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Transformational Infrastructure Projects

In Australia's Fast Growing Outer
Suburbs

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Executive Summary

The Fast Growing Outer Suburbs of Australia's capital cities are home to nearly 5 million people. Growing at double the national rate, their population will grow to 7.5 million by 2031. Between 2011 and 2016 these suburbs generated 35% of population growth and 25% of job growth but only 13% of jobs and 11% of GDP.

Infrastructure is central to economic growth, and investment in the right projects can help to bridge this gap between population and employment. However, between 2011 and 2016 growth areas received only 13% of infrastructure investment and the infrastructure backlog in growth areas will reach \$70 billion within 15 years. The need for economic and employment growth and the growing backlog highlight the need for the development of productive and transformational infrastructure in Australia's growth areas.

The infrastructure shortfall combined with high population growth has produced a range of economic and social issues in high growth local government areas, including:

- The quality and quantity of local employment opportunities;
- Access to employment in other locations, which is associated with long commuting times, high car dependency and the standard of public transport provision;
- The quality, diversity and affordability of housing; and
- Social cohesion, liveability, culture and amenity, including access to education, health care, and cultural, entertainment and sporting facilities.

At the same time, the fast-growing outer suburbs are in demographic and economic transition, providing opportunities to shift thinking on the role of the outer suburbs in our cities., yet population growth is still outpacing jobs and infrastructure growth. Local economies and communities are responding to these issues, but targeted investments supported by commonwealth and state governments are vital in transforming growth areas and improving the lives of this growing population.

Transformation is required

Transformational Infrastructure Projects in Australia's Fast Growing Outer Suburbs identifies projects that have, or could, provide the basis for growth area councils to restructure economic and community functions. The World Bank defines transformational projects as "interventions that support deep, systemic, and sustainable change with the potential for large-scale impact in an area of a major development challenge" (Heider 2016). Central to this concept of transformational projects are binding constraints, which are the major factors that are impeding development (Hausmann, Rodrik & Velasco 2006; Heider 2016). Using this framework, transformational projects have been investigated by a team of academics from the Universities of Adelaide, Melbourne and Western Australia, and RMIT University.

This study analyses ten projects from across the NGAA membership, including public transport, health and education precincts, central activity area development and densification, and co-ordination of a series of economic interventions. All of the projects address one or more major challenges or opportunities within the growth areas. Each project showed that implementation would have large-scale impact, resulting in deep, systemic and sustainable change.

How to transform the fast growing outer suburbs

The investigation of transformational projects for fast growing outer suburbs provides the following conclusions:

1. Improving access to employment is vital, either through providing more local jobs or better access to employment in other areas, particularly by public transport.
2. Innovation in the planning and delivery of town centres and regional transport is a major opportunity to address challenges arising from rapid population growth. Provision of social services and transport connections regularly fails to keep pace with rapidly growing populations, leaving communities with restricted access health and community facilities, resulting in lower health outcomes.
3. Local government has a critical role in the long-term strategic approaches required to develop and implement transformational projects. This includes leadership and advocacy, understanding priorities, having documentation and reports in place to support funding submissions and having strong relationships with neighbouring and regional councils, stakeholders and communities.
4. While the role of Local Government is critical, the scale of transformational projects requires the support of Commonwealth and State Governments. Previous reports for the NGAA have estimated \$73bn of infrastructure investment is required in the growth areas to 2030 (SGS Economics and Planning 2015) and also the benefits of a dedicated infrastructure fund supported by the three tiers of government (PwC 2016). When considered alongside the transformational projects included in this report, and their benefits to growth area communities, there is a strong argument for greater support for investment in growth areas from Commonwealth and State Governments.

The Transformational Projects

- Armadale Activity Centre and Underground Rail Line, Western Australia
- Community Connect South, Western Australia
- Gawler Train Line Electrification, South Australia
- Lyell McEwin Health Precinct, South Australia
- Mernda Town Centre, Victoria
- Mills Park, Western Australia
- The Quarter, New South Wales
- Wanneroo Strategic Capacity Building Project, Western Australia
- Werribee City Centre, Victoria
- Western Sydney North South Rail Corridor, New South Wales

Introduction

Purpose

The purpose of this project is to provide real world examples of what is possible in the growing outer suburbs. This includes proposals for, and examples of, transformational projects, that have had, or could have, considerable impact on the prevailing conditions, or respond to opportunities to improve the ways people live and work in the growth areas of Australia's major cities.

This report includes a variety of projects, including passenger rail linking population growth in the employment hubs, the redevelopment and repurposing of Council assets to create dense activity centres, a coordinated set of strategies to reshape and integrate a growth area, and health and education precincts.

The intention is to provide a resource for growth area councils and governments to draw on when considering how to transform their areas, including costs and benefits, funding opportunities, policy, governance and paths to implementation.

What is a transformational project?

The focus of this project is on identifying transformational projects within Australia's outer suburban high growth LGAs. The World Bank defines transformational projects as "interventions that support deep, systemic, and sustainable change with the potential for large-scale impact in an area of a major development challenge" (Heider 2016). Central to this concept of transformational projects are binding constraints, which are the major factors that are impeding development (Hausmann, Rodrik & Velasco 2006; Heider 2016).

Therefore, transformational projects should address one or more major challenges within growth areas. This also reflects project appraisal processes such as Infrastructure Australia's that require evidence-based issue identification and prioritisation as the first step (Infrastructure Australia 2016).

The transformational concept also aligns with the Commonwealth's City Deals, which calls for "transformative investment" and "opportunities to unlock economic potential and transform the City" (Department of Prime Minister and Cabinet 2016a).

Previous research (Forecast.id 2017a; National Growth Areas Alliance 2017 ; SGS Economics and Planning 2015) identifies a range of economic and social issues in high growth LGAs. Prominent issues identified in these reports include:

- The quality and quantity of local employment opportunities;
- Access to employment in other locations, which is associated with long commuting times, high car dependency and the standard of public transport provision;
- The quality, diversity and affordability of housing; and
- Social cohesion, liveability, culture and amenity, including access to education, health care, and cultural, entertainment and sporting facilities.

The projects included in this report address many of these issues. They provide the basis for growth area councils to restructure economic and community functions via projects that include public transport, health and education precincts, central activity area development and densification, and co-ordinated series of interventions.

The Transformational Projects

The project drew on submissions from NGAA member councils with 17 projects assessed as transformational according to specified criteria. Of these, ten were selected for extended analysis and discussion, providing a mix of project types and locations:

- Armadale Activity Centre and Underground Rail Line, Western Australia
- Community Connect South, Western Australia
- Gawler Train Line Electrification, South Australia
- Lyell McEwin Health Precinct, South Australia
- Mernda Town Centre, Victoria
- Mills Park, Western Australia
- The Quarter, New South Wales
- Wanneroo Strategic Capacity Building Project, Western Australia
- Werribee City Centre, Victoria
- Western Sydney North South Rail Corridor, New South Wales

Brief descriptions of the following seven transformational projects are also included in the second section of the report:

- Blacktown City Centre, New South Wales
- Bunjil Place, Victoria
- Cockburn Health and Community Facility, Western Australia
- Greater Edinburgh Parks, South Australia
- Maddington Kenwick Strategic Employment Area, Western Australia
- Orchard House, Western Australia
- Union Rd Penrith, New South Wales

Methods

The NGAA member councils were invited to submit examples of and proposals for transformational projects via an internet portal. Information supplied included project description, evidence of the problems being addressed, how the project addresses the problems and self-assessment of the project's impact in four assessment categories: economic, environment, social and cultural.

Researchers from the Universities of Melbourne, Adelaide, Western Australia, and RMIT University established an assessment methodology and applied this to the submissions to create a list of potentially transformational projects, which are included in the second part of this report. The analysis and shortlisting was undertaken across the four assessment categories listed above, with the following key considerations for analysis:

- Proposals should address one or more major challenges or opportunities within the growth areas
- Implementation should have large-scale impact
- Change resulting from implementation should be deep, systemic and sustainable

From the initial shortlist, nine transformational projects were selected by a process of review and appraisal by the research team, to represent a range of project types as well as those distributed across the four states participating in the project.

An outcome of the focus on projects that enable local-scale change is that proposals for basic improvements to current services, such as road widening or enabling residential subdivision did not result in shortlisting as transformational projects. This should not be seen as a reflection on the worthiness of these types of projects, rather it reflects the focus of this work and the method used to categorise the submissions.

Project Team

This report is the result of the contributions of the following researchers working with Ruth Spielman and Bronwen Clark of the NGAA.

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Transformational Projects

Introduction

This section of the report provides detailed discussion of ten transformational projects selected from the overall submissions to the project. These projects are from New South Wales, South Australia, Western Australia and Victoria. The section includes a range of transformational proposals and example projects drawn from NGAA member submissions to highlight different approaches and possibilities for significant change in fast growing outer suburbs.

Armadale Activity Centre and Underground Rail Line – City of Armadale WA

Project Description

The Armadale Activity Centre and Underground Rail Link (AACURL) will transform the city centre into a key employment site in the region. The project is an initiative of the City of Armadale, and is concerned with redeveloping the Armadale town centre for increased residential, employment and community uses. It includes the undergrounding of the Armadale train line, which currently bifurcates the city centre and reduces its appeal as a location for economic and community activity. AACURL will result in the physical, economic, social and environmental transformation, generating economic development that will see the region become a more integrated and valued component of the Perth metropolitan system. This proposal coincides with the broader Metronet project underway in Perth, a “long term blueprint to connect our suburbs, reduce road congestion and meet Perth’s future planning needs” (Public Transport Authority of Western Australia 2017).

Why is it transformational?

Problem/opportunity description

Perth is forecast to increase its population by almost 60% between 2015 and 2050, to 3.5m people (Department of Planning, 2015). The City of Armadale’s population is expected to increase at a faster rate, nearly doubling from 65,300 to 130,158 between 2011 and 2031 (City of Armadale, 2015). Like other growth areas, despite this population growth Armadale has endured persistent economic issues. In 2011, Armadale had a SEIFA score of 996.1 making it the 4th most disadvantaged LGA out of 31 within the Perth metropolitan region (ABS, 2011). Armadale has also had a low ratio of local jobs to employed residents, of just 50 per cent.

In 2015, Armadale contributed to 6.6% of the South East sub-regional gross regional product (GRP), ranking 7th out of the 8 LGAs included (City of Armadale). Given that Armadale is the third largest LGA by population in the region, its contribution to GRP is under what could be expected and reflects the socio-economic disadvantage within this LGA. Improving the Armadale town centre is seen as an important step forward, as it currently lacks diversity and intensity of land uses and employment opportunities. The Armadale rail line bisects the town centre, resulting in a poor urban form where shops, services and facilities are difficult to access, which is exacerbated by the land reserves and buffer zones around the rail line imposing major constraints on redeveloping land in the town centre.

How the project addresses the issue or opportunity

The AACURL project demonstrates an ambitious policy vision from the City of Armadale, to position itself as the primary urban activity centre within the South East sub-region, as well as seeking to engender community pride and a reconsideration of the region by the wider Perth community.

The project aligns with the substantial urban rail program currently underway in Perth, as noted in the AACURL background report:

A primary planning tool for Metronet projects is the creation and expansion of transit-oriented developments (TOD). This aims to maximise the people and services that are in train station precincts. For a large centre such as Armadale, this means it being both an origin and a substantial destination station, maximising the destination elements (employment, education, health and community services) in the station precinct (Syme & Co and Hassell 2017, p.7).

A preliminary study for the Armadale Activity Centre and Rail Line Undergrounding Project, which includes TOD principles, has been conducted for the council by Syme & Co. and Hassell (2017). The concept of rail undergrounding and activity centre development received strong support from the council and other stakeholders, including the local community. The projected benefits of the AACURL for the centre of Armadale are summarised in the table below. As shown in the table, the project will increase population, housing stock, employment opportunities and floorspace for economic land uses in the town centre. Given the scale of increase, it is also likely that the project will result in increased diversity as well a scale.

Table 1: Projected AACURL Development Outcomes

Projected Output/Outcome	Project Outcomes
Residents	7,000
Employment (jobs)	18,000
Students	1,600
Residential Dwellings	3,500
Commercial / Office Floorspace (sqm)	300,000
Retail Floor Area (sqm)	157,000
Education Floor Area (sqm)	25,000
Civic Floor Area (sqm)	20,000
Total Private Sector Investment (\$m)	\$2,253m

Source: Syme & Co and Hassell, 2017

A presentation to the council in late November by Hassel, the consultancy leading the activity centre visioning process, provided an interpretation of the extent of transformation expected under Scenario 1.

Making it happen

Governance

The City of Armadale is developing this project in partnership with a planning consultancy, which is a novel turn in urban renewal policy within Perth, and has undertaken wide-ranging consultation to inform the early stages of the proposal.

Given the scale and complexity of the proposals for the AACURL, State Government support is vital. There is a pressing need to ensure genuine engagement and dialogue between the State government, local council and the local community in relation to the extension of the Armadale Line to Byford as part of Metronet. In particular, careful planning consideration needs to be

taken to ensure that the aspirations for Armadale as set out in the AACURL project are not stymied by wider policy decisions. Also, an urban renewal project of this nature would normally be the vision and responsibility of the Metropolitan Redevelopment Authority (MRA), the state government's urban renewal agency, who have a long track record in successfully leading large-scale urban renewal projects across the city (Maginn 2018). The state government recently announced that the MRA and LandCorp, the state developer, will merge over the next 2 years, therefore it is important that some form of partnership between the City of Armadale and the new agency is established to oversee the project. While local councils have relatively limited experience, powers or capacity to lead such a large-scale initiative, it is important they have a continued role in guiding the development.



Source: Hassel (2017) Armadale Activity Centre Plan – Presentation of Draft Outcomes.

Funding

The costs of the public aspects of this project have not been estimated, such as undergrounding the rail line and train station plus the ground level remedial works. There is currently a major program of level crossing removal in Victoria, for which the business case includes an estimated cost of approximately \$150m for each of the first 20 removals (Level Crossing Removal Authority, p.174), however the AACURL is a more substantial project and recent reports indicate cost blowouts. The public funding requirements of the AACURL project may be met to some extent through the Metronet project. The renewal of the Armadale Town Centre will be also dependent on buy-in from private investors; however the perception of risk associated investment of this scale in a disadvantaged area such as Armadale will need to be addressed.

Costs and Benefits

While there is a substantial cost associated with this project, the Syme & Co and Hassell (2017) estimate of private development funding in the order of \$200m could be seen as a representing market value of the benefits of the additions to the city centre. As outlined in the table above, this included the provision of additional space for residential, employment and education uses. These benefits, along with those associated with social and community benefits of the project indicate that it will provide net gains for the community, even at a cost substantially more than the average from the Victorian Level Crossing Removal project the project.

Examples and Transferability

The AACURL project is similar in scope and intent to the Mernda and Werribee Town Centre projects discussed in detail in the report, as well as Bunjil Place, a transformational project recently completed in Victoria. These out suburban employment generation projects should lead to improved jobs-housing balance, reducing car dependency and the health impacts of long distance commuting as found by a recent study of commuters living in an outer Melbourne growth area (Nicholls, Phelan & Maller 2017).

The aforementioned Level Crossing Removal project in Victoria is an example of a similar series of projects. While the business case assessment resulted in a benefit cost ratio of less than 1, it has been well received by the Victorian community (Galloway 2017, Level Crossing Removal Authority 2017).

Recommendations

The AACURL is a significant initiative for Armadale, addressing a major obstacle in the development of its centre as an employment node in the south of Perth. This project presents an innovative solution, using the undergrounding of the rail line to not only address this obstacle but also to provide the basis for a substantial redevelopment of the precinct.

While the project is in its infancy, there is an urgency to progress due to the opportunities and risks presented by Metronet. The preliminary planning led by the City of Armadale and its consultants provides the basis for concerted efforts to include the Council's preferred solution to the problems and opportunities presented within the scope of the State Government's rail development program.

