BARINGS

BARINGS SUBMISSION TO IPART

COST OF THE MAMRE ROAD PRECINCT STORMWATER SCHEME PLAN

31 May 2024

1. Introduction

This submission has been prepared by Barings in response to the request made by the Independent Pricing and Regulatory Tribunal (**IPART**) for public feedback on the *Cost of stormwater drainage in the Mamre Road Precinct*.

Barings welcomes the opportunity to comment on the issues paper and assist IPART in its role to assess the proposed regional stormwater scheme and costs submitted by Sydney Water. We support IPART's review into the proposed stormwater developer servicing plan (**DSP**) and stress the importance of ensuring the costs can be supported by industry and delivery of the scheme can be undertaken immediately to respond to the demand for industrial land in NSW.

Barings (formally Altis) has been active in Mamre Road Precinct (**the Precinct)** since 2019. As a founding member of the Mamre Road Landowners Group (MLOG) we have advocated to government the importance of this area for combating the industrial land supply shortfall within NSW, which has the lowest global vacancy rate. We have worked with government on the rezoning, development control plans, infrastructure contributions and this proposed stormwater developer servicing plan (**DSP**). While engagement with government has generally been a positive experience in the Precinct, we require a detailed review of this stormwater DSP and currently do not support the proposed Sydney Water scheme in its current form.

We have on numerous occasions requested the establishment of a technical workshop with government to resolve our concerns, which has yet to be scheduled There are major issues with the proposed Sydney Water Stormwater Scheme, including a DSP that is unaffordable and significant sterilization of suitable zoned and serviced land for the short to medium term.

The current proposed scheme places severe financial pressures on a sensitive market, which will result in loss of investment in NSW and results in the largest cumulative infrastructure contribution burden on record for Western Sydney. Along with the MLOG, Barings has engaged numerous technical experts to inform our position on this proposed DSP, which has been submitted to government and Sydney Water for consideration over the past 12 months. These reports and technical notes have been provided in the MLOG Submission to IPART

This submission should be read in conjunction to the MLOG submission and Barings fully supports the issues raised and recommendations in the MLOG submission

It is important for IPART and the NSW government to understand that development in the Mamre Road Precinct and wider Aerotropolis will either cease or be significantly reduced if the proposed Sydney Water Regional System and associated DSP is adopted in its current form. There are alternative solutions and methods to allocate costs to support an effective stormwater system for the precinct and these must be explored.

