Carter Street Urban Activation Precinct Options: Economic appraisal

Final Report

Goodman

April 2014

SGS Economics and Planning Pty Ltd
ACN 007 437 729
www.sgsep.com.au
Offices in Canberra, Hobart, Melbourne and Sydney

TABLE OF CONTENTS

1 INTRODUCTION

NSW Planning & Infrastructure (P&I) has recently placed on exhibition a planning proposal to rezone the Carter Street precinct to allow residential, retail and commercial development (adjacent to Sydney Olympic Park).

Goodman are a major land owner within the precinct and are concerned that the draft structure plan and draft Local Environmental Plan (LEP) may produce a sub-optimal outcome from an economic and planning perspective.

SGS Economics and Planning was commissioned by Goodman to undertake a qualitative economic appraisal of the redevelopment potential of the site, i.e. comparing the higher density option proposed by Goodman against the suggested option by P&I. Quantifying the marginal (or additional) costs and benefits of the Goodman proposal against the P&I option is not undertaken as part of this assessment.

This report provides an independent (qualitative) economic assessment of the proposed land use rather than a financial feasibility analysis because:

- differences in assumptions between financial feasibility analysis undertaken by different consultants (where both may seem reasonable) produce varying results
- the precinct is large, and has a long development timeframe, making useful assumptions or predictions with regard to financial returns difficult, and
- in considering the economic benefit of an Urban Activation Precinct (UAP), it is important to recognise the wider opportunities derived from the development of the land, including community benefits associated with the urban renewal process.[1]

Consequently, this report does not assess the financial feasibility of the development (though it would be possible and instructive to do so, notwithstanding the limitations noted above).

The report is structured as follows. The proposed development scenarios are compared in Section 2. Insights on the development context for the wider precinct are gathered using publicly available documents and presented in Section 3. Section 4 synthesises findings from both of these tasks to present a qualitative assessment of both scenarios.

P&I also commissioned several other reports to advise on a range of factors including economic feasibility, transport, land use, community facilities, contamination, noise, odours etc, emanating from the Carter St development option proposed by them. The two most important studies for the purposes of this report were the economic feasibility study undertaken by Jones Lang LaSalle and the transport feasibility assessment undertaken by Parsons Brinckerhoff. Insights from these assessments are drawn upon where relevant.

[1] Recognising that the additional development proposed by Goodman over and above the P&I reference scenario is generally 'more of the same', that is not a significantly different land use mix – mostly just additional residential development.

2 SCENARIO COMPARISON

2.1 The Carter Street options

P&I has suggested a development option with a floorspace ratio (FSR) of 2:1 at the Carter Street precinct. The alternative suggested by Goodman proposes higher density development with an FSR of 2.75:1. Table 1 compares the two scenarios. It shows that the two scenarios differ primarily in their provision of dwellings, with Goodman proposing an additional ~2,000 dwellings on site, and agreeing in principle to support this additional development with additional transport-related infrastructure in the precinct, including on and off-road ramps and upgrades to road intersection infrastructure.

Site preparation costs (decontamination, development infrastructure works etc) will be comparable whatever the yield (and are not included in the table). However, a higher yield option provides more certainty that cost contingencies will be met and the opportunity to achieve lower per unit average costs.

TABLE 1. CARTER STREET OPTIONS COMPARISON

	1. P&I Proposal – FSR of 2:1	2. Goodman Proposal – FSR of 2.75:1
Estimated no. of dwellings/ residents	~5,500 dwellings ~9,900 residents (based on occupancy rate of 1.8 as discussed in JBA report)	~7,500 dwellings ~13,500 residents (based on occupancy rate of 1.8 as discussed in JBA report)
Retail/ commercial floorspace/ jobs	~12,000 sqm ~480 jobs (assumes 25 sqm/job on average)	~11,000 sqm ~460 jobs (assumes 25 sqm/job on average)
Community infrastructure:		
Schools	1	1
Community centres	1	1
Child care centre	1	2
Public/ open space	'~30,500 sqm	~37,500 sqm
Ability to leverage and revitalise existing under-utilised assets (for e.g., at Sydney Olympic Park)	Scale unknown	Relatively high ability compared with Option 1 due to higher number of residents and additional funding on infrastructure (refer below)
Contribution by Goodman to regional infrastructure improvements	-	Scale unknown but Goodman has provided in principle support to fund upgrades to infrastructure in the precinct, including to road intersections, provision of off & on ramps to M4 Motorway
Scale of foregone revenues or tenant relocation costs from existing leases	Scale of costs unknown	Scale unknown but likely to be lower compared with Scenario 1 as staging of development by Goodman will align better with existing lease contracts, and therefore, the pay-out required to cut short leases and relocate tenants will be lower
Any differences in environmental resource savings	-	Could be opportunities for additional environmental benefits from higher density of Option 2

Source: Goodman

2.2 Anticipated residents in the wider precinct

To 2030, the Sydney Olympic Park master plan proposes nearly 6,000 dwellings accommodating 14,000 residents as well as 31,500 jobs on site, with approximately 2,300 dwellings estimated at Wentworth Point, which could accommodate upwards of 5,000 residents. [2]

The wider area[3] (including Sydney Olympic Park and Homebush Bay but not Carter St) is forecast to accommodate an additional ~18,000 people and ~9,000 jobs to 2036 (from 2011) based on forecasts prepared by Bureau of Transport and Statistics (BTS) as shown below.