Community Connect South – City of Cockburn WA

Project Description:

The Community Connect South (CCS) will improve road connections between the region's economic centres, including the Armadale Activity Centre and Underground Rail Link (AACURL). The CCS project forms part of a local government partnership between the City of Armadale, City of Cockburn and other LGAs that make-up the South West Group. This project is physical infrastructure driven and focuses on road improvements, including bridges, new lanes and a freeway interchange.

Why is it transformational?

Problem/opportunity description

According to the WA State Government's metropolitan strategic plan, Perth and Peel @3.5m (Department of Planning, 2015), the population of Perth is expected to grow from 2.2m to 3.5m by 2050. A significant share of this growth will occur within the South Metropolitan/Peel region, with the 2011 population projected to increase from 523,500 to 1.2m by 2050. Cockburn's population is forecast to increase from 95,000 to 165,500 over the same period (South West Group 2015). This population growth, as well as similar growth in surrounding areas, means there is a need to expand the local economic and employment bases in order to encourage sub-regional self-sufficiency.. Therefore, there is a need to provide infrastructure to expand the local economic and employment base and encourage sub-regional self-sufficiency as well as reduce congestion.

Cockburn contributes approximately 28% or \$6,165m of the total gross regional product (GRP) of the South West sub-region (ibid). Despite this comparatively positive economic performance Cockburn suffers from major congestion problems. The South West Group, a partnership of the Cockburn, East Fremantle, Fremantle, Kwinana, Melville and Rockingham LGAs has noted that the Cockburn Central and Southern Enterprise Arc is 'one of the worst congestion hotspots in the southern metropolitan area'. This sub-region is seen as the economic gateway to Western Australia due to the volume of freight transported on the road and rail network from Fremantle Port through Cockburn Central, Forrestdale, and Armadale to Perth and the rest of the state. Inadequate infrastructure and the associated congestion are fundamental barriers to economic development and growth

within this sub-region. As a result, the City's major shopping precinct, Cockburn Gateway Shopping Centre, had to defer a planned \$300m expansion until such time as the CCS project could be delivered. The planning for this expansion indicates an additional 1300 permanent jobs could be provided for residents of the region.

How the project addresses the issue or opportunity

The CCS project proposal is transformational in that it reflects a co-ordinated, collaborative and proactive policy response by local government to address major strategic transport, land-use planning, population growth and economic development challenges within the South East/South West sub-region. It is designed to have cascading economic and social benefits of the South West/South East sub-regions by enhancing transport efficiency and, in turn, economic productivity. This project reflects the 'infrastructure turn' in Australian government policy (Dodson 2009; Legacy, 2017; Steele & Legacy 2017).

Making it happen

Governance

The CCS project has its origins in the Cockburn Congestion Relief project, instigated by the South West Group. However, recognising that the traditional lobbying efforts employed by local governments were failing to deliver on key infrastructure projects, the City of Cockburn resolved to take a more activist approach in order to progress the CCS project.. This involved tapping into higher-level political networks and agendas in relation to infrastructure, economic development and metropolitan strategic planning at the state and federal government levels.

The inter LGA nature of the CCS meant that the South West Group had a central role in advocating for the project as well as the prioritising of the individual elements of the proposals, ensuring that the overall aims of the project were realised.

Funding

CCS has received funding from a number of Commonwealth and State programs as a result of campaigning during recent elections. As a result, the CCS priority projects of the Kwinana Freeway extra lane, Armadale Road Widening, North Lake Rd Bridge and freeway on-ramps and the Russel Road Bridge have been allocated funding to a total of \$440m and will be constructed in the forthcoming years. The remaining project is the Tonkin Highway Extensions, which will require a further \$165m.

Costs and Benefits

CCS is expected to result in \$1billion of economic benefits as a result of reduced congestion and improved freight and people movement within and through the sub-region. Based on this preliminary estimate of the congestion costs, the CCS presents a benefit cost ratio of 1.4. This excludes benefits standard to transport project appraisal such as reduced accidents, vehicle wear and wider economic benefits as well as ongoing maintenance costs. Overall, this indicates that the CCS project is likely to generate considerable economic and social benefits to the Cockburn and wider community and may be seen as an effective use of public funding.

Examples and Transferability

There is an extensive literature on the relationship between congestion and economic activity, the central argument for the CCS. While some research points to travel time savings being a "myth" (Metz 2008), recent findings indicate that "higher congestion ... appears to be associated with decreasing regional employment growth rates (not just a diminishing rate of increase) and that higher levels of congestion appear to be associated with slower productivity growth per worker (Sweet 2014, p. 2107).

However, the CCS is a notable example of Local Government leading advocacy campaigns that result in significant funding to facilitate growth in a political climate where the local government sector has been under amalgamation and reform pressures from state government. The campaign was based on the success of 'Access Denied', which was run by the City of Whittlesea in the 2014 Victorian State Election and secured \$650m in funding for a rail line extension and freeway access ramps. The CCS campaign was conducted over three elections; the September 2015 Canning by-election, the Federal Election held in July 2016 and West Australian State Election in March 2017. While CCS has taken three electoral campaigns to achieve its objectives, it demonstrates how a more activist strategy can unlock funding for projects that often get overlooked, when relying on traditional forms of inter-governmental engagement.

During the Canning by-election, a comprehensive campaign was carried out, enabling CCS to gain strong support within the electorate. The social media campaign alone generated some 20,000 emails to political leaders, indicating its effectiveness in reaching the major parties. Realising the opportunity to respond to the community support for the project, the Federal opposition made a commitment of \$145m early in the campaign. Having initially advised they would not fund the project, the Federal Government matched the contribution; but limited this to the widening of Armadale Road.

During the election campaign the ALP were the first to announce support, with a funding promise of \$80m. This time however, the Federal Liberal Government did not make any commitment to the project. Burt was subsequently secured by the ALP with a swing of 15 per cent, but as the Liberal/National Party coalition retained government and there was no funding was provided for the CCS. Regardless of this, the advocacy campaign had elicited achieved a strong community awareness and support for the project.

The third phase of the CCS advocacy campaign was launched in January 2017, to coincide with the State Election held in March of that year. In the lead up to the election both major parties were lobbied, however only the opposition Labour party supported the project and made a campaign commitment of \$166m to the project. Across Western Australia there was a major swing that led to a new Labour Government being elected. The three phases of the CCS campaign had secured the initial estimate of \$311m for CCS. However, shortly after the State election cost estimates for the bridge and freeway on-ramps was revised to \$239m, an increase of \$73m from the campaign commitment. The incoming Government was also advised that without widening the north bound lane of the freeway it could not deliver the bridge and on-ramps, adding a further \$49m of costs. Reflecting their electoral vulnerability after the State results, the Commonwealth announced that it would provide an additional \$1bn in funding for major road projects for the State, which has enabled the State Government to allocate all of the funds required to build the CCS.

Recommendations

The CCS provides a clear demonstration of innovative political and policy action at the local government level. They reflect a nuanced understanding of the looming challenges facing the South East/South West sub-regions in the wake of unprecedented population growth and the need to be politically and policy astute by developing an evidence base and consulting with all relevant stakeholders in order to secure wider social and economic buy-in.

This project provides an example of how distinct interventions can interact to create wider benefits and help growth areas achieve goals, in this case increased employment and economic activity in the south west of Perth. Also of note is that both projects signify the political and policy innovativeness and creativity at the local government level.

Gawler Train Line Electrification – City of Playford SA

Project Description:

The Gawler Train Line Electrification (GTE) project is part of a metropolitan wide initiative to revitalise and electrify the entire passenger rail system across Adelaide. The South Australian (SA) Government has committed \$152.5m for the electrification of the Gawler line from the Adelaide (CBD) Railway Station to the Salisbury Railway Station/Interchange, a distance of approximately 18 km. This first phase of the GTE project is scheduled for completion in June 2020. Complete electrification and

modernisation of the 42 km Gawler train line requires additional work to electrify the 24 km from Salisbury to Gawler, passing through the City of Playford. There are 13 stations, beyond Salisbury, serving residents, students, workers and businesses in the City of Playford, the Town of Gawler and the surrounding municipalities of Barossa, Light and Adelaide Plains. While some civil works and a partial upgrade of railway stations have taken place in preparation for electrification, the GTE project also requires further upgrade of some stations between Salisbury and Gawler.

Why is it transformational?

Problem/opportunity description

Reducing car dependency in areas of low population density is a focus of the 30-Year Plan for Greater Adelaide (Government of South Australia 2010). Urban planning responses have designated higher density mixed use development or Transit Oriented Development (TOD) at key railway stations throughout metropolitan Adelaide. Along the Gawler line, the Gawler, Munno Para, Elizabeth and Salisbury railway stations are designated as sites for higher density mixed use development or for Transit Station Improvement (TSI).

The Town of Gawler is a local government area (LGA) with a catchment of 90,000 people. In 2016, Gawler's population grew by 2.6 per cent, making it the fastest growing LGA in SA. The City of Playford also had a population of 90,000 in 2016. With 1.5 per cent growth, Playford was the fifth fastest growing LGA in SA (ABS 2017). Demand for services on the Gawler line has been increasing, reaching five million trips in 2016, a 30 per cent increase since 2009. Some 17,000 passengers used services on the line each weekday in 2016 (Mullighan 2017a). Improved feeder bus services at Munno Para, Elizabeth and Gawler stations have also brought more people to the trains. The current diesel rail carriages are limited in their capacity to cater for increased passenger numbers during peak travel times, and are costly to maintain or replace.

Further growth is planned in both LGAs and from 2011 to 2026, the population in Playford is expected to double to 160,000 people. This population growth will further increase pressure on the existing public transport bus and train systems, particularly during peak periods for commuting to the Adelaide CBD. In addition, existing and new regional facilities based at Elizabeth will be major destinations for many people. These facilities include: the Lyell McEwin Hospital and the new Lyell McEwin Health Precinct in Elizabeth South, and the Northern CBD development at the Elizabeth Regional Centre with its new Northern Regional Sports Precinct.

The existing diesel rail system has major environmental impacts, contributing to greenhouse gas emissions, and to air pollution, noise and vibration in proximity to train lines and stations. Increases in the price of diesel adversely affect its cost of operation while increases in motor vehicle fuel prices are enticing passengers to switch from cars to trains. A recent report from the SA Government indicates that traffic congestion is expected to increase in line with population increases and that the average speed of cars will reduce from 40 km/hr to 35 km/hr in the corridor (Government of South Australia 2015). If congestion worsens and fuel prices increase, then running costs increase, adding to the burden for households in these outer metropolitan areas.

Security, anti-social behaviour and crime at railway stations are important factors for passengers alighting at major railway stations on the Gawler line. Daily commuters have expressed the desire for access to a safer, more reliable, more frequent and cleaner public transport service (Meng et al. 2011).

How the project addresses the issue or opportunity

One of the aims of the electrification project is to provide a cleaner, more comfortable and faster commuting experience for residents and workers. Passengers on the Gawler line will travel up to 10 km by car to a rail station with a park and ride facility (Allan & Fielke 2015). Following electrification, express services between Adelaide and Gawler will take 36 minutes (averaging 70 km/hr) which is much faster than a car, which will take more than one hour during peak periods (averaging 40 km/hr) (Allan 2011). The GTE project will enable an additional 2,400 passengers to make use of the train during these peak periods removing many cars from the road and reducing congestion (Mullighan 2017a). More frequent services will also be possible with electrified

trains, reducing waiting times at stations and encouraging more people to see the train as an efficient travel option.

Playford LGA has a young and multicultural population with 52.7 per cent aged 34 years and under, and 21 per cent of the population born overseas. Surveys of the public transport system in Adelaide indicate that the majority of public transport users are women and students (Somenahalli et al. 2013). Those on low incomes may have no other option but to use public transport. This is borne out by studies that indicate that most passenger arrivals at the Elizabeth railway station/ interchange are either by feeder bus (44 per cent) or by walking (37 per cent) (Meng et al. 2011). The electrification project will assist groups such as women and students by upgrading security at railway stations. Electrified trains will also offer an opportunity for passenger Wi-Fi provision (Gawler Council 2017).

The greatest environmental benefits of electrification arise if the land surrounding stations is developed with a mix of residential and commercial uses, and if a substantial proportion of electrification is from renewable sources (Allan 2013). Electrification can then deliver up to 50 per cent reduction of both carbon emissions and energy consumption related to transport. In the Playford Alive urban revitalisation project, an increased density of housing and development has been planned near the Munno Para railway station in anticipation of electrification. The GTE project will assist in the value uplift of residential and commercial land in the vicinity of the major stations between Salisbury and Gawler, which will stimulate economic and employment opportunities. The reduction in engine noise, vibration and localised air pollution that follows electrification will benefit both existing and new residential economic development.

Making it Happen

Project Governance

To date local governments' role in the delivery of train line electrification projects is limited to advocacy and submissions, as the infrastructure is owned by the SA Government and managed by the Department of Planning, Transport and Infrastructure (DPTI). The GTE is part of the metropolitan rail revitalisation and electrification project known as the Future Public Transport Network, first proposed in 2008. With the release of the 30 Year Plan for Greater Adelaide (Government of South Australia 2010), TODs and TSIs were identified along the Gawler line, opening up the opportunity for densification and mixed use development, or for park and ride facilities to be planned. Prior to this time, Playford Council was involved in study tours reviewing TOD projects in Western Australia such as Subiaco, Joondalup and Cockburn Central. Playford then lobbied the SA Government to also consider undergrounding of the train line at Elizabeth Regional Centre. While that study was completed, it has not been published. Similarly, an early master planning exercise undertaken by Playford Council to review land use around the Elizabeth station and the Elizabeth Regional Centre has not been published.

In recent years, Playford Council staff have lobbied Federal and State Government Members of Parliament, relevant Ministers and key departmental officers for a commitment to fund the GTE, as they consider this improvement is key to delivering an uplift to land value around stations, particularly on the eastern side of stations at Elizabeth South and Elizabeth CBD. Playford Council has sought SA and Federal Government assistance in planning for and attracting investment in residential and commercial development for the Elizabeth CBD project. With the recent closure of the Holden Manufacturing facility at Elizabeth South, there is also an opportunity for redevelopment of land between the Elizabeth South Station and the Lyell McEwin Health Precinct. The City of Salisbury, to the south of Playford, also has an agenda to revitalise the Salisbury Centre adjacent to the Salisbury Railway Station. In addition to the electrification project to Salisbury, the SA Government has also announced that the Salisbury Railway Station will be upgraded and the level crossing at Park Terrace Salisbury will be removed.

The SA Government has relied on Federal Government funding to undertake the Future Public Transport Network. In 2009, the Federal Labour Government announced an allocation of \$293.5m to accelerate the upgrade of the Gawler line including track works, electrification and station upgrades. However, in 2013, the new Federal Liberal Government chose to prioritise the North-South Transport Corridor and rail freight projects over passenger train projects and they withdrew their funding that had yet to be spent, bringing the electrification of the Gawler train line to a halt.

The Federal Liberal Government directed \$160m of funding to other public transport projects such as the O-Bahn undergrounding project that would deliver, at most, a 3 minute improvement in travel time for commuters from the north eastern suburbs but no improvement for those on the Gawler line. In 2017/18, the SA Government recommenced work for the GTE, however funds

only allow electrification of the line to Salisbury Railway Station. The Playford and Gawler LGAs have been concerned at the lack of a public announcement of a commitment of funds from either the SA or Federal Government for completion of the GTE. The SA Government seemed more interested in promoting an extension of the Seaford train line to Aldinga at a cost of \$462m (Mullighan 2017b). Caught in the middle of the political machinations are the residents, students, workers and businesses of Playford and Gawler who have been waiting a decade for a commitment to complete the electrification project.

Funding

The first phase of the GTE project, costing \$152.5m, is being funded solely by the SA Government as federal government funding was withdrawn in 2013. The total project cost of the GTE is anticipated to be \$615m, leaving a shortfall of \$462.5m (Mullighan 2018), leaving a shortfall of \$310m. Operation of passenger trains in SA has generally required subsidisation, so it is difficult to attract private investment. However, the Town of Gawler has included the GTE project in its Gawler Invest Iconic Projects brochure, indicating that private investment is welcomed (Gawler Council 2017). The Federal Government's National Rail Program and Regional Growth Fund may also provide funding for the project (Department of Infrastructure and Regional Development 2017a, 2017b).