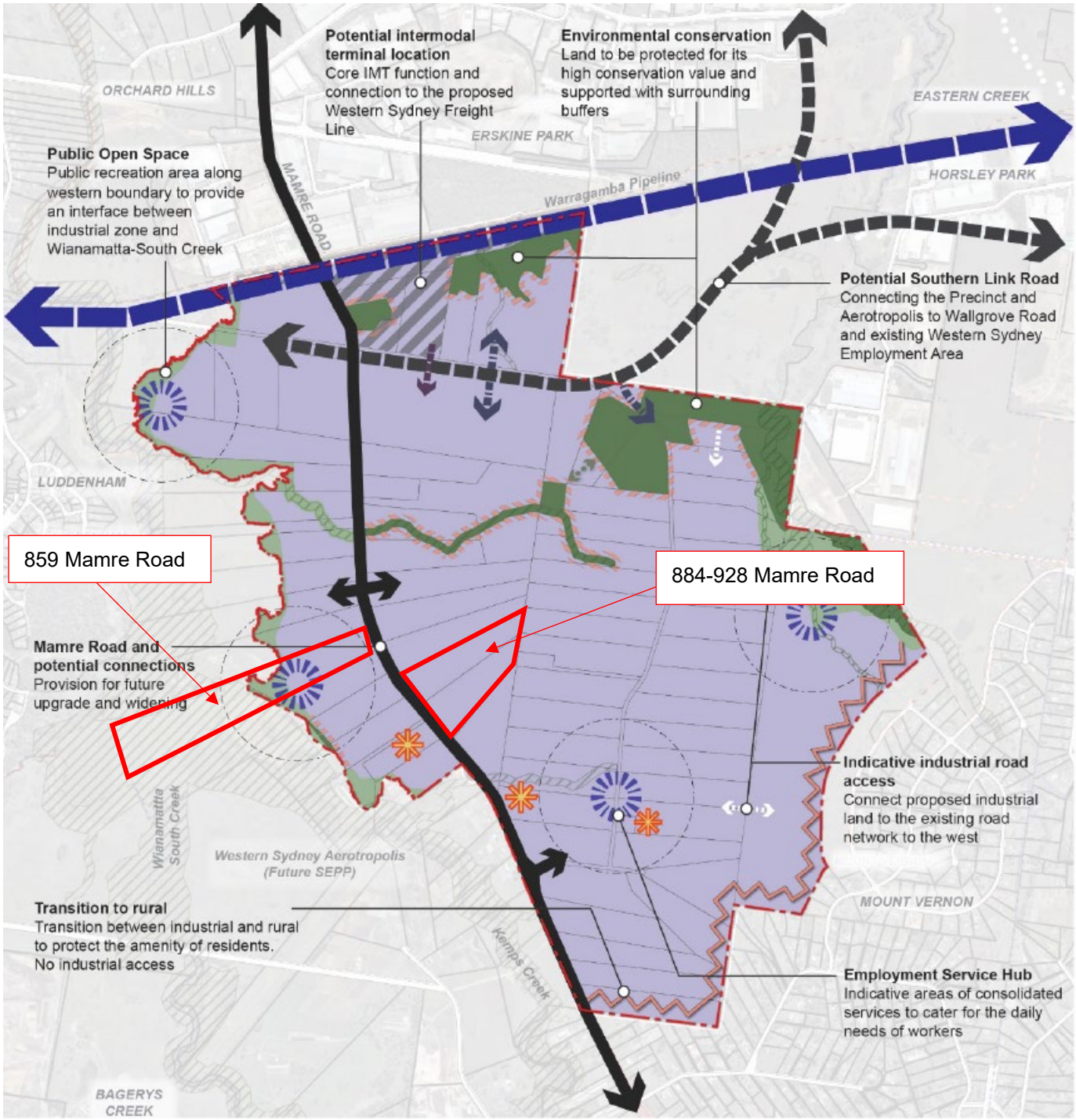
Barings Landholdings in The Mamre Road Precinct

Barings owns 884-928 Mamre Road Kemps Creek (20 hectares) and 859 Mamre Road Kemps Creek (15 hectares) for a total of 37 hectares, making it one of the larger landowners in the Precinct.

Barings played a key role in lobbying government to rezone the Mamre Road Precinct, modelling and design o the key road network and has already provided significant investment into the delivery of services into the precinct, including power, telecommunications, water, sewer and road infrasturucture.

We have a substantial track record of developing, investing and managing high quality industrial and warehousing assets in the region, including the recently completed First Estate.

Figure 1 – Barings Land Ownership Map



Barings Understanding of IPART Review

From review of IPART documentation and the official Terms of Reference for IPARTs review, Barings understand that the NSW Government has authorised IPART to provide advice on:

- Determining the efficient costs of providing stormwater drainage services within the Mamre Road Precinct; and
- Allocating these costs efficiently between developers, taxpayers, and other stakeholders.

Further we understand IPART will consider;

