region</p> <p>Promotes employment, innovation and economic growth beyond the WSA, transforming the region</p> <p>Promotes opportunities for increased town centre densities and more affordable housing</p>

<i>Network Capacity</i>	When integrated with current rail plans, forms a complete orbital network, supporting the existing east-west corridor and Penrith as the gateway between Sydney and the Central West - Western Sydney needs a rail network, not single purpose lines
<i>Environmental Sustainability</i>	Greatest potential to grow the proportion of travel by public transport from existing urban areas and future planned growth, easing congestion and improving efficiency of transport sector
<i>Productivity</i>	Greatest potential to contribute to / catalyse sustainable and efficient development in Western Sydney and a WSA Greatest potential to reduce travel times to jobs, education and services leading to productivity improvements
<i>Social Inclusion</i>	Greatest potential to provide more transport choice and opportunities to create a more equitable city
<i>Financial Sustainability</i>	Greatest potential to connect to other employment and housing areas in Western Sydney to provide the patronage, economic benefit and the frequency required for a major investment in rail
<i>Delivery Risk</i>	Minimises disruptions to existing passengers
<i>Safety</i>	Applicable to all options.

Key Principles for a North-South Rail Link

While Option 6, extended to the Sydney Metro Northwest Line, is Council's preferred option of those presented in the discussion paper, Council has also identified a number of principles relating to the form, location and delivery of passenger rail. These principles have been identified in previous submissions to Transport for NSW and the Department of Infrastructure and Regional Development. Council requests that the principles be considered as part of the Scoping Study and subsequent detailed technical investigations.

- ***Support the growth of Penrith as a Regional City***

A 'Y Link' connection to the Main T1 Western Line should be provided to establish a direct connection to Penrith Station, Penrith City Centre and surrounding developments, to support the role of Penrith as a Regional City and as the gateway between Sydney and the Central West.

- ***Extend passenger rail to the Sydney Metro Northwest Line***

Option 6 must be extended to the Sydney Metro Northwest Line to support and improve access between the North West and South West Growth Centres, and to connect to the WSPGA, WSA, the Regional City Centres of Penrith, Liverpool and Campbelltown-Macarthur, and other key centres such as Sydney Business Park, PHEP, Sydney Science Park and WSU campuses in the region.

- ***Minimise any potential adverse environmental, economic and social impacts; in particular, the corridor must not:***

- *resume or destroy residential properties in Orchard Hills or Claremont Meadows; or*
- *go through endangered Cumberland Plain Woodland*

The final alignment of the rail corridor must minimise any potential adverse environmental, economic and social impacts. In particular, it must not adversely impact on residential properties in Orchard Hills or Claremont Meadows, or on endangered Cumberland Plain Woodland. Recognising that the avoidance of all impacts on residential properties might not be possible, Council requests that a robust net public benefit analysis be undertaken to guide decisions.

- ***Accelerate the identification and preservation of the rail corridor and delivery of passenger rail***

Accelerating the identification and preservation of the passenger rail corridor is important to inform current planning processes, including the District Planning process for the West and South West Districts and the land use and infrastructure strategy for the WSPGA. Council also urges the Federal and State governments to accelerate the delivery of passenger rail to support the WSA from day one of its operation and to facilitate the development of the WSPGA and the PHEP.

- ***Provide a station at Sydney Science Park to service the WSPGA***

Council strongly supports a station at Sydney Science Park, given its potential to be a significant catalyst for job creation and to help service the WSPGA.

- ***Optimise performance on the Main T1 Western Line and promote St Marys station as a key interchange***

Optimising the performance of the Main T1 Western Line will be critical to providing an effective and efficient public transport system for the communities of Penrith and Western Sydney. In particular, accelerating the frequency and speed of services and synchronising services with those on a north-south rail line will be important.

The *NSW Long Term Transport Master Plan* identifies a corridor linking the North West Growth Centre (Marsden Park) to Mount Druitt. Council believes that St Marys station should be the key interchange between the Main T1 Western Line and a north-south rail line given its central location relative to the Growth Centres and the WSPGA.

- ***Undertake an effective consultation process, particularly with affected communities***

Council strongly encourages the Australian and NSW governments to continue to undertake an effective process of consultation on Western Sydney's rail needs and future rail projects in the region, particularly with affected communities.