TABLE 2. POPULATION PROJECTIONS FOR SOP/HOMEBUSH BAY PRECINCT (EXCLUDING CARTER ST)

Year	2006	2011	2016	2021	2026	2031	2036
Population	4,158	6,517	15,410	17,557	19,600	22,298	24,630
Employment	5,657	8,029	10,166	11,724	13,821	15,866	17,920

Source: BTS, 2014

Assuming development at Carter St proceeds as per the P&I proposal, the wider precinct is estimated to accommodate an additional 27,900 residents (i.e. an additional 18,000 in the wider precinct excluding. Carter St and 9,900 at Carter St) from 2011 to 2036, whereas this could increase to 31,500 residents based on Goodman's proposal (18,000 in the wider precinct excluding Carter St and 13,500 at Carter St). These development outcomes are summarised in the table below.

TABLE 3. DEVELOPMENT OUTCOMES IN WIDER PRECINCT (INCLUDING CARTER ST)

	Additional development (2011-2036)	At 2036
	Scenario 1: P&I Proposal	
Residents	~27,900	~34,400
Jobs	~10,370	~18,400
	Scenario 2: Goodman Proposal	
Residents	~31,500	~38,000
Jobs	Likely to be more than 10,370 due to additional population related demand for services and retail	Likely to be more than 18,400 due to additional population related demand for services and retail

Source: SGS and BTS

On these numbers the Goodman option adds almost 13 percent additional residents in the wider precinct between 2011 and 2036 (or 10 percent more to the 2036 total), to a 'business as usual' scenario that includes the P&I option (note it is assumed the BTS projections incorporate the Sydney Olympic Park Master Plan estimates though it is not clear if they sufficiently account for the Wentworth Point UAP proposal).

[2] http://www.sopa.nsw.gov.au/__data/assets/pdf_file/0011/343838/MP2030_Flyer.pdf and http://www.planning.nsw.gov.au/Portals/0/HousingDelivery/UrbanActivation/170713-1.pdf

[3] Travel zones 1617, 1613, 1622, 1630

3 TRANSPORT CONTEXT

3.1 Existing transport provision

Sydney Olympic Park is reasonably well-serviced by train, bus and ferry networks, including 90 trains, 250 buses and 42 ferries each weekday (SOPA 2013). Olympic Park Station is well used during special events, and its regular use is increasing as the development of the Sydney Olympic Park town centre progresses.

Sydney Olympic Park's public transport network has a high capacity, due to the need to accommodate high quality major event public transport services. The bus, train and cycle networks are of a high standard in the area, and due to the efficiency of the network, public transport has a high mode share during these times. 55% of major event patrons travelled to the Park by bus, coach or train (SOPA 2013).

The Parsons Brinckerhoff report (2014) prepared for the Carter St UAP study, commissioned by P&I, points out in relation to the surrounding road network that:

'The Homebush Bay subregion has five main gateways that are all operating at or close to capacity, with long delays and queues during peak periods. The surrounding arterial roads: Parramatta Road, the M4 Western Motorway, Silverwater Road and Homebush Bay Drive, all experience peak period congestion. Some intersections are already operating with high levels of delay (e.g. Hill Road and Carter Street, Birnie Avenue and Carter Street). Others have limited spare capacity to accommodate future growth. Upgrades of the road network are likely to be needed to accommodate the growth planned for the Homebush Bay subregion.'

In summary the public transport network has some capacity for additional day-to-day usage (which additional development in the precinct will be able to utilise) while the road gateways are at or close to capacity **right now.**

3.2 The need to upgrade transport networks

Notwithstanding the high theoretical accessibility of the precinct, there are a number of issues affecting day-to-day use of public transport in the Sydney Olympic Park area as identified by the transport feasibility study produced by Parsons Brinckerhoff (2014). These include:

- Although Olympic Park station has frequent services, there is not a direct service to most destinations and most trips require a transfer at Lidcombe, reducing the attractiveness of the train as a transport option
- Carter Street Precinct is apparently 'on the boundary of or outside the catchment distance of Olympic Park station', limiting the use of rail transport by residents
- Bus services are affected by congestion in the area
- The frequency, hours of operation and coverage of the bus network will need to increase with increased demand from local growth.

The Parsons Brinckerhoff (2014) report points out that:

'The WestConnex project will increase the capacity of the M4 Western Motorway and will introduce a new eastbound on-ramp at Hill Road. Further road widening and intersection modifications are planned

that will impact access to Carter Street UAP. Traffic volumes on Parramatta Road are expected to increase at a rate of around 2% per annum. However, this will be influenced by the WestConnex project. It is expected that both the M4 Western Motorway and Parramatta Road will continue to operate with significant volumes of traffic in 2031. Management of higher levels of private transport demand would therefore be essential.'