- The governments Risk Based Framework for Considering Waterway Health Outcomes in Strategic Land Use Decisions
- Review of water sensitive urban design strategies for Wianamatta-South Creek (NSW Government, 2022)
- Technical guidance for achieving Wianamatta-South Creek stormwater management targets (NSW Government, 2022)
- The Greater Sydney Regional Plan and other associated work, such as Western Sydney Planning Infrastructure Compact (PIC) Program – Initial PIC Area
- The Western City District Plan
- The Mamre Road Development Control Plan, including the Waterway Health Objectives;
- DCCEEW's 2021 strategic business case; and
- The existing work of DCCEEW and Sydney Water on identifying cost savings in the delivery of stormwater drainage services in the Mamre Road Precinct and the resulting Discussion Paper.
- Potential environmental, economic and social impacts of **not** providing regional stormwater drainage services in Mamre Road Precinct compared to alternate pathways
- The Critical demand for industrial land in Sydney and the NSW Governments growth priorities for Western Sydney
- Comparative costs of stormwater drainage schemes in:
    - Greater Sydney and other cities; and
    - The Mamre Road Precinct and other locations in Greater Sydney
- The effect and impacts of land tax and any other relevant taxation (eg, income tax) on the efficient costs of providing stormwater drainage services within the Mamre Road Precinct and options available to fund these taxes
- Any other matter IPART considers relevant.

The terms of reference and Issues Paper provided by IPART includes a particularly concerning statement, which is at the crux of the problem facing industry in the Mamre Road Precinct, which is provided below;

The costs of delivering stormwater drainage services in the Mamre Road Precinct are partly driven by the waterway health targets and other objectives that it is designed to meet. The Terms of Reference asks us to factor in all reasonable costs associated with meeting these targets and objectives. ***To the extent that these targets and objectives are binding, they are a standard cost of doing business and Sydney Water should be able to recover the efficient costs of meeting them.***

We will confirm what targets Sydney Water must meet and the minimum level of stormwater service that would meet them. Where we find that elements of the plan are discretionary or provide benefits above the minimum level of stormwater service that would meet the statutory targets and objectives, we will consider who should pay the costs of these elements.

This statement implies that the current waterway health targets (Stormwater Targets) are set and must be complied with. Barings and MLOG have repeatedly requested from the NSW Government the creation of a collaborative working group and all modelling data, assumptions and technical reports that informed these targets (including the base stormwater model) which has been consistently rejected.

Our submission outlines in detail some issues and inconsistencies with the targets, including their application to the main receiving waterway (South Creek) and identifies that the targets were developed in isolation by government by a single Brisbane based stormwater engineer and local ecologist, without any meaningful consultation with industry or a peer review to validate their accuracy.

With a potential cost to industry of c$11 billion across the Mamre Road Precinct and wider Aerotropolis, its is incomprehensible why this was not completed initially and more concerning that the NSW Government is not willing to follow this best practice process now.

We strongly recommend IPART direct Sydney Water and the NSW government to establish a collaborative working group with industry and complete a peer review of the Stormwater Targets before this system is progressed furthe

2. Key Recommendations for IPART

Barings provides the following recommendations for IPART to consider as part of its review. We request IPART to review the detailed submission to understand the context of each recommendation listed below.

1. Barings and MLOG is given an opportunity to brief IPART as part of their review on the cost of stormwater drainage prior to issuing recommendations report to NSW Government.

2. IPART recommend to the NSW Government the establishment of a technical working group with industry and leading specialist engineer to work through an economically viable stormwater solution for the Mamre Road Precinct and Aerotropolis. Terms of reference should be set up with an understanding to find an environmental solution that does not sterilise land in advance of a regional stormwater solution.

3. IPART complete a comprehensive review and peer review of the current Mamre Road Precinct and Aerotropolis targets. Should review determine these targets are not feasible, a recommendation should be made to NSW Government to re-visit the proposed stormwater controls in accordance with the *Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-Use Planning Decisions.*