Costs and benefits

There has not been a published cost benefit analysis (CBA) or business case for the GTE in isolation. The economic assessment of the Future Public Transport Network (DPTI 2013) assessed the Benefit Cost Ratio as 1.0 (at 7% discount rate). The benefits that DPTI identified were not quantified but were listed as follows:

- Reduced in-vehicle and out-of-vehicle time for existing public transport users;
- Reduced generalised cost for users that switch into public transport (assessed using the “rule-of-a-half”); and
- Reduced perceived costs (travel time) for remaining car users.

Based on 2006 Census statistics, if households of Playford have 2 cars they spend between 66% and 72% of their annual income on a combination of housing and transportation costs compared to between 23% and 29% for households with no car (Kellett et al. 2012). Households without cars have reduced transportation costs as they use public or active transport for commuting.

Bray (2013) estimates that the average annual cost of carrying passengers on trains (and trams) in Adelaide in 2006/07 was \$15.75 per person, of which \$4.54 was operating cost. He notes that the relatively flat fare structure across metropolitan Adelaide means that cost recovery for rail based services is low as train lines have high annual capital costs. Electrification can improve the productivity of the train lines through increased capacity, more frequent services and reduced operating costs.

The first phase (Stage) from Adelaide to Salisbury will support 135 jobs a year during construction (Mullighan 2017a). There has not been a report published on the benefits of development of residential and commercial land adjacent to stations in Playford or Gawler.

In a hypothetical project to explore the use of a Dedicated Infrastructure Fund for growth areas, PwC (2016) recently reviewed the Gawler rail line electrification and considered an extension of the line to the Barossa Valley. Their study identified the importance of a funding model that uses a business case approach to justify expenditure, producing a CBA, project implementation plan, monitoring and evaluation plan and risk management plan. Their hypothetical approach had Local, State and Federal Government funding for the rail project, but no private funding. PwC also previously provided the SA Government with options for funding infrastructure projects in SA (Office of the Economic Development Board – Department of Premier and Cabinet, South Australia & PwC 2012). The options for funding transport infrastructure explored included:

- Using existing pricing structures such as increasing public transport fares;
- Developing a Tax Incremental Financing program as used in the USA and Scotland; and,

- An Infrastructure Fund to target infrastructure bottlenecks, such as the UK investment bank. The latter model of an Infrastructure Fund was not considered directly applicable to the small number of projects in SA.

Examples and Transferability

In Western Australia, Perth modernised and electrified its rail service in the 1980s. In 2007, the Southern Rail Line was completed at a cost of \$17m per km. It carried 55,000 passengers per day within a year of opening compared to 14,000 passengers using buses (Newman 2012). The extension of the Joondalup line by 7.5km announced in 2010 was estimated to cost \$241m. The electric rail servicing Joondalup (33 km North of Perth) and other centres is seen as an enabler more dense development around the stations (ibid).. Part of the attraction of passengers to trains on the Perth system is that train lines were placed down the centre of freeways and car occupants (commuters) who were experiencing significant congestion on Perth's freeways can see quite clearly that the trains are moving faster. Moreover, the southern line rail stations are served by high frequency feeder buses which avoid the need for either car travel to stations or high density surrounding land-use. The location of rail lines and the comparison of travel times are an important factor in attracting a switch from cars to rail for commuter journeys.

A South Australian comparator is the Seaford Train Line Electrification, which together with electrification of the Tonsley Line (90 track km total) was completed in 2014 at a cost of \$353m (\$3.9m/km). It was expected to achieve an extra 6,000 public transport trips per workday (1.56m per year) and reduce public transport travel times on a trip to the Adelaide CBD by up to 10 minutes. Passenger numbers exceeded all expectations, reaching 4.45m in 2014/15, the first full year after electrification, demonstrating that a clean, comfortable, quiet, frequent and fast train service will attract passengers in Adelaide, as it has done in Perth and in other Australian cities.

A number of studies have examined the costs and benefits of rail electrification upgrades internationally (Nash and Preston, 1991; Al-Tony and Lashine, 2000; Grimes and Young, 2013; Mohammad et al., 2013;). Results are variable depending on the methods used and scope of costs and benefits included. For example, Nash and Preston (1991), discussing British experience prior to rail privatisation, point to internal contradictions in the process whereby the rail operator, in this case British Rail, was required to consider only the commercial costs and benefits of upgrades whilst local government bids for funding in respect of rail upgrades required a full social cost benefit analysis. Mohammad et al (2013) report on a meta-analysis of economic benefits of rail investment with a particular focus on land and property value enhancement. They conclude that land is subject to greater enhancement in value than existing property and that land and buildings within 500-805 meters of railway stations are subject to the greater value enhancement than properties further away. They also observed that commuter rail investments increase the value of commercial land/property compared to residential land/property. Electrification is a costly project and subject to differing financial outcomes depending on rail traffic flow. So Al-Tony & Lashine (2000) suggest that, on the basis of Japanese experience, a minimum level of traffic, cited as 40 trains per day, should be prerequisite of electrification schemes. More recent analysis of British rail improvement projects, such as Crossrail (Buchanan 2007) have expanded the analysis of the economic benefits to include wider economic benefits: the move to more productive jobs; pure agglomeration (denser employment leads to higher productivity); increase in labour force participation; and impacts on imperfect competition. These benefits are expected to be greater for rail projects than for roads, as:

Cities are where agglomeration spurs creativity and innovation, economic dynamism, and cultural vibrancy. Cities attracting inward migration cannot expand road capacity to match. To be successful they must invest in rail-based transport (Metz 2013, p. 268).

Recommendations

For projects of the scale of the GTE, which includes a number of LGAs as well as a total of \$615m in funding, it is important that there is widespread advocacy. The City of Playford has taken a leading role in advocating for the project, however the ongoing support from local Federal and State parliamentarians as well as other LGAs that stand to benefit from the rail electrification would greatly increase the possibility of success. This may benefit from the formation of an action group, such as the Friends of the Railways who were instrumental in the redevelopment of the Perth commuter rail system (Newman 2011), or the Western

Sydney Rail Alliance¹ with membership including a range of stakeholders.

Garnering public support for electrification of rail systems is also important. Local Government leadership should focus on a strategic communication and engagement project to entice the resident and working population to support public transport improvements. The improved access to education, employment, recreation and health services that rail electrification provides will continue to be critical in the Salisbury, Playford and Gawler LGAs. This leadership should promote the benefits that have been observed following the Seaford Train Line Electrification project and the extensions to Perth's rail system. In addition, employers and workers along the Gawler line, north of Salisbury, need to join with the Playford and Gawler communities in advocating for improved public transport services in the north. One way to achieve broad public support is through council pushing the agenda and making clear that it sees the importance of the project in reducing transport costs of residents in the north. Without a vocal public, politicians in State and Federal Government may choose to direct funds to projects other than electrification or projects in other locations.

While a regional approach to planning transport infrastructure is encouraged, a business case for the rail electrification project, including the resultant development of land adjacent stations, should be presented so that the broader community can more clearly see the benefit. Also, a sound business case for the project would enable ready and detailed responses as new funding possibilities for the project arise.

Lyell McEwin Health Precinct – City of Playford SA

Project Description:

The City of Playford (Playford) is facilitating the development of a high-tech, smart health hub, the Lyell McEwin Health Precinct (LMHP), on land surrounding the Lyell McEwin Hospital (LMH) in Elizabeth South. The objective is to create an interconnected health precinct featuring tertiary training, research capability, allied health facilities and residential accommodation designed to serve the needs of northern Adelaide and the regional areas beyond.

The development builds on the growing strength and capacity of the LMH by facilitating the creation of a health services cluster that is expected to be a major driver for jobs and urban renewal as well as servicing a growing regional population. The LMHP Master Plan (Hames Sharley et al. 2011) indicates that by 2026, 30,000 – 40,000 sqm of health related development with a capital expenditure of \$75m - \$100m was possible.

Why is it transformational?

Problem/opportunity description

Between 2011 and 2016, the population of Playford Local Government Area (LGA) grew by 13 per cent, the fastest of any LGA in SA (ABS 2017). Strong population growth is expected to continue in Playford and in the adjoining Salisbury and Gawler LGAs. The proportion of people in the 15 to 34 year age bracket (30.5 per cent) in Playford significantly exceeds that for the average across South Australia (25.4 per cent). While home to a large working age population, Playford has lost many manufacturing industry jobs due to the recent closure of the GM Holden plant at Elizabeth South.

However, the demand for health services in the North is growing. As a direct result of the federal government's National Disability Insurance Scheme (NDIS), by 2019 there will be an additional 6,000 to 7,000 NDIS participants in the northern area, requiring an additional 2,900 to 3,500 jobs; and resulting in \$240m economic growth. Demand for Emergency Department services at the Lyell McEwin Hospital (LMH) has also grown, and 70,000 presentations are expected in 2017. First opened in 1958, LMH has developed into a major tertiary training hospital, principally serving the northern suburbs and northern regional areas of SA.

1 <http://www.wsrail.com.au>

Playford Council (2017) has seen the opportunity to rezone land around the LMH in Elizabeth South to develop a health precinct in which health, allied health and associated services can grow. The LMHP is expected to also include advanced manufacturing in assistive devices in health, aged and disability.

How the project addresses the issue or opportunity

The approach taken by Playford is the development of an entrepreneurial ecosystem that enables accelerated growth in these areas (City of Playford 2017). In an entrepreneurial ecosystem, government's role is to facilitate growth but base it on local conditions, fostering linkages between entrepreneurial firms and other actors in order to stimulate innovation. The private sector, particularly those with high growth potential, should also be involved from the start and growth across all industry sectors including low, mid and high-tech firms should be encouraged (Mazzarol 2014).

Following the Playford and the LMHP Master Plan, there has already been a significant investment of \$43m made by solar thermal technology company Fluid Solar (\$8m Fluid Solar House) and the not for profit ACH Group (\$35m for ViTA North - Healthia). These initial leaders are providing the innovation and entrepreneurship required to kick-start the growth of a health cluster in the LMHP.

Fluid Solar purchased land opposite the LMH and constructed the \$8m Fluid Solar House, a high-tech, four-storey commercial office building using their own technologies. The building's design incorporates natural light and foliage in the centre of the building intended to replicate the serenity of being in nature and is able to generate and store sufficient energy for its occupants' use and for charging electric vehicles. In addition to the Fluid Solar space, leaseings of floor size 150 sqm – 2,800 sqm suitable for medical suites are currently available (Real Commercial 2017).

ACH Group's \$35 million ViTA North - Healthia development, scheduled for completion in 2021, will create 500 jobs during its construction and 1,100 jobs in ongoing employment (City of Playford 2016). The development responds to numerous health related demand drivers in the LMHP local catchment area (ACH Group 2017), and particularly targets older people and others who need to restore, recover, rebuild and reposition their lives. There is also an opportunity to address the health needs of indigenous Australians from the northern suburbs and the northern areas beyond.

Both the LMH and LMHP are likely to be a catalyst for improved transport services, in addition to improved traffic management and amenity in the area.

Making it happen

Project Governance

Playford Council initiated the precinct concept in conjunction with the Department of Health and LMH. In 2011, a Master Plan was developed for the LMHP, which took a 30 year view as well as providing short term recommendations (Hames Sharley et al. 2011). The vision statement included in the master plan is:

The Lyell McEwin Health Precinct will service Northern Adelaide's Premier Tertiary Hospital by delivering new models for higher education and training, teaching and research to provide a skilled workforce for the health needs of Northern Adelaide.

Raising the profile and amenity of the LMH area as a major health precinct is in Playford Council's Strategic Plan 2016-2020. Playford's Development Plan has rezoned areas around the LMH to expand health related services including: tertiary training, research, allied health facilities and residential accommodation. A car parking and traffic management review has taken place to anticipate and facilitate sustainable growth of amenities in the area. Future public realm improvements within the precinct include signage, streetscape upgrades and provision for Smart City infrastructure. Playford Council owns and operates a Dark Fibre Network (fibre optic cable) which it is expanding into the area to provide high speed internet which will support TeleHealth, research and collaboration.

Private investment by Fluid Solar and ACH Group has already taken place, each are anchor tenants in their developments. The latter's ViTA North – Healthia site is building on the internationally innovative concept ViTA, a purpose-built facility at Daw Park, South of the Adelaide CBD. A Master plan for the Healthia site has been developed and successful parties are required

to enter into a Land Management Agreement to ensure consistent and appropriate execution of the VITA North vision and Master Plan (Savills & ACH Group 2017).

Playford Council has an ongoing role in providing local infrastructure and local government services and amenity in the area. Although university training facilities were flagged in the 2011 Master Plan (Hames Sharley et al. 2011), there has yet to be a public announcement made by the universities. As with all commercial projects, there is a risk that there is little interest by health services providers and the universities in purchasing or leasing the commercial space in the LMHP. Hence, Playford Council also has an ongoing role to facilitate and monitor interest by all stakeholders.

Funding

There are two distinct aspects to funding a precinct project such as the LMHP, government funding for the hospital development and to facilitate development of the precinct, and then the private investment. The SA Government has provided significant funding to extend and upgrade the LMH itself including expansion of the emergency department and car-parking. Playford Council has undertaken the rezoning, and is also funding the traffic management studies, and the consultation into streetscape and wayfinding needs for the area.

There is potential for the private health services providers to attract assistance from the SA Government's Health Industries Fund (HIF), which has \$6m available until the end of 2017/18. The HIF's purpose is to attract enterprises in the health and biomedical sciences to establish or expand operations in SA (SA Government 2017). There is also an opportunity under the Australian Digital Health Agency to promote TeleHealth in regional areas. Playford or the LMHP partners may be able to access some of the \$4.7m allocated to the funding for infrastructure to support TeleHealth services at the LMHP. The Federal Government's Smart Cities Plan may also be a source of funding for this aspect of the project, given its focus on "innovative smart city projects that improve the liveability, productivity and sustainability of cities and towns across Australia" (Department of Prime Minister and Cabinet 2016b).

The LMHP Master Plan indicated \$75-\$100m of private investment was possible in the precinct; to date \$43m has been invested (Hames Sharley et al. 2011). Fluid Solar has advertised for medical consulting businesses to lease space in Fluid Solar House (Real Commercial 2017). The ACH Group also needs to attract investors to purchase or lease areas within their VITA North - Healthia development site.

The investments by Fluid Solar and ACH Group are examples of impact investment. Fluid Solar have chosen to invest in innovative building technology, renewable energy generation and storage to demonstrate energy efficient and self-sufficient commercial development in the health sector. The ACH Group have purchased land and issued an EOI document to attract investment in health services and training in an area of high socioeconomic disadvantage.

Costs and benefits

Cost benefit analysis has rarely been applied to multi-user precinct projects such as the LMHP. The benefits outlined, however, include the incorporation of Smart City Infrastructure, a focus on innovation in delivery of professional services and regional training facilities that are expected to provide local links into local employment. Public investment since 2000 in LMH itself including current commitments total \$650.7m. Private investment in the LMHP project to date is \$43m.

Examples and Transferability

There are a number of Australian cases involving the development of precincts to attract investment in health and education services. In Victoria, the study for the Ballarat Health and Education Precinct (HEP) (Committee for Ballarat 2013) itself drew on a study of the PACE precinct adjacent the Princess Alexandra Hospital in Brisbane (Queensland), the Griffith University Gold Coast Health and Knowledge Precinct (Queensland), and the Penrith Health and Education Precinct (New South Wales). Their study found many major benefits including: job creation and improved job opportunities; improved outcomes for patients and

better-quality care; a catalyst to grow new investment opportunities; attraction of talented professionals and specialists; and that precincts are of a sufficient scale to support a brand that subsequently attracts prospective new residents in health and education vocations, increasing opportunities for urban revitalisation. The Ballarat HEP was expected to be delivered through collaborative partnering arrangements of the various stakeholders following the development of a precinct structure plan that was to be informed by a sense of place framework.