Parsons Brinckerhoff (2014) identify the need for additional connections to address the missing links of a transport network geared towards major events.

The Jones Lang LaSalle (2014) report echoes these findings and suggests that transport linkages are going to be critical to support the feasibility of development in the precinct.

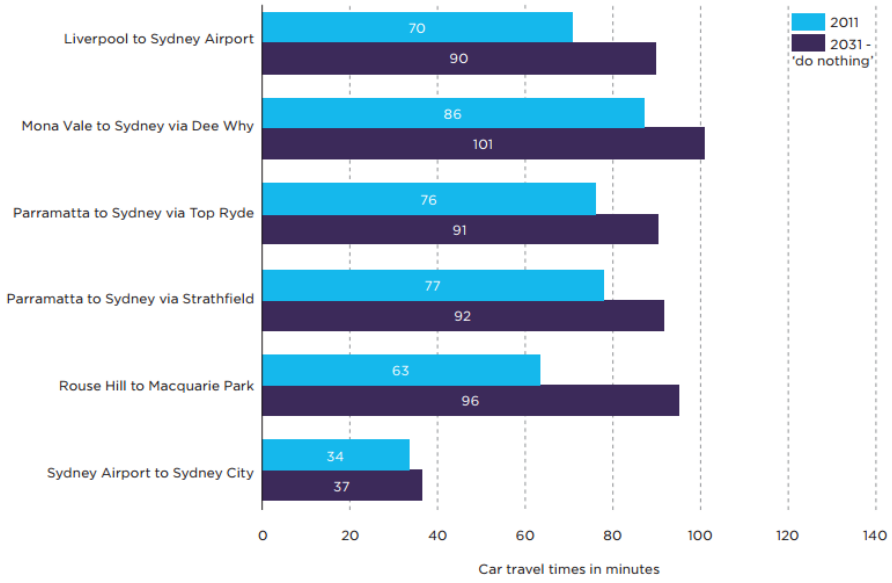
Increased residential and worker populations at Sydney Olympic Park will place pressure on existing transport networks and heighten the need to address the missing links in the transport network. The Sydney Olympic Park Master Plan 2030 will manage the expansion of the Park to support a daily population of up to 50,000, up to 25,000 daily visitors and maintain the ability to host 250,000 event patrons. Importantly, the Master Plan 2030 identifies a maximum commercial development in Sydney Olympic Park of approximately 479,000 square metres of commercial GFA. Full utilisation of this development potential cannot be supported by current public transport use or the current road network, and the Master Plan recommends increasing public transport's trip mode share, road enhancements and additional heavy rail services (2010, p.104).

The NSW Long Term Transport Masterplan (2012) offers a framework for addressing transport challenges over the next two decades. It identifies congestion as a major challenge for Sydney, highlighting the Parramatta Road to CBD via Strathfield as a corridor under pressure, with trains on the Western Line experiencing high congestion and the M4 and Parramatta Road operating at capacity during peak periods (NSW Government, 2012). These issues will be exacerbated by population growth: by 2031, the number of trips made around the city each day will increase by 31 percent from 16 to 21 million trips, and without intervention will result in congestion, overcrowding along key corridors and longer travel times (NSW Government, 2012).

In this context, it is worth noting that, as per the advice provided by Parsons Brinckerhoff (2014), 66% of all trips generated in the Carter St precinct in the future (work and non-work related) are anticipated to be made by private transport, with 17% of all trips made by public transport. The remainder (i.e. 17%) of all trips will be using active modes (i.e. walking and cycling).

The figure overleaf identifies travel times along the most constrained corridors in Sydney under a 'do nothing' scenario. The increase in traffic congestion will cause delays and unreliability for bus users on some corridors.

FIGURE 1. PEAK TRAVEL TIMES ALONG STRATEGIC CORRIDORS FOR CARS (IN MINUTES), 2011 AND 2031 'DO NOTHING' SCENARIO



Source: NSW Government, 2012.

Proposed actions to address congestion in the Parramatta Road corridor include:

- Increasing rail frequency, and
- Widening the M4 through the WestConnex project.

The need to invest in upgrading transport infrastructure in the area is imminent and will arise with any scale of redevelopment of this precinct.

In this context, the additional development under Goodman's scenario is unlikely to place a significantly higher pressure on an already congested network which needs upgrading imminently. Goodman's Carter Street option proposes an additional 2,000 dwellings and around 3,600 residents compared to the P&I option. This is in the context of an additional 57,000 people between 2011 and 2036 in the Auburn and Canada Bay LGAs (using BTS projections) which make up the immediate subregion encompassing Carter Street and Sydney Olympic Park.

It is plausible that the mode share for public transport would increase beyond that anticipated by Parsons Brinckerhoff (2014) given congestion on surrounding roads (though noting the constrained public transport capacity elsewhere on the network beyond this precinct). While one kilometre is seen as being 'beyond' the typical catchment for rail stations (by Parsons Brinkerhoff) many rail travellers walk further than this (approximately 10 minutes) to catch trains for their commute, particularly where the alternative of a congested road network is not appealing.