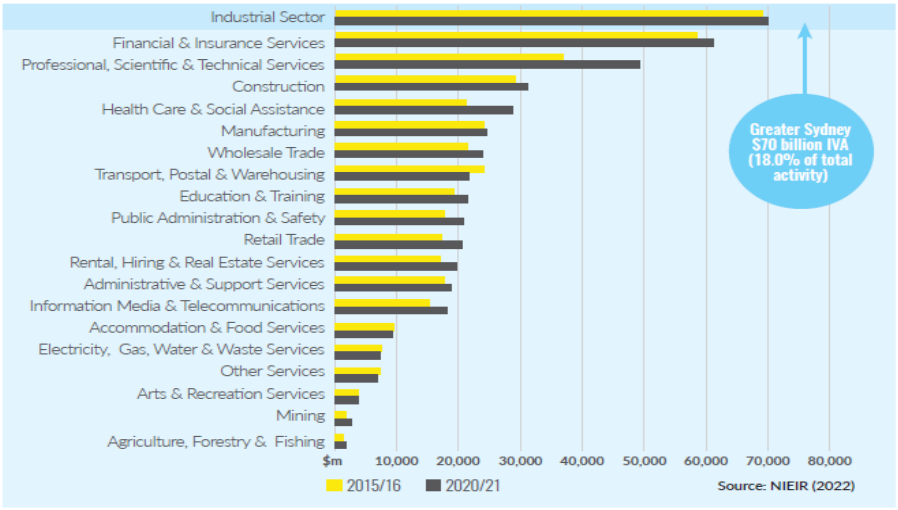
4. The Developer Servicing Charge is reduced to $500,000/hectare immediately, which can be set as a bonding amount now and the NSW government commit to a temporary (and short term) relaxation of the Stormwater Targets to allow development to proceed immediately, avoiding any land steralisation. The technical working group will be used to find a permanent set of targets that are both economically and environmentally appropriate, matching what developers and investors can pay to continue developing the governments vision for the Western Parkland City.

5. NSW Government not proceed with scheme in its current form, without the above actions and recommendations being completed.

3. Importance of Industrial Market to the NSW Economy

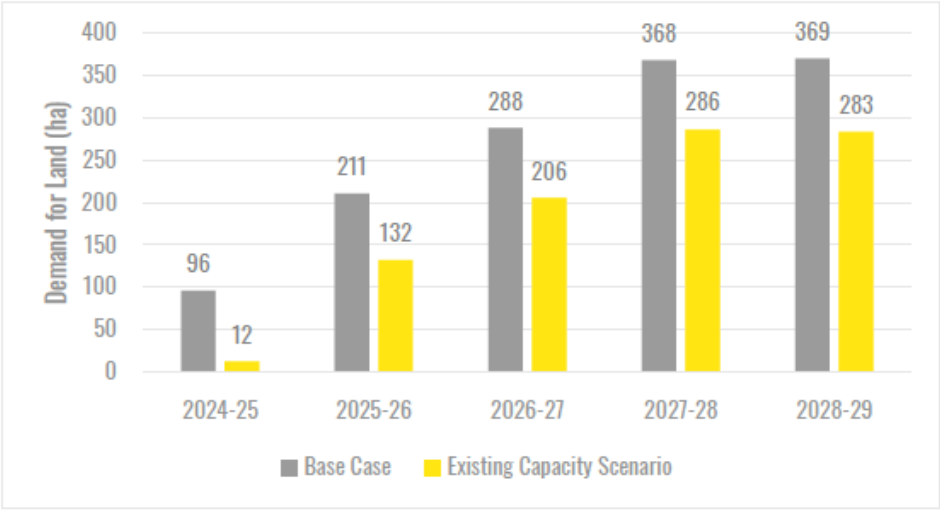
The industrial market contributes to $70 billion (18% of total activity) to the Greater Sydney Economy and $90.9 billion (18% of total activity) in NSW. It contributes to more than 30% of Greater Sydney and NSW Exports and provides a large number of jobs, generating a significant portion of economy activity and contributes considerably to the Gross State Product of NSW. The table below identifies the industrial sector contribution in relation to other sectors.

Contribution to Greater Sydney Economy, Industrial Sector (2020-21)



The importance of the Industrial market to NSW stretches past just traditional manufacturing and warehousing. A follow up report prepared by Atlas Economics (**Appendix B**) looked at the relationship between the housing sector and industrial lands, in response to the National Housing Accord target. The demand from residential construction to meet the Housing Accord targets places additional demands on the industrial sector, storing vital building components and materials required for construction of all new homes and high-density residential developments. The report concluded than between 280 hectares and 380 hectares of additional serviced industrial land is required to meet the National Housing Accords. The current NSW market will be unable to meet this demand due to the lack of zoned, available and serviced land. The table below outlines the industrial land needed to support the governments housing targets and current land available.

