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# Western Sydney Rail Needs Scoping Study Response

Engineers Australia Submission

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28 October 2016

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## Executive Summary

Western Sydney Airport is one of the largest infrastructure builds in NSW. It will provide the Greater Sydney area with another large scale airport and put Sydney on the same footing as other global centres by providing better access to the city and through that to the rest of Australia.

The Western Sydney Airport will provide a conduit for the further development of Western Sydney and allow Parramatta to capitalise on its role as the second major centre in Sydney.

Through the additional jobs provided by the Western Sydney Airport (WSA), additional economic benefits will flow to Western Sydney, new business precincts will be developed and from that the opportunity to open up more housing and liability.

Currently the transport infrastructure for the Western Sydney Airport over the short to medium term is locked into a “roads only” structure. This limits not only passengers and freight coming into and out of the airport, but also the ability for the nearly one million new residents predicted to live in Western Sydney over the coming decades to rely on cars to move them from point A to point B.

Engineers Australia believes this approach is short sighted and that providing effective rail transport should be advanced as quickly as possible.

Providing fast and efficient public transport is vital to ensure that Western Sydney grows as a global hub but also to ensure that Greater Sydney realises the enormous benefits that a second airport will provide into the next century.

Engineers Australia believes that infrastructure must be managed to advance the socio-economic goals of a society, and should be planned and preserved for the long term.

Engineers Australia strongly believes that infrastructure is the essential enabler of productivity growth and it is essential to preserve and improve our standards of living. It should be fit for purpose and the flow of these services should stay ahead of population and economic growth.

## The Expansion of Western Sydney

Long term strategic public transport is critical to the long term economic prosperity of a society. It provides for a productive workforce and acts as an interconnector of communities.

The Western Sydney Airport will, over the decades, provide access for up to 80 million passengers per year into Sydney by 2063<sup>1</sup>. Moving such volumes of passengers will require vision and foresight to maximise the experience of arriving or departing from Sydney.

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<sup>1</sup> Western Sydney Rail Needs Scoping Study Discussion Paper

Coupled with those additional passengers will be an increasing population base throughout Western Sydney who will move around the region as well as into and out of the Sydney CBD.

As the Discussion Paper notes, with the increase in population to 2051, the number of rail passenger demand in the morning peak patronage period will nearly double to nearly 14 million in Greater Sydney<sup>2</sup>.

Current numbers of Western Sydney working residents who move into the Sydney CBD of around 220 000 will only increase as the population base increases over the coming decades.

Expansions of suburbs in the south west such as Oran Park will add to the numbers of people needing to move in and around Western Sydney and the greater Sydney region.

Choices of how these residents move around the city will require a transportation plan that is multi-faceted and sustainable over the long term. Restricting populations to only limited road access will not provide the services of an advancing community.

Infrastructure Australia<sup>3</sup> has noted this long term view by recommending the preservation of a rail corridor from Campbelltown to St Marys with a juncture to link Leppington with this route.

However, this will only provide access to existing rail lines that are currently close to capacity and by 2030 will be overcrowded as the population pushes up. By 2051 when the population of Sydney will reach close to seven million many of these rail lines will be beyond critical. Additional road networks will not alleviate this problem as many of the motorways in Sydney are also close to capacity.

Further stress could be added to the network in the period to 2023<sup>4</sup> when the Parramatta light rail is currently scheduled to commence operations.

While the West Connex road network will open in 2019, the increasing population and workforce numbers in the Parramatta LGA by 2021 may make any increasing infrastructure a sum zero gain. This is because not building additional rail network infrastructure will only add to increasing car usage and congestion on the current lines into and out of Parramatta.

Additionally, the Parramatta light rail will only service from Parramatta to Strathfield, however not connecting the growing basin from Parramatta to Macarthur and west to Penrith will only cause further congestion.

Ensuring that Parramatta can consume these increasing numbers of residents, workers and visitors--not only internally through the greater Sydney region but also through the

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<sup>2</sup> Western Sydney Rail Needs Scoping Study Discussion Paper

<sup>3</sup> Australian Infrastructure Plan. Infrastructure Priority List

<sup>4</sup> *Parramatta 2021* Unlocking the potential of a new economy

projected numbers of arrivals and departures from the Western Sydney Airport--will be vital.

By 2025<sup>5</sup> when the first of the WSA runways opens to traffic efficiently and well-designed rail connections will be critical to passenger movement, and to ensuring that bottlenecks do not occur in major centres in Western Sydney.