In South Australia, there are a number of locations where a health precinct approach has been delivered or is being investigated. In the West End of Adelaide the newly relocated Royal Adelaide Hospital is co-located with the SAHMRI health and medical research institute and new clinical education facilities of both the University of Adelaide and the University of South Australia. In Adelaide's western suburbs, the City of Charles Sturt has investigated the development of a health business cluster to be aligned with the Queen Elizabeth Hospital at Woodville and the Bio Tech precinct in Thebarton (Hudson Howells 2015). Their study recommended the formation of the Western Adelaide Health Industry Alliance comprising some key anchor institutions, local government and at least 10 businesses identified during the study. It also recommended the development of a China Health Export Strategy drawing on an international relationship with Yantai (Shandong) in China. The Charles Sturt study recommended further assessment of the demand for an education and training facility, the development of an internet site and a brand for common use by the Alliance.

In Adelaide's southern suburbs, the ACH Group has collaborated with Flinders University and the SA Government to establish VITA Daw Park. This residential care facility provides short term and long-term accommodation with 'access to the latest technology and clinical and social practices to enhance recovery and rehabilitation from illness or injury' (ACH Group 2017). While local conditions are important, the concept of establishing clusters of businesses that support each other is clearly able to be applied to health services provision.

Recommendations

The entrepreneurial ecosystem approach adopted by Playford Council has attracted two private investors into the area in addition to the SA Government's investment in the LMH itself. Playford Council has shown leadership in working with the LMH and other stakeholders, in enabling rezoning of land and in improving wayfinding and place making in the public realm in the area.

It is important that Playford Council develops an appropriate governance structure for the LMHP to better enable monitoring and reporting on the progress of its development including its costs and benefits. There should be a concerted effort to develop a brand for the Precinct, and to more clearly link this project to other significant infrastructure projects such as the public transport strategy.

Mernda Town Centre - City of Whittlesea Vic

Project Description:

The proposal comprises a package of 'cornerstone' town centre projects aimed at delivering growth area residents vastly improved access to critical services and infrastructure and facilitating the ultimate delivery of a vibrant Mernda Town Centre.

The package of projects includes:

- A mixed-use development that will include a library, performing arts space, space for the provision of health and human services and potentially social and affordable housing;
- Road improvement projects to ease congestion and enhance connectivity to Mernda's new rail station; and,
- A regional leisure and aquatic centre including indoor netball/basketball stadium.

Why is it transformational?

Problem/opportunity description

The Mernda Town Centre is intended as a district hub for the Mernda and Doreen communities in Melbourne's outer-north. Urban development in the Mernda and Doreen area has been occurring since the late 1990s, and the area is now home to an estimated 49,431 residents (Forecast.id 2018). While a number of local town centres have been delivered in the area, these do not, and were not intended, to provide higher level essential services which have been urgently needed by the community for some time. Also, the State of Victoria promotes alignment of social infrastructure investment and new housing through town-centre based planning in growth areas (Wear 2016). Mernda Town Centre provides a transformative example of how to integrate town centre planning with regional transportation systems.

The Mernda Town Centre proposal is to deliver and co-ordinate key town centre infrastructure projects and facilitate the overall delivery of the town centre in an innovative approach to addressing some of the key issues facing growth area residents:

- Lack of access to critical health and human services locally
- Extreme traffic congestion
- Lack of local employment and services
- Lack of social and affordable housing stock
- Higher than average rates of lifestyle diseases such as obesity and diabetes

The proposal seeks to leverage the arrival of rail service to Mernda and accompanying state investment to begin to address existing inequities and improve liveability outcomes for growth area residents.

Government provision of social services regularly fails to keep pace with rapidly growing populations across Melbourne's periphery, including Whittlesea. A recent media report found that Melbourne's outer suburbs may lack as much as \$250 million in funding for basic services (Millar, Schneiders, and Lucas 2017). This problem contributes to a widening gap in healthcare access in Melbourne, wherein 40 per cent of health care providers operate in the core of the city where only 20% of the population resides (Parliament of Victoria 2012, p. 468). Over 80 per cent of social service providers in Whittlesea report increasing demand for their services in recent years, a direct result of the growing mismatch between population growth and infrastructure provision in Victoria (Whittlesea Community Futures 2011, p. 28). Over three quarters of these organisations reported in 2011 that they cannot fulfil this demand, and must maintain waiting lists of those seeking support services (ibid). The same survey also found 61 per cent of service organisations have difficulty referring clients to other services due to lack of capacity.

Growth area residents are often time-poor owing to extreme traffic congestion and long-distances that many residents must travel to access jobs and services. Over 86 per cent of Mernda residents travel to work by car, with 24 per cent travelling more than 90 minutes to work (City of Whittlesea 2017). This lessens the time that commuters have available to spend engaging in physical activity or using active transport modes like walking and cycling. Residents of Whittlesea are also more likely to suffer from chronic conditions linked to being time-poor such as sedentary time and poor dietary choices:

- 55.7% of adults are classified as overweight or obese, compared with the Victorian average of 50%
- 10% of residents have been diagnosed with heart disease, compared with the Victorian average of 7.2%
- 6.5% of residents have Type 2 diabetes, compared to the Victorian average of 5.3% (Department of Health and Human Services 2016).

Finally, Greater Melbourne faces a serious deficit of affordable housing. This deficit includes public and social housing, with over 30,000 people on government waitlists for government supported housing (Whitzman and Raynor 2017). Many households have relocated from inner Melbourne in the last decade, into growth areas like Mernda for relief from rising

housing costs (Randolph and Tice 2017; Baker et al. 2016). This relocation has not necessarily lead to escape from housing affordability issues, where 26.8% of Mernda residents are classified as experiencing rental stress compared to 27.4% for Greater Melbourne. (Foercast.id 2017d). Research links housing stress and housing problems with worsening mental health outcomes (Mason et al. 2013), therefore alleviating housing affordability in growth areas is a social and public health priority.

How the project addresses the issue or opportunity

The underinvestment in key strategic infrastructure in the Mernda/Doreen growth area is leading to emerging and increasing negative social and health issues. The Mernda Town Centre proposal seeks to address these issues by providing space for the provision of health and human services locally, including an aquatic and leisure centre to encourage active lifestyles and facilitating development that will promote local employment. It also capitalises on the opportunities that state investment in the Mernda Rail Extension project provides. The State Government will open three new grade-separated stations as part of the rail extension, connecting Mernda with the rest of Melbourne and providing a new, mixed-use rail station in the Mernda Town Centre. The state government estimates the Mernda Rail Extension project will create 1,200 construction jobs and contribute to the creation of 1,800 permanent jobs in the area (Parliament of Victoria 2017).

To demonstrate the anticipated impact of the planned town centre on the lives of Mernda residents, the number of parcels in Mernda neighbourhoods around the site that are currently within a comfortable walking distance of key amenities like healthcare and recreational facilities was determined. This is compared to the number of parcels in the same area that will be within a comfortable walking distance of the same amenities after the construction of the planned Town Centre, with the results in Table 1 below. Only parcels already subdivided or built upon for housing are counted, and do not factor in households on multiunit parcels, and housing parcels within the planned Mernda Town Centre that are yet to be subdivided and developed. Therefore, it is an underestimate of the total number of households that will see improved access to services if Mernda Town Centre is developed.

Table 1: Parcels Within Walking Distances of Key Amenities Before and After the Mernda Town Centre (MTC)

Amenity	Walking Distance Threshold	Parcels in Walking Distance Pre-MTC	Parcels in Walking Distance Post-MTC
Groceries	1000m	4,444	5,405
Libraries	1500m	0	2,759
Pools/Recreation	1500m	0	2,759
Healthcare/Pharmacy	1500m	8,900	10,896
Social Services	1500m	0	2,759

Roughly 2,759 mostly occupied parcels sit within 1,500 metres of the boundary of the planned Mernda Town Centre. The Centre will provide these parcels with access to new social services, a library and recreational facility within walking distance. The Centre will also increase the number of households within a comfortable walking distance of a full-service grocery store by 1,000, and increase the number of households within a comfortable walking distance of healthcare services by roughly 2,000. The figure below depicts the overlap of the areas of Mernda that will be within 2km of the new rail station and the town centre.

Making it happen

Governance

As this project is in its infancy, it is being led by the City of Whittlesea as negotiations with the landowner continue. As the plans for the precinct development progress and become more concrete, it is the intention that the council will institute committees or steering groups, drawing from a range of stakeholders.

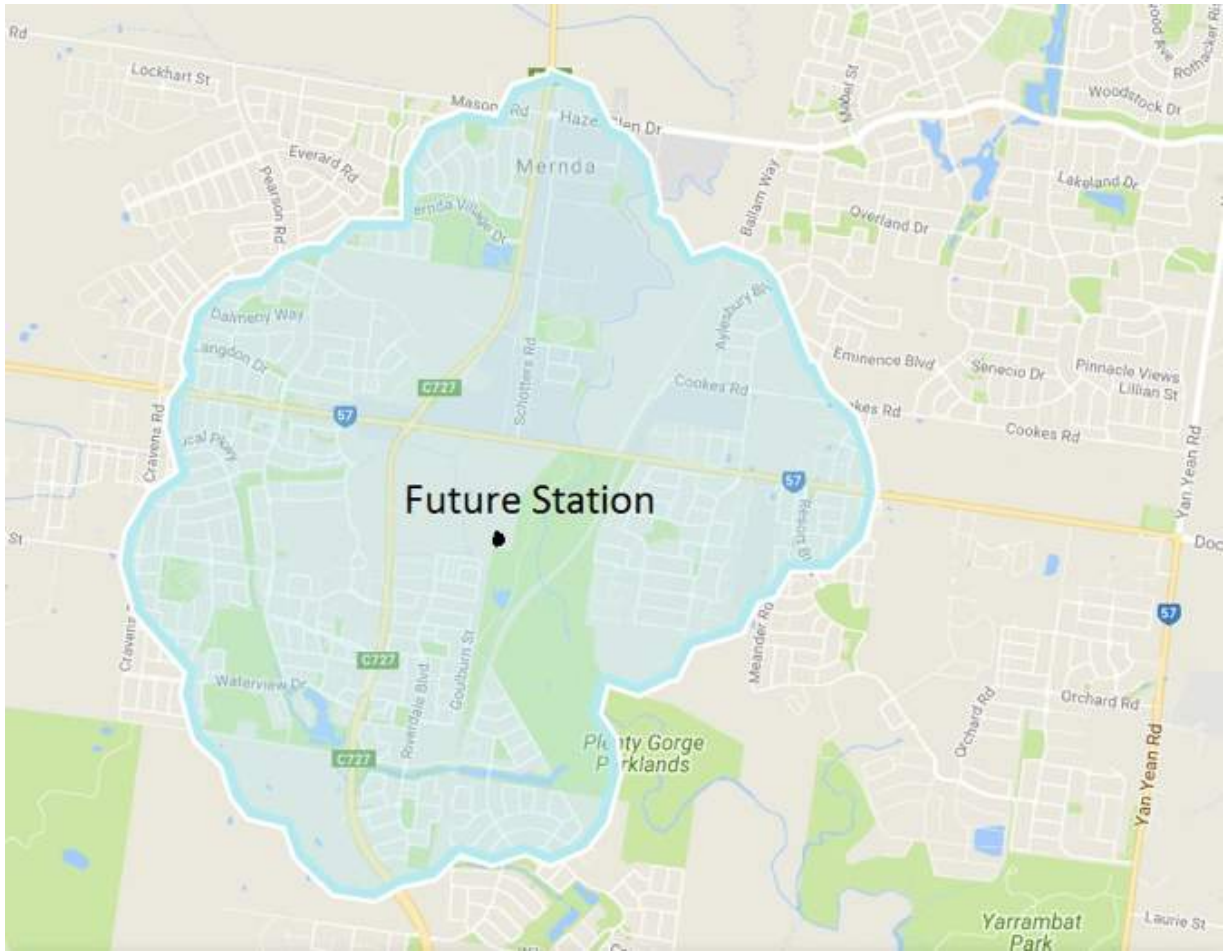


Figure 1: Areas Walkable to Mernda Town Centre

Funding

The City of Whittlesea estimates that the package of ‘cornerstone’ town centre projects included in the proposal will cost approximately \$270 million. This consists of \$100 million on the mixed-use town centre, a further \$100 million on road, bicycle and pedestrian infrastructure upgrades and \$70 million on the Aquatic and Leisure Centre. This funding could come from several state and federal sources that should be prioritising investment in transit rich growth areas, as Mernda will be when the rail opens.

The Department of Infrastructure and Regional Development’s (2017c) Community Development Grants Fund is applicable to this proposal, as it “provides funding for critical projects where the local community has identified the need for new or upgraded facilities”. The Victorian Government’s 2018-2019 Community Sports Infrastructure Fund, which includes aquatic centres in its list of applicable facilities, may also be a source of support for the project (Department of Health and Human Services 2017). Also, the Federal government’s proposed bond aggregator is intended to leverage institutional investment to reduce the cost of financing and producing social housing (Reliance Restricted 2017), and the state of Victoria’s Social Housing Growth Fund will provide direct subsidy to such projects (State of Victoria 2017b).

Costs and benefits

The benefits of such a project will be difficult to quantify precisely as the program tackles multiple problems in a synergistic manner. Efforts to evaluate the success of this project could incorporate into the benefits analysis:

- Increased walking and cycling of residents to new local amenities;

- Reduced driving from improved access to amenities and services;
- Improved health outcomes from use of the Aquatic and Leisure Centre and new healthcare amenities;
- Improved health and financial outcomes of households from the provision of social housing;
- Land value uplift from the creation of a walkable and amenity rich community centre.

Each of these benefits will yield cost savings to various local, state and federal government programs that could also be evaluated.

Examples and Transferability

Similar in scope and intent to the Werribee City Centre and Armadale Activity Centre and Underground Rail Line project, this proposal is an example of creating a central hub in a growth area, creating a dense activity centre providing services, employment and community facilities in proximity to transport services.

Recommendations

As the other precinct type projects have progressed further than the Mernda Town Centre proposal, it would be worthwhile for the City of Whittlesea to monitor their progress and learn from others' experiences. The NGAA should consider whether they have a role in facilitating this type of focussed exchange between member Councils, in addition to this report and its existing range of networking functions.

Following the completion of negotiations with the major landowner in the Mernda city centre, consideration needs to be given to project governance. This should reflect the range of public and private sector stakeholders in the proposal, its significance as hub for community services and the importance of co-ordinated and integrated service and infrastructure delivery.

The advocacy undertaken to fund the Community Connect South project, discussed in this report as part of the South West Economic Capacity Building Project provides an example how Local Government has taken advantage of successive elections and community support to garner significant project funding. This example of ongoing advocacy could focus on pursuing additional funding to enhance the project's benefits, including missing infrastructure links such as Bridge Inn Road, and for sufficient government services to meet the needs of the growing population in the Mernda region and mitigate the social disadvantage associated with lack of services.

Mills Park – City of Gosnells WA

Project Description:

Mills Park is a 24ha recreational space that provides a community hub for sporting, leisure and social activities while protecting and celebrating the park's natural assets. This project comprises a new community centre; expanded public open spaces that includes walkways and boardwalks; new sporting infrastructure; increased car parking to accommodate users; an improved irrigation system; rehabilitation of the wetlands and waterways; and, a number of discrete passive and active recreational spaces that cater for different age groups.

Why is it transformational?

Problem/opportunity description

The City of Gosnells has long been considered an area of social, economic and health and disadvantage, with comparatively high crime rates. This project addresses these various issues, particularly the poor health outcomes amongst low income

households (Gupta et al., 2007) by improving the opportunities for physical activity and inclusion through participation in organised club sports and the provision of enhanced physical, social and environmental infrastructure.