Figure 5-1: Demand for Industrial Land, Residential Construction (FY2025 to 2029)



Source: Atlas

In 2023, the MLOG engaged Atlas Economics to determine the value of industrial land to Greater Sydney, assess the current market conditions on ability to deliver demand and prepare a comparison on competitiveness between the NSW, Victoria, and Queensland. The purpose of this report was two-fold:

1. Review the current state of the industrial market given the 4-year period from the initial release of the Precinct, which purpose was to combat the dwindling supply of industrial land, by the NSW Government
2. Assess the impacts of the proposed stormwater charge and industrial market's capacity to pay. This is further discussed at Section 4 below.

The key Atlas economics findings in relation to importance of industrial land is summarised below and the full report is provided in **Appendix A**.

Demand and Supply of Industrial Lands

All economic indicators point to a severely undersupplied industrial market in Sydney – one with an insufficient supply of land to respond to market demand.

- Sydney's rents average $220/sqm compared to Melbourne ($120/sqm) and Brisbane ($135/sqm).
- Sydney has the lowest vacancy rate in any global city (>0.2%). We understand this has since increased to 0.8%, however is still at critical levels.
- Sydney's employment growth in the industrial sector averaged 0.5% over the 2016-2021 period, lagging behind Melbourne (1.2%) and Brisbane (1.1%).

Take-up of Industrial Land and Remaining Supply

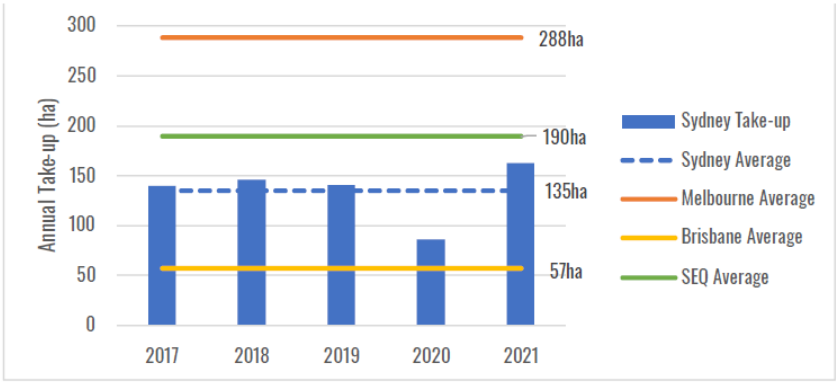
Annual take-up of industrial land in Greater Sydney has averaged 135ha in the 2017-2021 period. In contrast, metropolitan Melbourne's take-up of industrial land has averaged 228ha and Southeast Queensland's 190ha over the same period.

Table 1 Annual Take-up of Industrial Land – Sydney, Melbourne, Brisbane, and Southeast Queensland (2017-2021)

Region	Value of Industrial Sector (IVA)	Population (2021)	Annual Land Take-up (ha)					
			2017	2018	2019	2020	2021	Avg. (2017-2021)
Greater Sydney	$70.0 billion	5.3 million	139.6	145.8	140.2	86.0	163.1	135.0
Metropolitan Melbourne	$62.7 billion	5.0 million	317.8	219.7	324.3	305.8	273.0	288.0
Brisbane Region	$30.3 billion	2.6 million		47.1	70.2	67.7	42.5	56.9
Southeast QLD (SEQ)		3.6 million		185.9	261.3	168.3	146.2	190.4

Source: DPE (2022), DELWP, DSDMIP, CBRE, Atlas

Figure 2 Sydney Annual Take-up of Industrial Land (2017-2021)