Engineers Australia believes that infrastructure planning without land use planning is simply not sensible. This means that as land releases are being considered all public transport options need to be integrated at the earliest stages of thinking. It is imperative that as the city grows the interplay between agencies is tightened so that delivery of efficient public transport systems can be secured over the long term.

## Catering for Sydney's future growth

In the decades ahead Australia faces the challenges of an aging populace and providing for a population expected to expand to over 30 million by 2050<sup>6</sup>.

Western Sydney will be the engine room of the Greater Sydney region as the country moves towards 2030 and beyond.

With predictions that Western Sydney's population will increase by over one million by 2050<sup>7</sup> and beyond, correctly servicing this part of Sydney will determine the ongoing economic and social benefits an expanded Western Sydney will provide.

The expansion of Western Sydney has already started in the south west in areas including Oran Park, Narellan and Camden.

The influx of residents into Western Sydney is primarily due to increasing housing prices across Sydney. When median house prices in Sydney reached over \$1million dollars the opportunity to enter the housing market at approx. \$600 000 in places like Leppington are appealing to first home buyers.

Providing services to this growing population will require infrastructure that is fast and efficient and providing ease of access to work, school and to community centres. The old paradigm of relying on cars to move around a city is becoming defunct as the long term costs of road transport increase.

Only providing road options for residents in Western Sydney will lead to housing stress as the perceived benefit of cheaper housing is countered by higher transport costs through road transport.

When affordable and reliable public transport is available to residents it creates its own market, making it a preferred method of transport easing the cost of living<sup>8</sup>.

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<sup>5</sup> *Parramatta 2021* Unlocking the potential of a new economy

<sup>6</sup> 2015 Intergenerational Report [www.treasury.gov.au](http://www.treasury.gov.au)

<sup>7</sup> Western Sydney Rail Needs Scoping Study Discussion Paper

<sup>8</sup> Emmerson Richardson (Sinclair Knight Merz) and Professor Peter Newman (Curtin University) Transport for Sustainable Cities, [www.engineersaustralia.org.au](http://www.engineersaustralia.org.au)

Ensuring effective rail use is important to the ongoing productivity of Sydney and more so for Western Sydney.

The majority of rail planning in Sydney is still focussed on bringing people to the CBD and is not focussed on how to ensure that the people who will be living in the pocket of western Sydney from Parramatta to Penrith, Campbelltown and Camden as well as Liverpool and north through Cabramatta are connected to Sydney's second CBD of Parramatta.

The majority of rail projects, either light rail, metro or heavy rail, all point east to the ocean.

The Sydney Metro connects Rouse Hill to the city and Bankstown to the city<sup>9</sup>. The Parramatta light rail connects Parramatta to Strathfield, and plans for a Parramatta metro would link Parramatta to the city via the Bays Precinct.

However, plans to link the extremities of the city to Parramatta are lacking.

The Discussion Paper<sup>10</sup> highlights this:

*...businesses often cite poor connectivity and lower-quality transport connections as a barrier to relocating to Western Sydney. An efficient and reliable transport network is needed to bring homes and businesses closer together.*

As mentioned previously rail congestion will continue apace unless major work is undertaken to link the western suburbs internally and then linking to the rest of the network.

As Infrastructure NSW<sup>11</sup> pointed out in 2012 the current capacity of the Western Line, which was at "17 000 per line per hour" is close to capacity and by 2051 will be overloaded.

Further, the Discussion Paper<sup>12</sup> notes that by 2031 the Western Line "will exceed the total capacity of 20 trains per hour."

The South West Rail Link Extension from Macarthur to St Marys with a junction to Leppington will begin the process of interconnecting this Western Sydney Airport pocket, and with the announcement of an underground station at Oran Park being made the decision now for the Government is the type of rail system it intends to build.

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<sup>9</sup> <http://www.sydneymetro.info/map/interactive-map>

<sup>10</sup> Western Sydney Rail Needs Scoping Study Discussion Paper

<sup>11</sup> Infrastructure NSW – State Infrastructure Strategy

<sup>12</sup> Western Sydney Rail Needs Scoping Study Discussion Paper

Regardless of the decision on the type of rail line to build the linear track work should be fit for the future and have the capacity to take advanced rolling stock that can travel at greater speeds than are currently available.