The City of Gosnells lies within the south-east corridor of the Perth Metropolitan area. Based on the SEIFA Index of Disadvantage it is the fourth most disadvantaged local government area in Perth, scoring 1004.1. It is also the sixth largest local government by population in WA and the tenth highest in rates revenue, but only 135th out of 140 LGAs in terms of contribution per resident to the rate base.

The suburbs of Beckenham and Kenwick, where Mills Park is situated, have greater disadvantage than most suburbs within Gosnells. These areas also contain less than 6 per cent of public open space despite the metropolitan standard of 10 per cent, and therefore lack access to quality sporting and recreational space. A 2012 study of active open space across the Perth-Peel area estimated a shortfall of 30 hectares (equivalent to 19.5 playing fields) of active open space in the south-eastern corridor in which Gosnells sits, this is estimated to increase to 42.8 hectares by 2031.

How the project addresses the issue or opportunity

The Mills Park Community Centre project included the redevelopment of the old Beckenham Community Centre, which was located 500m from Mills Park and had reached the end of its life cycle. By combining the activities of the two sites, the City of Gosnells was able to create a community hub for the residents of Beckenham and Kenwick as well as a major destination for the wider population of Gosnells. Extensive research prior to the redevelopment of the site identified a number of key issues/challenges:

- The park could not sustain the level of green spaces with the current water supply.
- Infrastructure was not meeting user needs and had reached the end of its useful life. For example, two clubhouses were occupied exclusively by two sporting clubs and had inadequate and undersized change rooms.
- Car parking on the site could not cope with the level of demand.
- Drainage and irrigation infrastructure needed to be replaced.
- Sporting ovals were damaged and often unusable as a result of summer droughts and winter flooding caused by poor soil profile.
- The power supply was operating at capacity at peak times.
- For the suburbs of Beckenham and Kenwick, it was the sole active reserve area and a major passive recreation area with little other parklands of any significance.
- The park was fractured by the convergence of the Woodlupine and Yule Brooks, which were maintained for water catchment purposes by the authority, rather than for parkland amenity
- The park had a well-utilised playground attracting non-locals, with locals feeling reduced access to the site.
- There was inadequate provision of public toilets, and few that were fully accessible.
- There was an oversupply of tennis facilities for the level of use.

The Mills Park project encourages both active and passive recreation across a range of age and multicultural groups, including disengaged youth, and has received patronage above expectation. The City of Gosnells is a recipient of State Government Kidsport funding which assists children from disadvantaged areas to increase sport participation. 198 beneficiaries through this source in 2014 were members of Mills Park clubs, and over 30 per cent of the Junior AFL club members were funded. Mills Park is a crucial social infrastructure asset within the City of Gosnells and will strengthen social networks and build social capital. It promotes cross-cultural interaction for the diverse groups residing in Gosnells through its various activities, and the enhanced sense of place and pride in the new facilities will help reduce anti-social behaviour and crime.

Further, the ecological improvements to the wetland and brook areas are helping restore the area and support threatened and endangered species, restore endemic vegetation and improving water quality in the Woodlupine and Yule Brooks. It was awarded Australia's first Six Star Green Star Rating for both design and construction in 2015 by the Green Building Councils of Australia.² It has attracted the attention of professionals from across Australia and has hosted international sustainability experts who view it as World's Best Practice. In this way, the transformation has been deep and systemic with impacts both immediate and well into the long-term. The positive socio-economic nature of these impacts enhances the quality of life across the entire local government, providing a base foundation for the success of other strategic projects.

Mills Park has been designed in order to provide flexible recreational spaces to meet future needs and demands:

- The Community Centre is characterised by flexible room sizes and allowance for multiple uses, with large open spaces without partitions, minimal fixed furniture and operable walls in the meeting space. Fittings and energy provision were chosen for durability and maintenance. Spatial requirements for change rooms and the number of ablutions in the change rooms and halls were exceeded.
- The Grounds were designed following broad community consultation rather than just current users in order to ensure a broad range of opportunities and activities. They have turfed greens capable of supporting multi-sports and the higher than recommended levels of amenities (such as the play spaces) are multi-age and multi-access. The pavilions on the active reserves are booked by City and not leased.
- Further, the park has a higher than required number of parking bays and there is access for buses with parking and turn-around bays.

The final result was three active reserves designed to support an increased level of use, with a 37 per cent expansion of active reserve playing space. All facilities were designed for a minimum of a Five Star Green Star rating, developed under Ecologically Sound Design (ESD) principles with extensive engineering works carried out within the constraints of a sensitive wetland environment. As a result, the new active reserve areas have improved functionality with new sub-soil drainage, new hydro-zoned irrigation, a new more drought tolerant turf surface, level surfaces, new floodlighting designed for two large ball sport areas and three small ball sport areas, improved viewing and spectator amenities, dedicated storage for each sport and administration support on site.

Making it Happen

Project Governance

Prior to approval, Mills Park underwent multiple studies to determine the most appropriate development of the site. This included a Site and Needs Analysis in October 2010 with assessments on demographic data, open space assessment, active reserve use, facility audits, grounds/turf audits and an environmental analysis of the wetland and waterways. The environmental consultation process entailed 3 years of detailed investigation on hydrology, soil and native title and historical assessments. Compliance requirements from the then Department of Environment and Conservation, Water Corporation, Water Department and the Swan River Trust were met through a rigorous engagement process. The project was subjected to a Green Star assessment, to ensure it was meeting the environmental principles that informed the redevelopment. In addition, the viability and future growth projections of the existing users and their State Sporting Associations and peak bodies was undertaken to understand projected sport growth and initiatives impacting sporting space requirements at Mills Park. Local community and user group consultation occurred at all stages of the project, with feedback used to shape project outcomes as it progressed. The extensive planning and design process reflects the fact that at the time it was the costliest project undertaken by the City of Gosnells, as well as a commitment to sustainable practices and the provision of viable infrastructure into the future.

Once the project was approved, the City of Gosnells recruited a team of consultants to work with the City. Cardno was appointed the lead consultant with other consultants providing Aboriginal and European heritage advice. The early adoption of this project management system meant there was consistency and continuity during the delivery of the project.

² <http://www.cardno.com/en-au/mediacentre/Pages/Cardno-contributes-to-a-6-Star-Green-Star-rated-project.aspx>

The project was divided into three phases of planning, execution and closure. The Planning Phase included the development of a Site Master Plan (by Cardno), engagement with community groups and State Government agencies, procedures enabling the successful migration of community groups to the new facilities, business management of the new facilities, and to obtain additional funding. The Execution Phase entailed the tendering for works and subsequent tender evaluations and recommendations, commencement of construction, migration of user groups to alternative locations and later back again, monitoring of the wetlands environment as well as cost and time schedules to ensure project quality and timely completion. Specialists contributing to this phase included an irrigation and hydrologist, as well as play space advisors on Nature Play.

The Closure Phase occurred with the transfer of user groups to the new facility as well as the re-opening of Mills Park to the public. There was also a post-project review conducted to evaluate overall project success.

In summary, the City of Gosnells actively worked to conduct the Mills Park Redevelopment Plan in a way that was innovative and cognisant of all the requirements of the City, various statutory bodies and the community. By doing this, the City ensured that the resulting facility is compliant ecologically and technically a world leader. While consultants were appointed to manage the project, the City retained control by being central in the governance and financing of the project. The City could have partnered with an external body for the building construction, but the majority of the work related to provision of sporting fields where there were limited project partners.

The plan progressed with an understanding of risks, and the development of solutions, which mitigated them through an advanced notice and consultation process. The largest risk was related to the migration of user groups, with the project team aiming to reduce impacts in activities during migration as well as the level of migration. For junior sports, local school facilities were utilised with the City undertaking the required maintenance of the facilities. All Clubs were advised and consulted on relocation site preferences and arrangements, with users of the relocation site also advised. In addition, the City's thorough research and planning into site development led to a minimal number of unknowns. However, a contingency fund was included in the construction estimates for any unexpected complications.

Funding

The initial estimated costs for the project were \$29m prior to the finalisations of design and project inclusions, however the final project cost was \$47 million. The increase in cost was principally due to the City's preference for high levels of sustainability and green design principles for the park and community hub.

The project was primarily funded by the City of Gosnells. Externally, \$4m funding from LotteryWest provided building materials and construction. Also, the WA Department of Sport and Recreation's Community Sporting and Recreation Facilities Fund (CSRFF) provided \$4m for two synthetic soccer pitches, a bowling green, four tennis courts with floodlighting and a new multipurpose community building. These grants represented the largest single funding contributions made by both organisation that year. The City of Gosnells generates ongoing funds by rental fees from three telecommunications towers on the site.

An indication of the benefits of Mills Park is that even though it was a costly project, the local community did not object to the spending of public funds on the park.

Costs and benefits

Formal cost benefit analysis of the Mills Park project has not been undertaken, either prior to construction or as part of a post-occupancy review. For projects such as this, placing a dollar value on the benefits is a difficult task requiring complicated methods based on stated preference experiments to estimate resident's willingness to pay for the facility. The expected range of benefits includes environmental outcomes, social inclusion, improved health and reduced travel time due to the provision of local facilities.

Qualitatively, there are several key reasons why the Mills Park project represents value for money for the community. In addition to the external funding, the City sold assets by subdividing a major area of open space that was poorly located and received very little use. The proceeds of the sale of the subdivisional lots provided additional significant funds to assist with the Mills

Park development. These funds also enabled a smaller, but better equipped park to be established on the land of the former open space, which is now very well used. Finally, the City also received a low interest rate to pay back loans which, minimised the real cost of the project. Subsequently, the City paid down a debt of well over \$10 million within a couple of years through careful financial management, at the same time, keeping council rate rises comparatively low at 2 per cent or less.

Examples and Transferability

This project is highly transferrable to other local governments. Indeed, there is a growing body of academic work in Australia outlining the benefits of active urban design and increased social capital and inclusion (Giles-Corti et al., 2016; Lowe et al., 2014; Waring and Mason, 2010). In the City of Darebin (Victoria), sports club users perceived a range of non-economic benefits such as accessibility, exposure, participation and success which have a positive impact on their sporting experience and community (Grieve and Sherry, 2012). Further, many studies report that sport is critical in bringing an Australian community together, with particularly significant positive benefits in disadvantaged areas and resident cohorts (Spaaij, 2009; Thorpe et al., 2014).

The project was the first public building constructed in Australia to receive a six-star green-star certification for design and later for 'As Built' status in terms of construction, indicating innovation on behalf of the Council. Furthermore, the Mills Park project demonstrated that the City had significant leadership and strategic planning foresight through the subdivision of under-utilised public open space and the sale of the resultant lots. This generated significant funding to facilitate the development of the high-quality public open space. The City of Gosnells applies these same principles at other locations on a smaller scale.

Recommendations

The Mills Park project may be viewed as a successful example of an outer metropolitan LGA demonstrating political and policy leadership, clarity of strategic vision and a commitment to democratic and social equity. An inter-related set of meta-policy and governance recommendations emerge from this project and thus serve as lessons for other LGAs. These include:

1. Development and articulation of clear strategic policy aims and objectives;
2. Development of an open and transparent consultative and participatory decision-making with the local community;
3. Use an evidence-based approach to inform policy aims and objectives and project outcomes;
4. Develop a 'whole-of-community' approach to the provision and delivery of social infrastructure;
5. Seek a variety of funding sources such as competitive grants from the state government, strategic land asset management and sales/disposal in order to realise capital and ongoing revenues; and,
6. Understand the long term social, economic, environmental and health benefits in providing a strategic community asset.

The Quarter – Penrith City Council NSW

Project Description:

The Quarter is a 300ha precinct located between Penrith and St Marys that is being re-developed with a health, research & education focus, which currently provides 6,000 jobs and is expected to increase to 12,000 by 2031. It is both an example and proposal for a transformational project. Currently, the area is home to the Nepean Hospital, Western Sydney University campuses, the University of Sydney Medical School and the Western Sydney Institute/TAFE Kingswood campus. Developments since 2011 include the Werrington Park Corporate Centre, which includes 5,500m² of floor space and the LaunchPad Technology Business Incubator, the TAFE NSW Health Services Training Facility and the Nepean Telehealth Technology Centre.

The precinct has also seen the emergence of research groups and educational programs associated with the University of Sydney and Western Sydney University. Other areas within The Quarter have been zoned to allow for denser residential and mixed-used redevelopment, reflecting the development potential for sites in close proximity to a range of major health and education facilities.

Proposed future developments include a train station and town centre, housing projects as well as additional health facilities and research institutes. The proposed Western Sydney North-South Rail Corridor, also included in this report, would link the Quarter to the new Western Sydney Airport and is a priority for the precinct's Steering Committee.

Why is it transformational?

Problem description

Penrith, like other growth areas, has an undersupply of employment compared to its resident workforce. Of the 87,205 employed Penrith City residents, nearly 65 per cent travel outside the area for work each day, mainly by car (Forecast.id 2016, 2017; Penrith City Council 2017). Without intervention, this problem will only get worse, as "(i)f business-as-usual continues for the next twenty years ... Western Sydney ends up with a jobs deficit of 306,063 and a daily worker outflow of 492,521" (O'Neill 2017, p. 16).

Improving the balance between employment and housing has been linked to reduced commuting times, pollution, costs of infrastructure and social cohesion (Cervero 2001; Ewing et al. 2014). Along with the jobs-housing imbalance, there are high levels of youth unemployment and a shortage of knowledge sector employment, which is of importance due to the higher incomes associated with this sector (Forecast.id 2016; Committee for Sydney 2017; O'Neill 2017). The need for government intervention to improve the jobs-housing balance has been widely debated, but evidence of increased commuting times in jurisdictions left to self-organise indicates projects such as the Quarter are an important intervention (Newman, P & Kenworthy 1999; Peter McNabb and Associates 2001 ; Pisarski 2008).

A 2012 report also identified an under provision of medical services in Western Sydney, with lower numbers of GPs and hospital beds per head of population (WSROC 2012). Obesity is also a significant health issue, with The Quarter home to Australia's first family obesity service which opened in April 2017. Excess weight is indicated in more than half the adults and a quarter of the children in the Nepean Blue Mountains Local Health District Area. The Nepean Blue Mountains Local Health District (2017) has partnered with Nepean Blue Mountains Primary Health Network and The University of Sydney's Charles Perkins Centre Nepean to deliver the service.

Poor health outcomes have been linked to urban planning, particularly in low-density residential suburbs, where people live far from their workplaces with limited opportunities for public transport or active commuting (Lowe, Boulange & Giles-Corti 2014) and as Nicholls, Phelan and Maller (2017, p. 12) concluded, "the absence of adequate planning and implementation mechanisms for local jobs and transport needs to be addressed to avoid significant negative health outcomes". Penrith has one of the highest rates of avoidable hospitalisations in Australia and high levels of lifestyle-related and non-communicable diseases. In particular, lifestyle-related chronic diseases, diabetes, for example, are more prevalent in Western Sydney than in other areas (Committee for Sydney 2017; WSROC 2016).

How the project addresses the issue?

The direct transformation attributable to The Quarter is through an increase in local employment, and more specifically employment within the knowledge sector. There are an additional 6,000 jobs forecast for the Quarter, which represents 20% of the 28,610 shortage in local employment calculated in 2016 (Forecast.id). The education facilities included in the precinct may also help address the lower levels of educational attainment of the fast growing outer suburbs in comparison to the rest of Australia and also increase the likelihood of growth area residents finding employment in The Quarter (Forecast.id 2017).

The Nepean Hospital is already providing services to a catchment of more than 500,000 people, which is projected to increase to more than one million by 2031 (Penrith City Council 2017, p. 18). Given the range of services already provided by the

hospital, which includes medical, education and research, it is expected that as the catchment population increases it will need to expand. This population increase can also be expected to increase demand for the tertiary education providers within The Quarter. By taking a precinct approach, issues such as transport, public space and development opportunities can be co-ordinated to provide efficient and effective use of the resources made available.