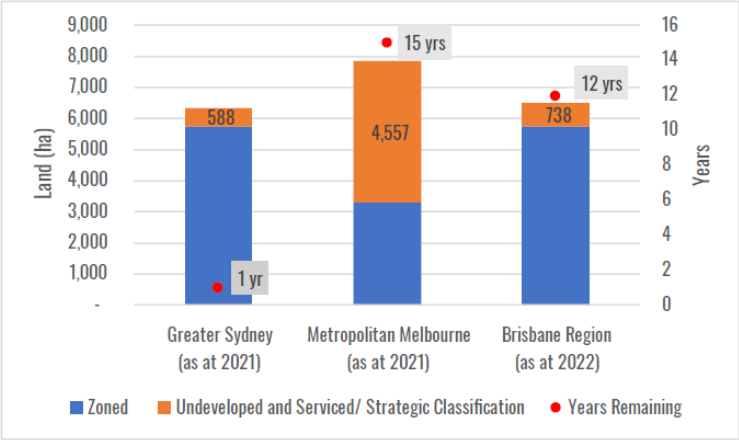
Source: DPE (2022), DELWP, DSDMIP, CBRE, Atlas

Sydney has the largest population base (5.3 million residents) compared to Melbourne (5.0 million) and Southeast Queensland (3.6 million). Sydney's demand should be similar to Melbourne and much greater than Southeast Queensland. Yet, Sydney's average annual take-up of land has been less than 50% of Melbourne's 290ha per annum and only 70% of Southeast Queensland's 190ha per annum.

The Atlas Economics report highlights the shortage of serviced land in Sydney, which has resulted in a constrained market unable to respond to demand and resulted in escalating rents and almost zero vacancy. With less one-year serviced supply

remaining (compared to 15 years in Melbourne and 12 years in Brisbane), there is no room for investment, business growth and further employment opportunities.

Figure 3 Industrial Land Supply – Sydney, Melbourne and Brisbane



Source: DPE (2022), DELWP, DSDMIP, CBRE, Atlas

Greenfield industrial land, like the Mamre Road Precinct, needs to be unlocked to enable delivery. The demand and pressure for industrial lands serviced and ready creates an extremely sensitive market. Users are transitioning to larger format warehouses circa 60,000sqm, which requires large landholdings approximately 10 hectares. This can only be facilitated in Western Sydney. Further, the strategic location of Western Sydney between Melbourne and Brisbane makes it a strategic location to service the eastern seaboard.

We ask IPART review the Atlas Economic's reports, as it assists in understand Barings position on land sterilisation for the interim period and Sydney Water's proposed DSP charge.

We need a correction in the current trends for this sector. Introduction of the current proposed stormwater DSP and land sterilisation for the interim period would cripple this industry further in its ability to reverse these trends. Barings remains supportive of the overall environmental objectives of the Precinct, but believe there is an alternative solution to be investigated jointly with industry and government that will ensure all objectives are met for Mamre Road Precinct. Further information is provided in the presentation Atlas Economics provided to the Property Council of Australia, contained in **Appendix D**

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4. Barings Response to the Issues Paper

4.1 What is your feedback on our approach to this review? What else should we consider?

We ask IPART to consider the following:

- The economic implications should the Sydney Water scheme be adopted, especially considering the Atlas Economic work and need to unlock more industrial land on the viability of delivering industrial land. Refer to Sections 2, 3 and Atlas Economic Reports at **Appendix A** and **C**.
- The cumulative impact of multiple contribution schemes across Mamre Road Precinct. MLOG completed a comparison of infrastructure contributions in other employment areas below. There is a limit to the amount developers can pay in contributions, before it becomes unfeasible to invest in projects. Currently, Mamre Road Precinct contribution framework with adoption of Sydney Water DSP is 4x greater than WSEA and 2x greater than existing greenfield growth areas which include employment uses.