Furthermore, the higher public transport patronage resulting from a higher yield at Carter Street are likely to make new transport investments more feasible and financially sustainable and will provide a deeper revenue base, and thereby help the government generate a greater return on its investment (particularly if it occurs in any case as is likely) and bring this forward.

The NSW Long Term Transport Master Plan proposes a number of investigation corridors which include the Sydney Olympic Park precinct including a north-south (Macquarie Park to Rhodes to SOP to Hurstville) and an east-west (north of the current western rail line) public transport option. Additional yields at Carter Street will strengthen the business case for these potential projects.

4 COST BENEFIT ASSESSMENT

The following discussion appraises the costs and benefits of the Goodman scenario compared with the reference case, i.e. the P&I scenario.

The identified marginal costs and benefits are summarised in the table below followed by a description of each.

TABLE 4. COSTS AND BENEFITS LINKED WITH GOODMAN'S PROPOSAL FOR CARTER ST DEVELOPMENT AGAINST THE P&I REFERENCE CASE

Costs	Benefits
Costs associated with **bringing forward infrastructure delivery**	**Increased affordability**, as more dwellings are provided in an established inner city precinct with economies of scale in production leading to reduced costs of construction
Increase in **congestion costs**, particularly road infrastructure, due to differences in yields	**Urban renewal benefits** as alleviated demand in greenfield areas (~3,000 dwellings) no longer consumes land or requires servicing
	Transport savings, which become manifest as travel time savings due to greater yields with greater proximity of residents to workplaces
	Workforce productivity benefits as additional residents accommodated on Carter St add to Sydney's overall agglomeration benefits
	Leveraging enhanced utilisation of existing assets and services due to differences in yields

Source: SGS

4.1 Benefits

Improved affordability

Urban renewal precincts like the Sydney Olympic Park (SOP) play an integral role in shaping the development of the metropolis, and importantly, addressing the affordability challenge.

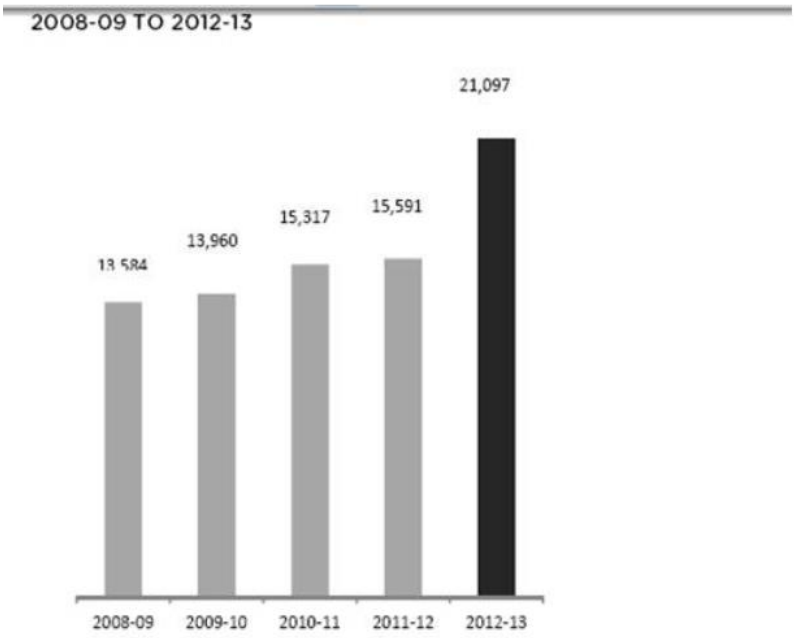
Addressing housing supply and thereby easing affordability is a key priority of the **Draft Metropolitan Strategy for Sydney to 2031.** Providing more housing is needed to address the low levels of housing production of the past decade and to meet the needs of a growing population. The draft Strategy addresses housing supply and affordability in the following ways:

– Minimum housing target of 545,000 new dwellings across Sydney has been set for 2031, with short term targets for 2021, which should more closely align with market trends to make sure that there is land available in areas with strong demand. The 2021 target is for 273,000 dwellings at 27,300 per year (and a similar rate to 2031). For the West Central and North West subregion which contains Carter Street the minimum target is for 7,400 per year to 2021 and 7,800 per year to 2031.

- Identification of Urban Activation Precincts as focuses for housing, in recognition of the growing preference for housing and apartment living in existing urban areas with access to infrastructure. New dwelling production will be split between greenfield and infill development.
- The supply of housing in established urban areas and zoned release areas will be fast tracked.

It should be noted that recent rates of housing supply across the metropolitan area are currently well short of the annual targets contained in the draft Metropolitan Strategy, as shown in Figure 2. Notwithstanding a much stronger performance in 2012-13 the 21,000 dwellings achieved still represents only 77% of the 27,000 annual target. In the four years prior rates have been below 16,000 per year – which is only 60% of the target (implying an accumulated shortfall that needs also to be addressed). There is a need to continue to facilitate supply opportunities to meet demand and strategic planning settings. Carter Street clearly provides such opportunities, in a context where community conflict is likely to be minimal and externalities able to be managed via coordinated planning. Optimising outcomes in such a location should be an explicit aim.