Engineers Australia believes that ensuring rail transport in the south west is vital to enhance the economic and social fabric of the region, however this step is only a first in a long term strategy of upgrading the entire Sydney rail network to accommodate increased population growth and increased passenger numbers coming through an expanded Western Sydney Airport.

## Integrating the airport decision into Sydney's infrastructure plan

Modern, effective infrastructure is an investment in the future. It is a key enabler of productivity growth which in turn is a driver of improved living standards. The state's prosperity depends on this relationship continuing.

Infrastructure planning and the institutional frameworks in which it occurs are especially important. Planning is too often short term, reactive, piecemeal and inconsistent.

As the NSW Government noted in the Long Term Master Plan in 2012<sup>13</sup>:

“Many of the transport challenges NSW faces are the consequence of ad hoc planning in response to a particular project, modal or geographical issue. This has led to a system that is complex and focused on meeting the specific transport needs of individuals, businesses and communities.”

Ensuring the right infrastructure is delivered in the right place at the right time requires long term thinking.

Engineers Australia believes that infrastructure must be managed to advance the socio-economic goals of our society, and that planning infrastructure without land use planning is not sensible.

Political involvement with technical aspects of infrastructure planning has led to sub-optimal outcomes and higher than necessary costs. Engineers Australia agrees with the Grattan Institute's<sup>14</sup> analysis of cost over runs in transport infrastructure report that notes that political announcements for these types of infrastructure can lead to budgets blowing out.

Infrastructure assets are inherently long lived, so their design and operation should depend on considerations over many decades.

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<sup>13</sup> <http://www.transport.nsw.gov.au/sites/default/files/b2b/publications/nsw-transport-masterplan-final.pdf>

<sup>14</sup> <http://grattan.edu.au/wp-content/uploads/2016/10/878-Cost-overruns-on-transport-infrastructure.pdf>

It is important that infrastructure planning institutions focus on long term development and operations determining priorities through rigorous analyses including cost-benefit analyses.

Government infrastructure procurement arrangements need reform to reduce overall project costs, reduce transaction costs imposed on tender bidders, enhance rather than impede the adoption of innovative design-and-build features, and to ensure value for money. Reforms depend on the skills base available to procurement agencies, particularly in engineering.

It also depends on learning from experience and avoiding unnecessary repetition. For thirty years there has been wholesale outsourcing of public sector engineering workforces. This has weakened public sector capacity to scope and design infrastructure projects, to specify and evaluate the engineering components of tenders, and to manage project delivery.

Engineering already underpins virtually every aspect of our modern lives and is embodied in practically every good or service used by Australians. Unfortunately, this contribution is not fully understood and valued in government policy.

There is also a persistent reluctance to consider all options to finance new infrastructure projects, including infrastructure bonds and value capture. Some progress has been made, but there remains unwillingness to seriously and fully embrace many options. Including encouraging private sector participation in infrastructure planning, delivery, financing and operations, and considering all options for infrastructure financing, selecting the best on a project by project basis.

As NSW's population grows, mainly within the Sydney basin, and as the state's economy continues to grow with it, NSW will face many a number of infrastructure challenges, with greater demand on key rail corridors which are predicted to exceed capacity in the coming decades.

The Western Sydney Airport provides the lever to examine the entire rail network which will be required to carry more and more Sydneysiders as Western Sydney grows along with the airport.

The desire to build capacity within NSW should not be curbed by short-sightedness, it should be governed as an integral part of governing, not simply an optional extra.

The ability to develop Western Sydney into a vibrant, connected, sustainable centre for communities and business needs to be built around a transport network that connects the major centres of Western Sydney with themselves in the first instance and then into the greater Sydney region.

## Recommendations

Engineers Australia believes that a scoping study into the rail network for Western Sydney and the Western Sydney Airport should cover:

- The immediacy of planning, designing and building the South West Sydney rail extension, with a major focus on the flexibility of the extension to deal with changes in technology over the long term up to 2100.
- The whole of life cycle of the rail extension.
- How the current and future rail network in Sydney and around Western Sydney will integrate, providing a seamless experience for passengers.
- The type of rolling stock that will provide expedient services within Western Sydney.
- The timing and long term planning and preservation of future rail corridors in Western Sydney.

Engineers are critical to help effect vital changes to services and delivery of infrastructure.

Engineers Australia as the peak body for engineers and the global home for engineering professionals, would welcome the opportunity to assist in developing an effective plan for the roll out of the rail network for the Western Sydney Airport.



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