Table 2 Cumulative Infrastructure Contribution Comparison

Infrastructure Contribution	**Mamre Road Precinct**	**Western Sydney Employment Area (Penrith LGA)**	**Leppington (Western Sydney Growth Area)**	**Marsden Park Industrial (Western Sydney Growth Area)**	**Aerotropolis**	**Cranbourne (Victoria)**
State Infrastructure Contribution	$226,065 per Ha of NDA ($23 per sqm)	$150,000 per Ha of GFA ($15 per sqm)	$108,631 per Ha of NDA ($11 per sqm)	$108,631 per Ha of NDA ($11 per sqm)	$226,065 per Ha of NDA Ex. Assessment of mixed use zone and station charge ($23 per sqm)	$122,660 per Ha of NDA ($12 per sqm)
Council Contribution (S7.11/S7.12)	$677,699 per Ha of NDA ($68 per sqm)	1% of CIV (Approx. $15 – $30 sqm)	$719,033 per Ha of NDA ($72 per sqm) *Includes delivery of stormwater in contribution	Up to $839,502 per Ha of NDA ($84 per sqm) *Includes delivery of stormwater in the contribution	5.6% of CIV (Approx. $91 - $160 sqm)	$165,000 per Ha of NDA ($17 per sqm)
Regional Stormwater Charge	$1,000,000 - $1,300,000 per Ha of NDA ($100 - $130 per sqm)	N/A	N/A	N/A	$1,000,000 - $1,300,000 per Ha of NDA ($100 - $130 per sqm)	$4.50 per sqm Melbourne Water has a tool to calculate contribution. Does not break down to per sqm
Total Rate per sqm	$190- $220 per sqm	$30 - $45 per sqm	$83 per sqm	$95 per sqm	$214 - $312 per sqm	$33.50 per sqm

Note: Assessed as May 2024, subject to further indexation. Comparison does not include assessment of Sydney Water's Water and Sewer DSP charges which are an additional cost.

The IPART Terms of Reference provides an emphasis on a comparison with stormwater charges levied on other precincts. IPART must consider not only the stormwater contributions, it must also look at the total contributions levied on a precinct as it's the total contributions that determine affordability.

In addition to the above, the current Stormwater Targets require on-lot detention even when the regional Stormwater Scheme is delivered. The cost of land and building these basins equates to c$280,000/ha, further exacerbating the affordability issue.

With total contribution levels significantly more than the adjacent Western Sydney Employment Area and in excess of that for other states, Mamre Road and the Aerotropolis will not be competitive, driving occupiers to these more affordable location and out of the state. This is a major economic issue and must be rectified if the Aerotropolis is to succeed.

6.2 How well does Sydney Water's Stormwater Scheme Plan meet the needs of the community in the Mamre Road Precinct and broader Western Sydney Aerotropolis?

The broader Western Sydney Aerotropolis will have a stormwater DSP charge and contribute to the regional scheme.

As outlined in Step 4 in the NSW Government's *Risk-based Framework*, feasibility could include aspects of costs of delivery, benefits achieved, site constraints/characteristics, operational requirements, and/or social considerations. This submission has provided comments of the proposed stormwater DSP and regional stormwater system in relation to each feasibility item consideration below.

Costs of Delivery

The estimated total cost of delivering this system in the Mamre road Precinct is $4.8 billion and when the Aerotropolis is included the total cost of the scheme is c$11 billion.

A stormwater cost this significant is unprecedented in NSW and we are concerned why the NSW government has not allowed industry or other technical experts the opportunity to peer review the stormwater targets or collaborate via a technical working group.

MLOG in its submission outlined the history of stormwater charges in the Mamre Road Precinct, starting with estimated charges of $120,000/hectare, which grew to $287,000/hectare and were finalised at $1,300,000/hectare. It is clear from the supporting information issued by the government this charge was intended to be much lower, however the size and scale of the system has grown from these initial assessments.

If the Stormwater Scheme cost results in developers withdrawing investment from the Mamre Road Precinct, loss of employment, delayed infrastructure delivery and potential supply chain disruption, its clear the delivery cost of this Scheme does not meet the needs of the community in Western Sydney

Site Constraints and Characteristics

The current Sydney Water scheme design and Mamre Road Precinct DCP requires developers to adhere to waterway health targets prior to delivery of a regional Stormwater Scheme. This requires significant abortive measures to be delivered within each site to maintain compliance with controls in advance of delivery of the regional scheme. Essentially, sites developed prior to the Stormwater Scheme becoming operational must hold and store water within the estate, which results in majority of the land sterilised for irrigation (up to 55%).