FIGURE 2. ANNUAL HOUSING SUPPLY IN METROPOLITAN SYDNEY, 2008-9 TO 2012-13



Source: Research & Demography, Planning Strategies, Housing & Infrastructure, DP&I

The Jones Lang LaSalle's (2014) Economic Feasibility Study for the Carter Street Urban Activation Precinct commissioned by P&I also notes the supply shortage in Sydney. It notes that strong demand for residential stock can be seen by analysing the growth of new residential suburbs in the inner west of Sydney, including Rhodes, where there are strong presale figures and prices. Importantly, the report notes that the Carter Street presents an interesting opportunity in that, due to the relatively large area for the proposed urban activation precinct, there is an opportunity to produce affordable housing due to economies of scale of potential residential development. Consequently, the proposal by Goodman to provide additional dwellings on Carter St seems to be an economically supportable situation if the resulting costs brought about by additional development can be appropriately managed (refer costs section below).

Urban renewal benefits

The provision of additional housing at Carter St under Goodman's proposal will free up housing opportunities elsewhere in Sydney, as residents who move to the precinct vacate their existing premises. In turn these vacated properties will provide housing opportunities for others, and their relocation also opens up more opportunities again, and the opportunity flow will continue. The precinct will also accommodate in-migrants to metropolitan Sydney and thereby meet the demand for housing mentioned earlier. The reinvestment of capital provides both a stimulus to the economy and broadens the housing supply stock at various price points.

Ultimately the provision of additional housing at Carter St will filter through Sydney's housing markets and eventually lead to a reduction in new housing requirements in greenfield areas; underpinning numerous urban consolidation benefits.

Modelling by SGS for an assignment commissioned by the Victorian state government showed that 62% of residents who move into central Melbourne might have chosen to live in greenfield areas had it not been for additional development in central Melbourne, suggesting that the interplay between released housing capacity in inner locations and absorption of that capacity is robust, notwithstanding differences in housing forms in different locations.

In the case of Carter St development, Scenario 2 generates additional resource savings by accommodating more development within Sydney's urban footprint (i.e. an additional ~2,000 dwellings at Carter St), as opposed to outside it under Scenario 1.

Trubka, Newman and Bilsborough (2007) made a notable contribution to this field after their comprehensive review of international and domestic literature and case studies. They suggested that infill development saved ~$85,000 per dwelling when compared to greenfield development after considering the full suite of capital infrastructure costs (refer table below).

TABLE 5. COSTS OF SERVICING DEVELOPMENT IN DIFFERENT AREAS

	Infill costs (A)	Greenfield costs (B)	Savings (B-A)
Roads	$5,100	$30,400	$25,300
Water and sewerage	$14,700	$22,400	$7,700
Telecommunications	$2,600	$3,700	$1,100
Electricity	$4,000	$9,700	$5,700
Gas	$0	$3,700	$3,700
Fire and ambulance	$0	$300	$300
Police	$0	$400	$400
Education	$3,900	$33,000	$29,100
Health	$20,000	$32,000	$12,000
Total	**$50,300**	**$135,600**	**$85,300**

Source: Trubka, Newman and Bilsborough (2007)

Unfortunately these estimates are prone to scepticism due to their very high magnitude. Consequently, SGS undertook further modelling using data on local government spending published by the NSW Department of Premier and Cabinet[4], which corroborated the finding by Trubka that large infrastructure provisioning efficiencies are generated by population density, which in Australian cities, deteriorates as you move from the CBD to greenfield areas, however the scale of the difference was not found to be as large as that suggested by Trubka. The numbers suggested that each year the savings generated per dwelling ranges between $2,000 and $3,200.

[4] http://www.dlg.nsw.gov.au/dlg/dlghome/dlg_compIndex.asp?documenttype=comptime&mi=3&ml=2

Confirming this pattern, it is also worth noting research specifically commissioned by the NSW government in 2010. Economic modelling of the social, economic and environmental costs and benefits of alternative growth paths for Sydney was conducted by the Centre for International Economics[5]. Per dwelling costs of providing transport, electric, water and social infrastructure were shown to be lower for the scenario which focused growth on urban renewal rather than fringe areas. For example a 50:50 split would cost an additional $6,641 per dwelling or 7.5 percent compared to the 70:30 infill to greenfield split target in the 2010 Metropolitan Plan for Sydney to 2036. This comparison is shown in Table 6.