The secondary effects of The Quarter will be to reduce commuting times and car dependency, which can be expected to improve the health of Western Sydney residents. Interventions that improve health and wellbeing include increased jobs-housing ratios and the importance of an “equitable distribution of employment across cities, creating jobs and residences close within commutable distances” (Giles-Corti et al. 2016; Goenka & Andersen 2016, p. 2852). It is also expected that the educational institutions within The Quarter will improve access to public health education in the region, providing additional benefits and the location of the research will support a focus on lifestyle-related and other region-specific health issues

Making it Happen

Project Governance

The Quarter’s project partners include Penrith City Council, University of Sydney, Western Sydney University, Nepean Blue Mountains Local Health District, TAFE NSW, the emerging Nepean Blue Mountains Education & Medical Research Foundation, Primary Health Network, Nepean Private Hospital, New South Wales Government and Celestino (Sydney Science Park), as key stakeholders (Deloitte Access Economics 2016; Penrith City Council n.d).

The precinct is directed by the Steering Group, made up of representatives from each of the stakeholder organisations and a Memorandum of Understanding is currently in the process of being signed off, which will provide a governance framework for the ongoing activities of this group. The inclusion of the diverse group of stakeholders on the steering group enables the coordination of activities and improves the advocacy capacity of the group. The Memorandum of Understanding also contains a list of commitments to priority projects, financial contributions, in-kind contributions and staff resourcing.

The wide stakeholder representation also enables a co-ordinated approach to project planning and funding, leading to increased impact of the projects and initiatives for The Quarter. For example, a travel plan is underway for the precinct. Led by the public hospital and in conjunction with Transport for NSW, it has the potential to service the Western Sydney University campus and other parts of the precinct.

An innovative approach to managing funding across the project stakeholders is included within the Memorandum of Understanding. It will establish an arrangement for Penrith Council to act as “banker” for the group, allowing them to combine funds to undertake joint projects, which has hampered some developments in the past.

Funding

The Quarter benefits from the inclusion of a range of State Government agencies, such as the hospital and TAFE NSW, providing a basis for state and federal funding for development. For example, the Nepean Hospital’s Clinical Services Plan resulted in \$576m in upgrades, creating opportunities to create additional jobs and support new services in the precinct.

There is also a significant opportunity for private sector investment and joint ventures, which will be outlined in an investment prospectus currently under development.

Aside from the ongoing State Government investment in facilities upgrades and the prospect of private sector investment, the most significant funding requirement for The Quarter is associated with the North-South Rail, discussed in more detail below.

Costs and Benefits

Cost-benefit analysis is not readily applicable to evolving precincts such as The Quarter, where there are a number of interwoven initiatives, funding sources and opportunities. The cornerstone facilities of the precinct, the hospital, TAFE and university

campuses, comprise social infrastructure that is funded on assessments of community need and population growth rather than the economic quantification techniques applied to transport projects.

However, there are a range of benefits typically included in cost benefit that can be expected to be realised within the Penrith community as a result of The Quarter. Increased local employment attracts the benefits of reduced commuting time, which is associated with travel time savings for those employed there, reduced greenhouse gas emissions, improved health outcomes and reduced travel times for those travelling to other locations. Higher densities of employment are also associated with higher productivity, or agglomeration benefits, which have been increasingly used to justify major transport infrastructure projects (Venables 2007).

Examples and Transferability

Blacktown City Council submitted a similar proposal for the expansion of its hospital, including a private hospital, allied health professionals and a university campus, located 25kms from Penrith. The development of the Quarter also provides background and comparison to the Lyell-McEwin Health Precinct, also included as a proposal within this report. As noted in the Lyell-McEwin Health Precinct discussion, a review of the impact of health precincts undertaken to support a development in Ballarat indicated positive impacts on employment and patient care, as well as private investment.

Recommendations

The Quarter provides a unique example of Council, in conjunction with other stakeholders, taking a wider view of precinct development to create a dense activity centre that addresses community problems related to health, employment and education. Through co-ordinated strategic planning and project development, rezoning for densification and redevelopment, advocacy for infrastructure and investment, The Quarter is an important agent for transformation of Penrith and the surrounding region.

The Quarter is a long-term precinct redevelopment project, requiring the coordination of stakeholders from Local Government, State government organisations, the development industry and the ongoing function of the steering committee is a priority. The current arrangements are dependent on support and resourcing from its constituents, which may be at risk as management and organisations change over time.

The success of the committee is seen as a result of the current leadership and significant goodwill, which could change at some time in the future. Therefore, more formal arrangements, beginning with the Memorandum of Understanding currently being prepared, are essential to the ongoing development of the precinct. An independent development agency funded by stakeholders and given responsibility for co-ordinated investment attraction, development and planning may result in better use of pooled resources, clear lines of responsibility and a structure with lower exposure to changes within its stakeholder groups.

The interaction between this project and the North-South Rail proposal, also discussed in this report, highlights an important finding arising from the investigation of these projects. That is, transformational outcomes are increased when complementary interventions are co-ordinated. In this case, the development of The Quarter as a hub of employment, education and higher density residential areas would benefit from having a station on the North-South Rail line, which could also be expected to receive additional patronage from The Quarter.

Wanneroo Strategic Capacity Building Project – City of Wanneroo WA

Project Description:

This project comprises several medium-scale aspirational projects that demonstrate a systematic and holistic approach to transform Wanneroo, which is located in the outer northwest metropolitan region of Perth. Under the banner of 'Connect Wanneroo', the City of Wanneroo aims to broaden its base of economy, infrastructure provision and community connectivity to both the Greater Perth metropolitan area and regional WA through the five distinct projects outlined here:

Butler District North Open Space as social infrastructure for both active and passive recreation to build a healthy community.

Agribusiness seeks to protect land for future agricultural use as opposed to residential, as a means to protect current business strengths and set up for future opportunities given growing global demand for food security.

Neerabup Freight Infrastructure to ensure efficient transport linkages to a major industrial centre and surrounding areas of Perth Metro and regional WA, in doing so increase job capacity for Wanneroo and work accessibility for residents.

Butler-Yanchep Rail Extension, which will provide an additional 13.6km of rail in Perth's northern suburbs with stations planned for Alkimos, Eglinton, Yanchep and South Yanchep.

Mitchell Freeway Extension, an additional 6km of freeway, which will bring the freeway into the Wanneroo Council area.

The projects are in the development stage, which includes the creation of detailed business cases, project management plans and budgets but with limited metrics available on direct, indirect and induced job creation capacity. In aggregate, the projects listed below will impact the socio-economic connectivity across the entire local government area.

Why is it transformational?

Problem/opportunity description

Wanneroo is predicted to have major population growth from approximately 200,000 in 2017 to 740,000 by 2050; the region is currently unprepared to provide the employment and business needs of this future community. Active shaping of the business and job market is needed to ensure it does not develop in a business-as-usual and predictable job creation path, but puts in place appropriate infrastructure and initiatives capable of rising to 21st challenges of an increasingly globally competitive and knowledge-based market, such as high-quality skilled jobs and emerging business opportunities in bio-agriculture (Martinus & Biermann, 2017).

How the project addresses the issue or opportunity

Together the four projects have the potential for very high economic, environmental, social and cultural impacts as they work to enhance the region through various forms of hard and soft connectivity – social, economic and infrastructure (Dodson et al., 2006). Like other outer metropolitan areas, Wanneroo has higher levels of socio-economically disadvantage than the inner and middle ring areas of Perth. The project directly aims to address this through:

- Social infrastructure which both connects the community and promotes healthy active lifestyle;
- Protection of land associated with traditional and emerging industry strength to provide high quality jobs in the future and retain Wanneroo's peri-urban character;
- Enhanced freight linkages to a major industrial park to provide industry opportunities in logistics, warehousing and advanced manufacturing enterprises; and
- Major rail and road extensions to connect the outlying suburbs of Wanneroo to the rest of metropolitan Perth.

These projects enhance Wanneroo's capacity to meet the employment and business targets of the State government, particularly for high-quality skilled jobs (WA Department of Planning and WAPC, 2010). This should be seen in the context of criticisms that goals of generating self-sufficiency and higher order jobs in places such as Wanneroo have not been achieved in the 50 years of Western Australian strategic planning (Martinus and Biermann, 2017). It is critical that Wanneroo continues to work towards these targets, providing a strong platform to leverage other strategic projects to create a more inclusive and connected socio-economic community. Further, the road, rail and freight infrastructure of the project will increase the transport efficiency and linkages across the entire region addressing road congestion and environmental pollution concerns.

Making it happen

Project Governance

Along with the City of Wanneroo, all projects will involve the WA State government to varying degrees. The transport infrastructure projects will require a number of state government departments, such as WA Main Roads, TransPerth, Department of Transport, Department of Planning. Given the interconnected nature of the proposals and this range of agencies involved, it is important for the City of Wanneroo to guide strategy and implementation.

The City of Wanneroo has established new roles within Council with responsibilities for these projects. One new position will work with the Wheatbelt Development Commission, the Shires of Gingin and Dandaragan and the PerthNRM (Federal) to develop a Request-For-Quote for “Planning Perth’s North-West Sub-Region Freight Network”. Another new ongoing position is focussed on the extension of the Mitchell Freeway to Romeo Road from Hester Avenue.

The innovative nature of the City of Wanneroo strategy was recently highlighted through the award of two separate Federal Smart Cities and Suburbs Program grants, totalling \$3m. One project seeks to use real time patronage to improve rail station precincts along the northern rail Metronet extension. Whilst not a part of this project, it does demonstrate a metropolitan stewardship that lays the foundation for complimentary proposals that focus on practical economic development outcomes.

Funding

These projects will need funding from all levels of government, as well as private sector partnerships, as it preliminary estimates indicate that the combined costs will approach \$1bn.

Butler District North Open Space – The City of Wanneroo has committed significant funds and human resource to this project to date, in the order of \$1m.

Agribusiness – The City of Wanneroo committed \$100,000 in the 2017/18 budget for a detailed water availability and usage study. This will form part of a task force instigated by the Minister for Regional Development, Agriculture and Food, which will investigate the future of agriculture and horticulture in northern Wanneroo. There is a proposal for a further \$200,000 2018/19 for advancing policy and planning framework amendments as well as exploration of other suitable longer-term land options in the region.

Neerabup Freight Infrastructure – Given the scope of this project, it is expected that it will require significant funding to implement. Funding has been allocated for preliminary investigations, and It is expected the budget of up to \$100,000 will be allocated in 2017/18 to advance the first stage of the terms of reference, with a further \$100,000 to incorporate the possibility of a northern port option that links Two Rocks North and the Neerabup Industrial Area, and upgrade of road network infrastructure.

Butler Yanchep Rail Extension – The Butler-Yanchep Rail extension has a confirmed commitment of \$386-\$520m from the state government, and the City of Wanneroo successfully advocated for the Butler–Yanchep Rail Extension business case to be submitted to Infrastructure Australia. The project will also receive redirected funding from the cancelled Perth Freight Link project, also known as Roe8.

Mitchell Freeway Extension - The 6km Mitchell Freeway extension is expected to cost more than the previous 6km extension of that freeway, which totalled \$262.4m.

Costs and benefits

While the other projects of this report deal in the capacity of an individual project to transform the opportunities and socio-economic capacity of an outer metropolitan local government, this proposal is comprised of several projects which together generate a strategic advantage for the region. They are linked through a clear economic development strategic directive which aims to reposition the City of Wanneroo to operate outside the ‘business-as-usual’ model. Each project contributes in some way to progressing the social and economic opportunities of the region, through a combination of increased connectivity to

surrounding areas, engagement in emerging industry development outside of traditionally strong agriculture, and improvement in community spaces in areas of high socio-economic disadvantage. As the individual proposals progress it is to be expected that formal cost benefit analyses will be prepared, particularly for the costly transport and freight projects. While the combined projects should provide a range of economic and community benefits, the interactive nature of these benefits the entire package does not lend itself to traditional cost benefit assessment, which is intended for standalone proposals.

There are several benefits to viewing projects as strategic bundles:

The Council is perceived to have a strong regional strategic direction, which presents well to government agencies and other funding bodies when submitting funding applications.

There are ready-to-roll out projects when new funding opportunities arise, including the potential to work quickly to pull together new project partners for federal or state government announcements at short notice. This was the case its successful Smart Cities and Suburbs Program Grant bid to the Federal government, being granted around \$1M for a RailSmart program associated with the Butler Yanchep Rail Extension. It was one of the few outer local government areas in Australia to receive such a significant amount of funding.

Capacity to engage in well-constructed and thoughtful dialogue with metropolitan core and surrounding regional local government areas, resulting in collaborations based on competitive economic and social advantages, as well as through the connection of regional areas to the metropolitan core

Rapid cost benefit analysis, as included in the early stages of the Infrastructure Australia project appraisal process, may provide useful guidance in prioritising the elements of the Wanneroo Strategic Capacity Building Project. This would assist in determining where available funding and resource should be directed to provide the greatest benefits to the Wanneroo community and economy.

Examples and Transferability

While Councils will typically have a number of major projects in various states of development, funding or implementation at any given time, they do not necessarily integrate to transform a regional economy as the Wanneroo Strategic Capacity Building project does. To some extent, a project such as the AACURL takes a similar approach to combining different projects, rail undergrounding and CBD development, to provide greater benefits than if considered separately.

While Councils may consider a different range of related projects, the overarching concept of strategically linking projects to strengthen social and economic outcomes is highly transferable. Further, it can be argued that sustained economic and community development requires outer metropolitan local governments to become more strategic in their approach, or continue to run second in the attraction of business, infrastructure and funding investment to the metropolitan core.

Recommendations

As a bundle, these projects highlight critical lessons on how outer metropolitan planning approaches require new thinking and considerations. Projects such as these can be supported through a unified Australian outer suburban cities approach using various forms of advocacy and engagement with State and Federal governments. This includes engagement with organisations like the NGAA who can promote the value of such projects, as well as identifying local governments with similar objectives for the purpose of partnering and collaboration.

Recommendations include:

- Taking a long-term strategic view of projects in suburban transformation, including the economic competitive advantage of the city;
- Putting into place multi-sectorial steering committee comprised of economic development, urban planning, governance and finance components of the City, in particular for advocacy and goal setting; and,
- Engage with public sector, university and other research partners to put into place relationships, which can be drawn on to pull together funding bids at short notice.

Werribee City Centre – City of Wyndham Vic

Project Description:

The Werribee City Centre aims to become the Central Business District of Melbourne's rapidly growing west. The project centres on the Werribee City Centre Precinct, a city plan that builds upon a nearby state project, the East Werribee Employment Precinct. These two employment and activity centres contain hundreds of hectares of developable land adjacent to a major rail station and several large anchoring institutions. The City Centre project includes seven catalyst sites that increase the attractiveness of the area for businesses and foster connections between the new businesses and the existing community. The catalyst sites also integrate sensitive green spaces with planned activity centres, leveraging the need for biodiversity preservation as a means to support a healthy urban environment.

Why is it transformational?

Problem/opportunity description

Employment opportunities in Melbourne remain disproportionately concentrated in the CBD (Lucas 2017). Increasing distances between employment opportunities and major growth areas places a major strain on existing transport infrastructure. Many lower income households relocate to the outer suburbs to find more affordable housing, placing these households at a disadvantage in accessing employment (Randolph and Tice 2017).

The City of Wyndham anticipates it will grow by 82 per cent between now and 2036, from a population of roughly 238,000 residents to 435,000 residents. The 2016 census found 64,611 jobs currently located in the city, with many residents travelling to employment opportunities in other areas. Failure to attract employment in Wyndham may significantly widen jobs-housing imbalances in the region.

Jobs-housing imbalances, such as those faced in Victoria's growth areas, are linked with excess commuting, higher transportation costs and vehicle dependency (Balauce, Cervero, and Duncan 2004; Ma and Banister 2006; Horner and Murray 2003). These imbalances can hit lower income households particularly hard, with many lower income households facing disproportionately longer commutes to employment opportunities (Benner and Karner 2016). Melbourne faces increasing congestion challenges as a result of commuting from growth areas into the CBD, and the Grattan Institute suggests these trends will worsen as the city grows (Terrill 2017).