TABLE 6. INFRASTRUCTURE COSTS OF ALTERNATIVE GROWTH PATHS, SYDNEY ($ PER DWELLING)

Category	2005 Metropolitan Strategy	Focused on fringe/Greenfield	Focused on urban renewal
Ratio – Infill/Greenfield	**70/30**	**50/50**	**90/10**
Transport			
Connecting transport	5 422	9 387	3 062
Major Infrastructure/congestion	24 506	25 708	23 904
Total	29,928	35,095	26,966
Physical Infrastructure			
Electricity	4 219	4 254	4 207
Water and sewerage	13 103	14 672	11 535
Total	17,322	18,926	15,742
Social Infrastructure			
Primary education	4 574	4 259	4 845
Secondary education	2 765	2 579	2 877
Health	19 173	19 184	19 161
Other social infrastructure	228	219	240
Local council	14 470	14 839	14 226
Total	**41,210**	**41,080**	**41,349**

Source: Centre for International Economics, The benefits and costs of alternative growth paths for Sydney: Economic, social and environmental impacts, NSW Department of Planning, December 2010.

The lower per unit costs of providing infrastructure in infill areas should mean a lower purchase price per dwelling on average, as well as reducing the demand for government expenditure, with a higher share of infill development.

Furthermore, transfer of higher demand into Carter St under Scenario 2 effectively saves land from urban consumption, enabling it to continue to contribute value via its alternative uses (e.g. agricultural, environmental, aesthetic uses).

Transport savings

It is reasonable to assume that the additional residents at Carter St under Goodman's proposal are likely to have comparatively more sustainable travel patterns relative to a situation where they might have been accommodated in other greenfield (and in some infill) areas given they are:

[5] Centre for International Economics, *The benefits and costs of alternative growth paths for Sydney: Economic, social and environmental impacts*, NSW Department of Planning, December 2010.

- close to major and growing hubs of job and service opportunities in Sydney including Sydney Olympic Park, Rhodes and Macquarie Park (reducing journey to work and other trip distances, and potentially enabling more active travel modes such as walking/ cycling/ public transport)
- located close to established public transport networks thereby improving the attractiveness of public transport compared to private vehicular travel (notwithstanding the need for upgrades to public transport beyond the precinct, noted earlier), and
- accommodated in a mixed use precinct with increasing jobs (enabling relatively self-contained discretionary trips).

A key issue here is the extent to which any net additional residents at Carter Street are likely to use more sustainable travel options, compared to the situation where they are elsewhere in the metropolitan area. Parsons Brinkerhoff assume that 66% of all trips from Carter Street will be by car (as mentioned this could be lower if congestion on the road network makes this option less attractive), and this can be compared to the current 68% of all trips being by car across the metropolitan area[6]. On this basis residents at Carter Street are less likely to use their car than if they were elsewhere.

While no change is expected in total population and employment at the metropolitan level, the distribution of population is skewed more towards inner infill areas, i.e. towards Carter St, and even more so, under Scenario 2 relative to Scenario 1. That is, there would be a greater proximity of residents to workplaces due to a greater yield under Goodman's proposal, and the job opportunities in surrounding locations makes public transport a viable option.

These factors indicate that savings in travel costs, times and vehicle kilometres travelled are anticipated under a higher yield scenario.

Leveraging enhanced use of existing assets and services

The higher yields at Carter St under Goodman's proposal will lead to more effective use of existing infrastructure in the immediate area, including the sporting, recreation, cultural and entertainment facilities located within the Sydney Olympic Park and existing public transport infrastructure, and committed future infrastructure, including commercial investments as part of the SOP master plan and improved frequency of public transport infrastructure.

Though Sydney Olympic Park experienced significant growth in visitation in 2012-13 (SOPA 2013)[7], it managed to contribute only about 60% of its annual operating cash expenses (excluding depreciation) through revenue from operations. This clearly highlights the loss-making nature of its activities. Indeed, according to the SOPA 2012-13 Annual Report, the Sydney Olympic Park Sports Venues (including aquatic, athletic, archery, hockey, sports centres and sports halls) returned a consolidated deficit of $4.5 million, suggesting that that the sporting assets at the Park are currently under-utilised. There is insufficient demand for these facilities, with consequent effects on the financial operations of SOPA.

Meeting the targets for residential and commercial development outlined in the SOPA master plan will generate a higher return on existing assets.

In this context, the additional development under Goodman's scenario would further underpin enhanced returns on assets and help generate additional revenues for the facilities at the SOP. It would thereby help alleviate the deficits faced by venue operators as stronger demand for sports and recreation activities is likely to emanate from the higher number of residents hosted within the precinct.

There may also be scale benefits from higher yields to be achieved by Auburn Council as service provider in the precinct.

[6] NSW Long Term Transport Master Plan, 2013, page 121

[7] Total park activation increased by 10% on the previous year to 13.2 million people; parklands activation increased from 2.6 million in 2011 to 2.9 million visitors in 2012-13; sports event attendance increased by 37% in 2012-13 as ANZ Stadium hosted a number of sell-out events, including the NRL Grand Final, State of Origin, Australia vs Iraq World Cup Qualifier.