Melbourne's Western growth area also faces the challenge of increasing work opportunities for existing residents. The region contains a higher than average share of financially vulnerable households, and residents receiving unemployment benefits (Western Melbourne RDA 2016, p. iv). The region also contains lower than average educational outcomes and skill levels (ibid). These challenges require more than simply increasing the number of jobs in the region, but also actively linking emerging job opportunities with educational infrastructure embedded in the community.

How the project addresses the issue or opportunity

The Werribee City Centre project recognises that employment and activity centres can do more than host businesses. Well-planned employment precincts can provide infrastructure that actively links dynamic job centres with their surrounding communities to reduce disparities in education and employment access. This project thus tackles several problems simultaneously: lack of employment opportunities in growth areas and the impact this has on transport infrastructure, and lack of educational opportunities connecting existing residents to jobs.

Several external factors created a unique opportunity for the City of Wyndham to transform Werribee into a regional hub of employment. First, the employment precinct at the centre of the Werribee City Centre sits adjacent to a rail station from which travellers can access the Melbourne CBD in roughly 30 minutes. Second, the project sits adjacent to the state led employment precinct, which contains the campuses of major universities, healthcare facilities and private industries. This includes the University of Melbourne Veterinary School, Victoria University Werribee Campus, Agrifood Technology and the Werribee

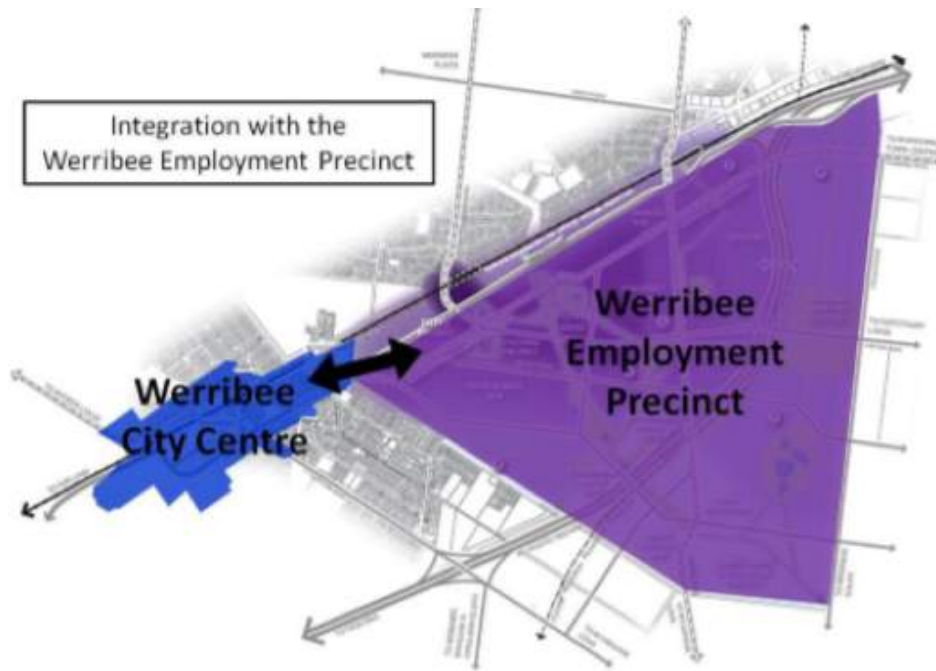


Figure 1: The Werribee City Centre and the State's Planned Employment Precinct

Mercy Hospital. Also of note, the University of Melbourne has committed to a \$63m expansion of the U-Vet veterinary clinic. The Victorian government released 775 hectares of greenfield land in this area for development to provide space for up to 58,000 new jobs in mixed-use developments in East Werribee (City of Wyndham 2016a). The state plan also includes several commercial hubs that leverage existing research firms to attract related businesses. Finally, the area sits roughly halfway between Melbourne CBD and the fast-growing regional city of Geelong, making it an optimal location as the future centre of economic activity in the region.

The project's transformative nature rests in its intentional linkage of emerging employment precincts with resources to ensure existing and new residents benefit from any future employment growth, as well as its intentional linkage with state led employment efforts. The Werribee City Centre Precinct leverages this dramatic state-led growth in employment opportunities by intensifying existing land uses and expanding housing and employment opportunities to promote mixed-use development in areas close to the state's employment precinct (City of Wyndham 2016b). The plan shapes new development around existing green space along the Werribee River to protect existing natural heritage and provide opportunities for public spaces that link employment and residential sites with natural amenity. The City fosters this connection through a series of small projects incorporated into the City's Capital Works Program:

1. Wyndham Park: a four-hectare park through which the Werribee River flows, and around which the city located other catalyst sites and up-zoned, mixed-use space.
2. Wyndham Park Bridge: a multimodal bridge that winds over the Werribee river and connects the City Centre with Wyndham Park.
3. Wedge Street Piazza: a vibrant public space at the entertainment end of the precinct that also functions as a gateway to Wyndham Park.
4. The Gateway: a proposed development on council-owned land that will feature retail, housing and multistorey car parking at the entry of the City Centre precinct.
5. The Riverbank Promenade: a vibrant pedestrian space for alfresco dining, shopping and enjoyment of the Werribee River and Wyndham Park greenspace.
6. Riverbend: a new development proposed on council-owned land that offers views of and immediate access to the

Werribee River and Wyndham Park. It will include retail, offices, apartments and parking.

The Werribee City Centre project breaks new ground in other significant ways. First, it increases transport connectivity between planned housing and planned employment centres. Second, it creates educational opportunities that link existing residents to emerging employment opportunities within each precinct.

The project includes dedicated bus lanes and bus stop connections to new and proposed rail stations. This includes leveraging the increased accessibility resulting from the improved regional rail system funded through the state of Victoria's four billion dollar Regional Rail Links Program (State of Victoria 2017), as well as direct proposed transport connections between the City Centre and the state's East Werribee Employment Precinct hubs. The project also applies the lessons of Melbourne's current traffic challenges by intensifying housing opportunities within walking and cycling distances of several of the planned employment hubs (City of Wyndham 2016b; City of Wyndham 2016a). These steps ensure that the emergence of Werribee as the 'CBD of the West' is less likely to reproduce the current traffic and congestion problems centred around Melbourne's CBD.

The project also features a new Integrated Community Learning Hub of over 8,000 square metres (City of Wyndham 2017). The centre will contain a library, a community hub, co-working spaces and space for the Wyndham Community Education Centre, a non-profit that provides educational and job training services for a wide array of communities. The learning hub is estimated to create over \$66.1 million in economic benefits for the region, in addition to creating 104 direct jobs and 26,000 hours of pre-accredited job training to vulnerable residents (City of Wyndham). The location of the Hub in the heart of the City Centre Precinct and the provision of co-working spaces enable the Hub to connect existing residents with job opportunities that emerge from employment growth in both precincts. The Hub ensures that, far from being left behind, struggling residents in Wyndham communities will have clear pathways to participate in the area's anticipated employment growth.

Making it happen

Governance

The City of Wyndham has established an Advisory Committee to oversee the development of the city centre. The city will also encourage stakeholder and citizen engagement in a Place Management Program for the Werribee City Centre. This program will include dedicated staff working to oversee the effective development of Werribee as a city centre by supporting promotion of the area and working to actively attract development and investment. Wyndham City Council also owns several parcels of land within the area that the city could develop 'catalyst sites' on, like The Gateway and Riverbend mixed-use developments.

Funding

The City of Wyndham have included six urban renewal and community facility projects within the precinct 10 Year Capital Works Program, which will make the site more appealing to private development. A development contributions plan has also been proposed for the precinct, whereby developers would be required to pay a levy to fund public infrastructure requirements associated with the development. There is precedent, as the adjacent East Werribee Employment Precinct has a similar plan in place (City of Wyndham 2016b).

Council have also appointed developers for two of the sites, including a nine storey commercial building and a mixed use development, indicating that the Werribee City Centre is attracting the private capital required to transform the precinct.

Costs and benefits

Any attempt to estimate the benefits of a project of this nature must include several factors. First, educational benefits from the new integrated learning hub and associated employment outcomes need to be measured, as would any productivity improvements associated with concentrating educational opportunities near job opportunities. The impact of improved employment outcomes and enhanced productivity on welfare costs also needs to be measured. The emissions reductions benefits of concentrating employment near existing rail, and facilitating multimodal access to those employment centres needs

to also be considered. An analysis effectively capturing that transport associated benefits would need to be conducted on a regional scale and possibly incorporate travel demand modelling tools that can compare a business-as-usual growth scenario with the City Centre project.

Examples and Transferability

The strategies employed in the Werribee City Centre can be replicated by local governments, particularly those looking to leverage established institutions and employers near transport infrastructure to attract related firms and industries. Local governments developing employment precincts can explore providing co-working space and opportunities for employment training for residents to effectively integrate new precincts into existing communities. To a certain extent, Council interventions to create high density development sites are limited, particularly if the existing allotments are too small for such projects. While employment precinct plans may refer to encouraging higher density development and parcel amalgamations (see City of Boroondara 2011 p.73 for example), the most effective measure is rezoning to enable higher density development, leading to higher land values that will encourage smaller landowners to sell.

Recommendations

This project can be seen as the transformation of what has been the service core of a regional centre to the employment and service hub of rapidly growing community, through public and private development. Therefore, the Advisory Committee and community engagement processes are important to ensure that the people of Werribee and its surrounds support the change and make the most of the opportunities provided. This highlights the need for Council to advocate for the project with its constituents as well as with the agencies that provide strategic direction and funding, as it represents a significant change in the region and may also reduce objections to development applications.

Council's role in the Werribee City Centre project can be seen as one of facilitating private investment in the precinct, through providing sites and also making the area more appealing through open space and community services investments. This indicates a need to continue marketing the region, including its projected growth and successful local developments to instil investor confidence. Council may also consider what assistance may be appropriate when dealing with potential developments, particularly with approval processes and other Local Government responsibilities.

Another important factor for this project is State and Federal infrastructure funding for transport connections, which make living and working near the Werribee City Centre attractive to employers and residents. This could include a direct rapid bus connection between the City Centre and regional rail stations across Wyndham. It could also include smart bus connections between the City Centre and Wyndham West's new housing developments. These types of investments offer the opportunity for the Werribee City Centre to reduce excess commuting and vehicle dependency among households and commuters in Melbourne's west.

Projects such as this may provide the basis for developing benchmarks or metrics to gauge the success of such a project, which may include:

- Tracking new development to gauge the growth of employment and residents in the area;
- Measuring use of public transport routes to the new employment centres;
- Tracking utilisation of educational facilities in the Learning Centre, and ensuring educational organisations measure employment outcomes from their programs;
- Monitoring congestion, to identify potential bottlenecks before the employment centre grows large enough to trigger its own transport issues; and,
- Measuring activation of newly created public spaces through observation.

Western Sydney North South Rail Corridor – Blacktown City Council NSW

Project Description:

The Western Sydney North South Rail Corridor is a proposal to develop a train line connecting important population and employment growth precincts in the city's west. The Western Sydney Rail Alliance and Blacktown City Council support an extension of the Sydney Metro Northwest to Marsden Park, then a connection south to the Western Sydney Airport to link with the South West Rail Line. The rail link would connect North West Priority Growth Area and the South West Priority Growth Area. It would connect Greater Mount Druitt, St Marys, Sydney Science Park and the broader Western Sydney Employment Area to the Western Sydney Airport.

The proposal has strong regional support, having been submitted to this process by both the Penrith and Blacktown Councils, and the Western Sydney Rail Alliance that also includes the Liverpool and Campbelltown City Councils among its members.

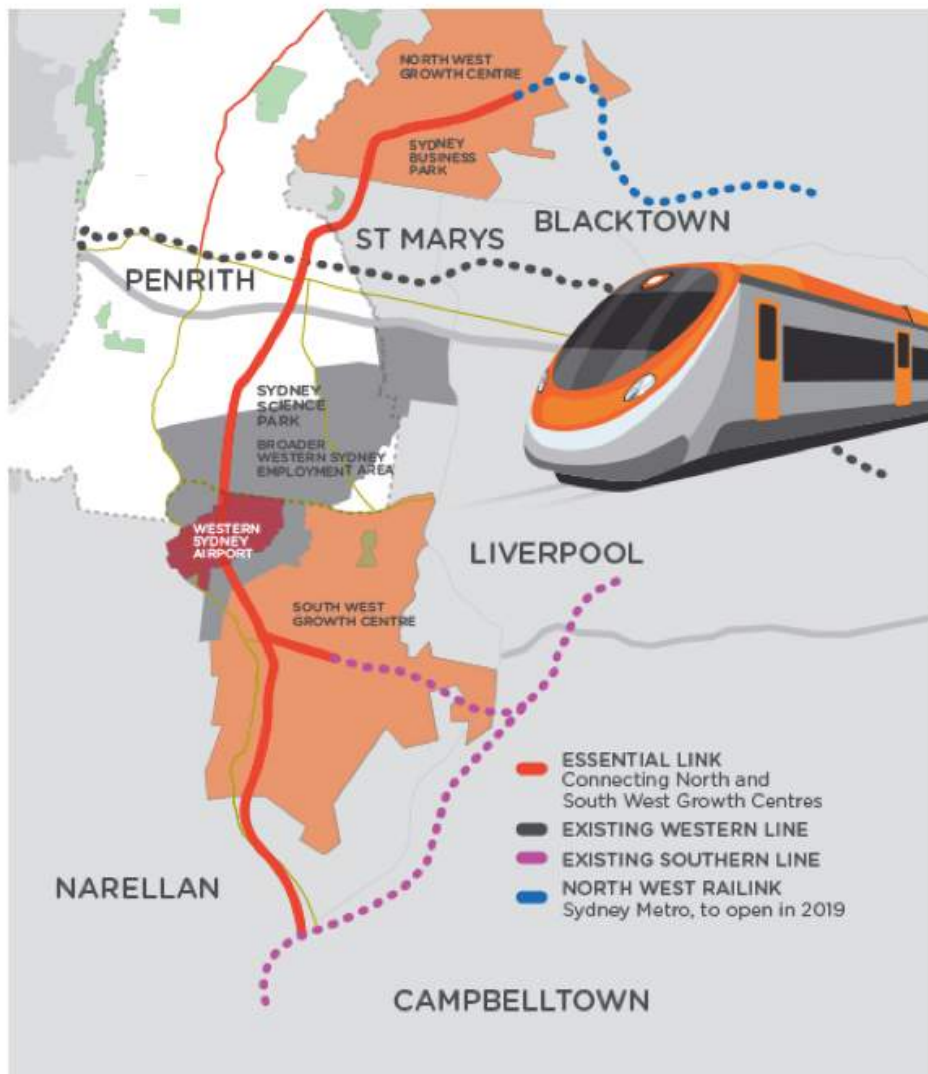


Figure 3: Indicative North South Rail Alignment. Source: <https://www.penrithcity.nsw.gov.au/NorthSouthRail/>

Why is it transformational?

Problem/opportunity description

Western Sydney is seen as a prime example of the issues facing growth areas that projects such as North South Rail addresses:

Most clearly seen in the layout of Western Sydney, the freeway cities have produced a series of negative results for urban efficiency, social equity and the environment. Dispersed urban form, long distances from the places where the new economy of knowledge work is booming, and poor access to quality public transport in the outer suburbs leaves residents most vulnerable to oil price shocks, restrains their local employment opportunities, and locks them into extremely (Burke & Cui 2017, p. 165).

The average Sydney family pays \$22,000 per year in transport costs, the highest in Australia (Australian Automobile Association 2017). As Western Sydney residents are more likely drive more frequently and further, the costs in this region can be expected to be greater. For example, Penrith residents are more car dependent than Sydney as a whole, with 10 per cent more trips as vehicle driver than the 48% average for Sydney, lower use of public transport, more vehicles per household and 70% more vehicle kilometres travelled (Commonwealth of Australia & State of NSW 2016, p. 25). It is also important to note that Western Sydney has high rates of obesity and non-communicable diseases such as diabetes, which has been linked to high rates of car use (Giles-Corti et al. 2016; Lowe, Boulange & Giles-Corti 2014).