Workforce productivity benefits

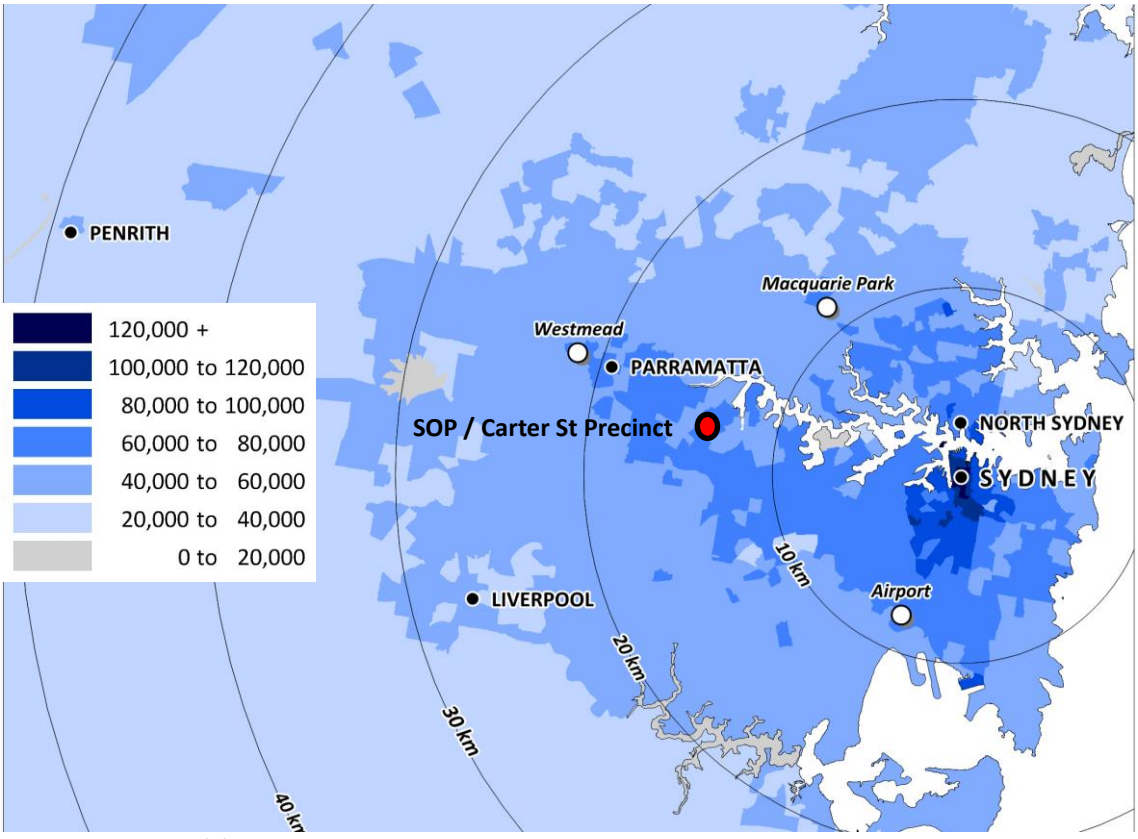
The more dense places are in terms of economic mass, the greater the workforce productivity engendered. This reflects the improved ability to specialise in certain forms of activity, the heightened level of competition, and the enhanced diffusion of technology and knowledge that is enabled in dense environments.

More intensive development at Carter St under Goodman's proposal, as opposed to at other greenfield locations, will therefore lift Sydney's economic mass and productivity levels. This will be comprised of two main elements:

- An uplift in productivity of existing workers who would have a higher mass of people to work with, and
- An uplift in productivity of workers who locate at Carter St instead of other greenfield and infill locations and occupy more productive jobs or become more productive.

Modelling by SGS shows that the SOP precinct is quite well connected to jobs and services. Its score on effective jobs density (EJD) lies within the 80th percentile relative to the metropolitan economy.[8] Figure 3 shows the precinct well situated in the job accessible corridor between Sydney and Parramatta. The data shows that resident workers will have high access to job opportunities from this particular location.

FIGURE 3. EFFECTIVE JOB DENSITY IN METROPOLITAN SYDNEY (JOBS ACCESSIBLE FROM ANY LOCATION IN 40 MINUTES)



Source: SGS Economics and Planning

Indeed, the economic feasibility report produced by Jones Long LaSalle (2014) commissioned by P&I points out that

[8] EJD is an indexed measure of each location's actual accommodation of jobs combined with its relative (travel time based) access to all other jobs in Sydney. That is, the higher an area's EJD, the more jobs that can be effectively reached from its location.

'The central location is attractive for a multitude of Sydney's workforce as it allows acceptable travel distances for residents to work in multiple employment districts such as the Parramatta CBD (6.5km), Macquarie Park (10km), Norwest Business Park (15km) and Sydney CBD (16km)'

It goes without saying that more residents in the precinct, as envisaged under the Goodman scenario, will amplify the workforce productivity benefits identified here.

Furthermore, additional residents will generate additional population related employment (in retailing, education, health and local services) and contribute toward the achievement of employment targets in the Sydney Olympic Park and Rhodes 'specialised precincts' (as designated in the draft Metropolitan Strategy).

4.2 Costs

Congestion cost impacts

Reflecting on Table 2 and Table 3 above, it can be seen that the additional residents at Carter St proposed by the Goodman option represents just over 10% of the total otherwise envisaged at 2036 (incorporating the P&I option). The additional development will bring with it additional traffic and travel demand.

While the proposed increment is meaningful if not very significant, as pointed out above it is evident that infrastructure upgrades are necessary to support redevelopment of any scale in the wider precinct. Such upgrades would not only ease congestion for residents of the wider SOP precinct but other motorists using Parramatta Road, the M4 Western Motorway, Silverwater Road and Homebush Bay Drive.

Consequently, it is important to raise the question: is the difference of additional residents likely to make a difference on an already congested network? In the larger scheme of things, providing necessary upgrades to meet the needs of additional residents accommodated on Carter St is likely to be an economically worthwhile exercise, given the potential benefits outlined above, whatever the scale of development. From this perspective transport planning should be focussed on managing potential costs and addressing travel demand with sustainable solutions rather than curtailing yields in the hope that a problem doesn't arise in the precinct and beyond or because current planning is inadequate.

One should also bear in mind that Goodman has provided in principle support to alleviate congestion arising from higher yields by investing in upgrades of existing infrastructure in the Carter St precinct.

Importantly, it is highly likely that higher land values will result under Goodman's proposal compared with the reference case (across more development and thereby generating lower unit development costs on average). This would provide an opportunity to invest in infrastructure leading to increased public benefit.

Infrastructure costs brought forward

There is an indication that some infrastructure might be required at an earlier stage under Goodman's proposal compared with the proposal put forward by P&I, i.e. to adequately support the scale of development in the precinct.

Reflecting on Table 1, it is clear that an additional child care facility will be required on site under Goodman's proposal and there may be other infrastructure items whose delivery may need to be brought forward, particularly transport infrastructure, as per the recommendations of the transport feasibility report commissioned by P&I.

These costs need to be taken into consideration though they are unlikely to be significant because:

- It would not be the whole cost of development that is relevant in this context, but rather, the opportunity cost of providing the investment earlier rather than later, and
- One could argue that a similar scale of infrastructure with a similar cost profile would have been required elsewhere in the metropolitan area to support a development of this scale.

5 CONCLUSION

Whilst this is not a definitive economic assessment, which would require more analysis and detail to be provided by Goodman, it seems highly likely that the scale of additional benefits supported by higher density development as per Goodman's option will outweigh the additional costs of this option, when compared with the option suggested by Planning and Infrastructure.

In summary, benefits of a higher yield are likely to include:

- **Increased housing affordability and housing choice**, as more dwellings are provided in an established inner city precinct, thereby contributing to metropolitan housing supply targets, with economies of scale in production in this location offering the prospect of reduced construction costs
- **Urban renewal cost savings** as housing demand is diverted from greenfield areas where servicing costs and land consumption costs are greater
- **Transport and travel cost savings**, with additional residents enjoying greater proximity to accessible workplaces (at Sydney Olympic Park, Rhodes, Macquarie Park and the Sydney CBD for example)
- **Workforce productivity benefits** as additional residents accommodated at Carter St add to Sydney's overall agglomeration benefits, given their high relative accessibility to a significant share of metropolitan employment
- **Leveraging enhanced utilisation of existing assets and services,** in particular providing a greater return on the recreational, leisure and sporting assets in Sydney Olympic Park and also, potentially, on the services provided by Auburn Council.

Marginal costs might include and in additional congestion, though this depends on trip generation and mode share assumptions, and the need to bring forward infrastructure delivery (though much of this is already necessary, particularly in relation to road upgrades).

Importantly, the scale of costs is not likely to be significant if congestion costs are appropriately managed and upgrades to infrastructure provided in a timely manner. Goodman has provided in principle agreement to help augment transport infrastructure in the region supporting its development.

In our assessment, the higher density development proposed by Goodman appears a welfare improving and worthy outcome for the NSW society, which is the appropriate perspective from an economic assessment perspective.

In the final analysis it should be recognised that the Carter Street precinct offers a significant opportunity to realise urban renewal outcomes in the inner west area. Traffic and transport appear to be the major issues of note and provided sound planning and investment can be implemented to manage these a higher yield outcome offers the prospect of additional marginal benefits, compared to the option currently proposed by Planning and Infrastructure. It is important that these potential additional economic benefits be considered, and possibly further tested, before a final determination on yield is made.

Contact us

CANBERRA

Level 1, 55 Woolley Street
Dickson ACT 2602

+61 2 6262 7603
sgsact@sgsep.com.au

HOBART

Unit 2, 5 King Street
Bellerive TAS 7018

+61 (0)439 941 934
sgstas@sgsep.com.au

MELBOURNE

Level 5, 171 La Trobe Street
Melbourne VIC 3000

+61 3 8616 0331
sgsvic@sgsep.com.au

SYDNEY

209/50 Holt Street
Surry Hills NSW 2010

+61 2 8307 0121
sgsnsw@sgsep.com.au

SGS Economics & Planning