In particular there is a “recognition that car dependence and continued separation of land uses in ever-expanding residential suburbs is having unintended negative consequences for human health and wellbeing” (Lowe, Boulange & Giles-Corti 2014, p. 14).

How the project addresses the issue or opportunity

The Western Sydney Rail Needs Scoping Study outlines how rail development can be transformational, mitigating the substantial issues in growth areas as well as providing opportunities for development:

... transport can be an enabler for change in a region. It provides opportunities to support growth and economic activity and to shape the city while at the same time, facilitating movement of its residents (Commonwealth of Australia & State of NSW 2016, p. 33).

The project is expected to generate a range of benefits in Western Sydney, including the facilitation of growth in precincts such as The Quarter, support wholesale and logistics industries, reduce congestion and travel times and increase productivity (Deloitte Access Economics & ARUP 2016, p. 28). As the Penrith City Council's Economic Development Strategy (2017, p. 17) notes, “(t)he rail link is vital in providing opportunities for Western Sydney residents to work closer to home, reducing travel time and costs and providing a better work/life balance”. A recent report on employment deficits in Western Sydney concludes that jobs intensity may result from the “identification of transport infrastructure corridors most appropriate for sustainable, prosperous Western Sydney” (O'Neill 2017, p. 19).

Transport oriented development is a combination of higher density housing and activity centres in close proximity to public transport services. In Perth, the transport oriented development facilitated by new rail stations has been found to increase the use of public transport and active modes of commuting (Olaru, Smith & Taplin 2011). Also of note is that construction is more likely to occur close to train stations (Forecast.id 2017, p. 15), indicating their propensity to transform suburbs.

This project provides the opportunity to change the way the outer suburbs of Western Sydney operate and develop, including access to employment, reduced car dependency and the associated health, wellbeing and financial benefits. By reserving the rail corridor prior to the significant developments planned for the train service's catchment, including the airport, science park and the North West and South West Priority Growth Areas, it provides the basis for the development industry to design and construct housing and activity centres in forms and locations that embed the benefits of access to train services and transform Western Sydney's growth areas.

Making It Happen

Project Governance

The project is being championed by the Western Sydney Rail Alliance, which includes Campbelltown City Council, Liverpool City Council, Penrith City Council, Celestino, Medich Corporation, Ingham Property, Greenfields Development Company, Sydney Business Park, Committee for Sydney, Twin Creeks Golf & Country Club and The University of Sydney. The alliance

released a Scoping Study in 2017, which was used to facilitate community consultation on the route options and submissions have been made to the influence the Greater Sydney Region Plan and the Future Transport 2056 strategy, which advocate for the North South Rail corridor. The example of suburban rail development in Perth indicates that the support for this advocacy from a range of sources provides further weight to the arguments presented, including reports such as A Network of Opportunity (Deloitte Access Economics & ARUP 2016) as well as planning academics and practitioners acting alongside Local Government.

Funding

The Western Sydney Rail Needs Scoping Study estimates the project cost at up to \$25bn (Commonwealth of Australia & State of NSW 2016), indicating that it will require Commonwealth and State Government Funding. Submissions to Infrastructure Australia and Infrastructure NSW are the first steps in obtaining funding from these sources. There is \$3.6bn allocated for road projects included under the Western Sydney Infrastructure Plan, indicating a substantial commitment to transport infrastructure linked to the development of the new airport at Badgerys Creek (Infrastructure NSW 2017, p. 22). Without commitments to alternatives to roads in Western Sydney, such as North South Rail, car dependency can be expected to be an ongoing issue in the region.

The project may be supported by the Western Sydney City Deal, the scope for which includes an “increase in infrastructure investment, including transformative public transport projects, to unlock the economic potential of the region, reduce congestion and support local needs” (Department of Prime Minister and Cabinet 2016c). The \$10bn National Rail Program may also provide a source of funding for North South Rail (Department of Infrastructure and Regional Development 2017a). These sources may provide resources for scoping studies, business cases and cost benefit analyses.

Costs and benefits

Depending on the level of connectivity with other rail services in Sydney, the project is estimated to generate \$32.4bn to \$44.7bn of additional economic output between 2024 and 2040 and up to 3,978 in additional full time effective jobs (Deloitte Access Economics & ARUP 2016, p. 37). While this is not an economic analysis as required by Infrastructure Australia for example, it does broadly indicate that the project provides net benefits. Peter Newman (2011, p. 13) has noted that during his tenure on the Infrastructure Australia Advisory Council suburban rail projects were funded as “(i)n each case the rail projects met our criteria and demonstrated clear strategic goals, good economic benefits and deliverability potential”.

The Western Sydney Rail Scoping Study also notes the benefit that the project will have in making frequent services to the new airport viable, particularly in its early years of operation. The combination of a Western Sydney commuter and airport services is seen as an important to “provide the patronage, economic benefit and the frequency required for a major investment in rail” (Commonwealth of Australia & State of NSW 2016, p. 33).

Examples and Transferability

The most prominent example of rail as a transformational project is the Perth-Mandurah Railway, which opened in 2007 and has recorded patronage well above expectations. The Deputy Project Director of the Perth-Mandurah Railway project concludes that it “was only the assertive efforts of rail planners in support of the State’s Department of Planning and Urban Development in 1992-94 that resulted in government acceptance of a rail route from Perth to Mandurah” (Martinovich, cited in Laird 2016, p. 6). The importance of sustained advocacy from local government, community and planners is also highlighted in a recounting of the process for obtaining government approval for the project (Newman, Peter 2011).

As well as the Gawler Line Electrification discussed in this report, there are a number of long standing rail proposals in Australia, including a service to Doncaster in Melbourne and extensions to the existing tracks, additional services in the west of Sydney, Metronet in Perth, ExpressLink services the outer suburbs of Brisbane and in Adelaide , the Seaford extension to Aldinga.

Recommendations

The first step towards implementation is the reservation of a rail corridor, without this in place it will become increasingly difficult to reserve land as development occurs in Sydney's outer west. The confirmation of the final route and the intended location of stations would provide the basis for development and planning to make the most of the opportunities presented by the line, even if construction was delayed. Therefore, ongoing advocacy for the North South Rail by the Western Sydney Rail Alliance is vital, particularly as the NSW Government is in the process of producing strategies that will guide the infrastructure decisions in the growth areas, such as the Greater Sydney Regional Plan and Future Transport 2056.

While the Western Sydney City Deal and the nomination of Penrith as a Collaboration Area by the Greater Sydney Commission indicates Commonwealth and State Governments recognise the need to invest in the region, there are also projects that North South Rail competes with for funding and prioritisation. The NSW State Government has indicated that Metro West that connects Parramatta and the CBD is the urban rail priority. Also, the NSW Infrastructure Pipeline's Western Sydney Infrastructure Plan opportunity is estimated to cost \$3.6bn, which is entirely for roads (Infrastructure NSW 2017, p. 12). Therefore, while there is government interest in Western Sydney projects, it is important that North South Rail is seen as a priority amongst these competing proposals. This includes making the project happen in the near future, not pushed in to the future when the opportunity to create a less car dependent, and therefore healthier and happier, Western Sydney through transport oriented development has past.

Blacktown City Centre - NSW

Blacktown City Council is proposing to develop a university campus and health precinct adjoining the Blacktown Hospital. The masterplan identifies opportunities for a private hospital and allied health professionals in the city centre and directly adjoining the hospital. The inclusion of education facilities is an important aspect of the proposal, as although a significant number of Blacktown residents attend tertiary institutions, the area currently does not have a university campus.

Union Rd Penrith - NSW

The Union Rd project, located in central precinct, is a notable example of leveraging development from the innovative use and repurposing of council assets. Council sought proposals for the provision of 1,000 car parking spaces, which resulted in a response including more than 1,600 spaces as well as 6 residential apartment buildings and retail, child care, a public plaza and landscaped communal spaces. The Union Rd project, similar to the Werribee Town Centre project discussed in more detail in this report, will provide a substantial increase in activity in the central Penrith area, as well as facilitate an increase of employment and services for residents.

Additional Examples

This section provides an introduction to a further seven projects that were considered transformational in the first stage of analysis, but were similar to the examples discussed in depth.

Blacktown City Centre – NSW

A masterplan has been developed for a health precinct adjoining Blacktown Hospital, including a university campus, a private hospital and allied health services. The increased health care provision and a university campus in the city centre will provide Western Sydney residents with greater access to education and employment opportunities. Elements of this project are similar to The Quarter, in nearby Penrith, however it is on a more contained site and smaller in scope.

Union Rd Penrith, NSW

The Penrith City Council was looking to build a large, multi-storey public carpark that would release a number of other sites in the CBD currently used for parking for development. It was estimated around \$30m was required to deliver a 1000 space structure, to be funded from Council's operating budget. As an alternative, Council called for proposals to deliver a mixed use development on a two hectare carpark site in the heart of the CBD. The successful proposal incorporates residential apartments, retail, public spaces with a podium design that will blend the development at street level, creating a dense activity centre within central Penrith while increasing the area's car parking capacity. This project is an interesting example of leveraging Council assets to facilitate development and meet strategic objectives.

Orchard House - WA

Armadale Council constructed the award winning Orchard House to stimulate, attract and maintain business activity, investment and employment in the Armadale CBD. The energy efficient building, costing \$19m, houses 450 workers with Armadale Council as an anchor tenant. It was fully leased within nine months of completion, consolidating state government social services in the region, and providing an income stream for the Armadale Council.

Cockburn Health and Community Facility - WA

City of Cockburn, together with the Fremantle (Dockers) Football Club, developed a proposal to build a new aquatic and recreation centre in Cockburn Central. The facility, costing \$109m, created 1000 jobs during construction and is fully leased, with 200 jobs ongoing. It uses state of the art technology in its operation to minimise energy and water use. The facility caters for the needs of a rapidly growing area, contributing to initiatives that address health, activity and obesity in its catchment. It also enhances the opportunity for minority groups to participate, such as: young parents (assisted by crèche services); at-risk youth; and disabled people.

Maddington Kenwick Strategic Employment Area (MKSEA)

The MKSEA, located in the City of Gosnells, is currently being investigated for development as an industrial precinct. The 670ha area is located between the Roe and Tonkin Highways and presents a significant opportunity to facilitate increased employment and activity in the south eastern Perth growth area.

Bunjil Place - Vic

Completed in 2017, Bunjil Place is a City of Casey project that included the development of a 800 fixed seat theatre, library, art gallery, function centre, multi-purpose studio, Council offices and outdoor plaza in Narre Warren. The \$125m project was primarily funded by Council, along with a \$10m contribution from the Federal Government.

Greater Edinburgh Parks - SA

The Greater Edinburgh Parks, located in the Salisbury and Playford local government areas, requires new planning controls, as well as stormwater drainage and flood management works to continue its development as an employment hub. Council estimated indicate that the area could accommodate manufacturing, research, logistics and transport industries, which would be a significant development for the northern suburbs of Adelaide.

Conclusions

This section offers some overarching conclusions as a result of the research taken into transformational projects and the discussions with NGAA member councils.

A central theme of these transformational projects is that they improve residents' access to employment and opportunity, either through local provision or improved transport connections. This reflects one of the recurring issues in growth area suburbs, car dependency, which is associated with poor health, financial and social outcomes. The assessment of the projects included in this report indicates that these issues can be mitigated in growth areas with strategic interventions providing local employment, transport options and a greater range of services and community facilities.

Long term, strategic approaches to transformation

It is of note that eight of the transformational projects included in this report could be categorised as precinct developments, which include a co-ordinated series of projects that can be expected to be realised in the medium to long term. For projects such as The Quarter, The Lyell McEwin Health Precinct and the Mernda and Werribee Town Centres, this reflects that Council's role is facilitation through rezoning and creating environments for investment, implementation and a realisation of the full potential of these projects is beholden to the whims of the private sector.

However, this should not be seen as diminishing the role for Councils and organisations such as the NGAA in leading these projects. In a recent article on providing social infrastructure in growth areas, the role of Local Government was seen as integral to success:

The long-term success or otherwise of these new suburbs is to a large extent dependent on work undertaken early in the development cycle. This involves local and state governments working together with private developers to plan, fund and deliver the infrastructure necessary to support significant new populations (Wear 2016, p. 284)

This long term view also requires some degree of flexibility, particularly as plans will need to respond to changing development interests, economies, governments and communities.

Be prepared

It is a particularly tumultuous time in Australian politics, with first term State Governments voted out in Victoria and Queensland and a succession of Prime Ministers failing to retain their position into a second election. This change presents frequent opportunities for growth area councils, as priorities change and new funding opportunities appear. A good example is former Prime Minister Tony Abbott's view that the Commonwealth should 'stick to its knitting' and fund only road projects, a principle not followed under the Turnbull government.

To make the most of these opportunities, it is important for Councils to be ready to make submissions and to advocate as shown by the CCS project. This includes understanding what their priorities are and having reports such as this ready to provide support. It is also important to have relationships with surrounding councils, who support each others' proposals, and also consultants and commercial providers who can readily provide scopes of work, cost estimates, strategic assessments and other inputs into submission processes.

This is also applicable to the private sector, that when investors show interest in supporting projects such as the

redevelopment of city centres included in this report, Councils are ready to respond with prospectuses and support for approvals where appropriate.

Leadership, advocacy and stakeholder engagement

An important role for Local Government and the NGAA is the ongoing advocacy for transformational projects such as those presented here as well as greater emphasis on the growth areas from government, the PwC (2016) report on infrastructure funding for example. While this advocacy can benefit from the leadership and organisational capacity of Local Government within their jurisdictions, the inclusion of a range of stakeholders on committees and providing support for initiatives can be influential, as it indicates support for initiatives by key organisations and businesses in growth areas. The campaign to garner funding for the Community Connect South infrastructure, over three Federal and State elections, provides examples of local government leadership and success.

State and Federal Government Support

Closely related to advocacy is the importance of Commonwealth and State Governments to support the work of Local Government in identifying and implementing transformational projects, as discussed in this report. Previous reports for the NGAA have estimated \$73bn of infrastructure investment is required in the growth areas to 2030 (SGS Economics and Planning 2015) and also the benefits of a dedicated infrastructure fund supported by the three tiers of government (PwC 2016). When considered alongside the transformational projects included in this report, and their benefits to growth area communities, there is a strong argument for greater support for investment in growth areas from Commonwealth and State Governments.

The importance of employment

If there is an overarching recognition among the transformational projects included in this report it is that there is a need to increase and improve the employment on offer to residents of growth areas. As recently observed following a growth areas study in outer Melbourne, “economic development and job generation are still relatively unsophisticated and ineffective after decades of urban residential development” (Nicholls, Phelan & Maller 2017, p. 12).

As a simplification, there are two ways to improve employment access in growth areas, either improve the local job offer or improve the access to jobs in other locations. Projects such as the Gawler Train Line Electrification and the Western Sydney North South Rail Corridor will transform the regions they service by reducing car dependency and the stress of those commuting to city-based employment, while precinct plans that allow for dense employment clusters, such as The Quarter, AACURL, Lyell-McEwin Health Precinct and the Werribee and Mernda Town Centre, facilitate jobs and should also lead to less congestion and car dependency.

Metrics, reviews and evidence

An issue highlighted by this research is the paucity of evidence to support projects in the growth areas. While not only an issue in growth areas, there is a tendency to concentrate on the next submission or project rather than allocating resources to assessing the outcomes of previous projects. Post-implementation reviews would enable the development of a strong evidence base that can be drawn from to support project proposals and funding submissions by NGAA members. Consideration should be given to whether there are metrics for benchmarking and assessing changes in growth areas, particularly if they could be based on information published more frequently than the 5 yearly census data.

More extensive and concentrated research focusing on specific issues and locations could also be considered, such as the longitudinal study of commuting from the Selandra Rise estate in south eastern Melbourne (Nicholls, Phelan & Maller 2017).

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