We acknowledge that Sydney Water is working on an option to advance delivery of the Stormwater Scheme, however there are still major unresolved issues, including key basin infrastructure being located on private land, which cannot be acquired and basins delivered for many years

Steralisation of land is a significant cost to developers and with an uncertain delivery timeframe for the Stormwater Scheme investors will choose to deploy their capital to other areas.

IPART and the NSW government must investigate and provide a solution to allow all zoned and unconstrained land to be developed immediately without any steralisation.

Operational Requirements

Barings understand the Sydney Water operational requirements are included within the upfront DSP costs. Noting the significant cost associated with the proposed DSP charge, it is requested that consideration be given for actual (regulated) costs for operating the scheme be claimed back via Sydney Water quarterly rates rather than being costed and claimed upfront.

Considering that stormwater reuse is chargeable by Sydney Water under the Stormwater Scheme and will be provided to areas outside the Mamre Road Precinct, these areas should contribute to the cost via rates.

6.3 Are there alternative stormwater management methods or works that would deliver better outcomes for the Mamre Road Precinct and broader Western Sydney Aerotropolis community?

Industry in various submissions to the NSW Government have identified alternative methods and solutions that would deliver better, more affordable stormwater outcomes for the Mamre Road Precinct and Western Sydney Aerotropolis. We have provided a summary of these alternative options below and encourage IPART to investigate these further.

Melbourne Water's Regional Stormwater Controls

Regional Stormwater infrastructure and the adoption of a Mean Annual Runoff Volume (MARV) as a control for measuring stormwater is not new in Australia, with a regional system developed and implemented in the Melbourne metropolitan area in 2018.

These stormwater controls were developed in consultation with other government departments (including the local councils) and industry to ensure the outcomes were peer reviewed, appropriate for the specific catchments and affordable for developers. The consultation comprised of over 630 individuals, representing 230 organisations via 23 workshops and demonstrated a partnership approach for determining controls that were (like in Mamre Road) a step change to previously adopted standards

Melbourne Water's stormwater controls were linked to the current condition of the catchment and receiving waterways. For implementation, the overall catchment was divided into **5 major waterway catchments.** Each of the 5 major waterway catchments were divided into numerous sub-catchments (**69 sub-catchments in total**), featuring varying physical, environmental and socio-economic characteristics and conditions.

Each sub-catchment was categorised as either a "priority" catchment or an "other" catchment. The classification depended on the level of degradation and ecologicall value of the receiving watercourse. Catchments identified as "priority" catchments were generally at the upstream end of watercourses and had experienced little, if any, impacts from urbanisation. The "other" catchments were those that had experienced souring impacts as a result of urbanisation and could therefore cater for larger flows within their banks before being impacted by stormwater discharges.

The "priority" catchments adopted a 68% reduction in MARV, which translates into a MARV of 2ML/ha/Year for the Aerotropolis and is the current control in the Mamre and Aerotropolis Development Control Plans (DCP). "Other" catchments adopted a 27% reduction in MARV, which would yield an approximate MARV in the Aerotropolis of 4ML/ha/Year. Water quality targets across all catchments remained unchanged.

Stormwater contributions for the Melbourne Water sub-catchments range between $200,000/ha - $300,000/ha, with some catchments as low as $100,000/ha.

In contrast, stormwater controls adopted in the Mamre Road Precinct and Aerotropolis were developed by NSW Government without any consultation with industry and without a peer review, which is in complete contrast to the Melbourne Water experience. This is reflected by the blanket MARV control across all catchments in the Aerotropolis, which is similar to what was adopted in Melbourne as a "priority catchment". South Creek, which is the main receiving waterway in the Aerotropolis has been degraded over time by urbanisation, has banks impacted by erosion caused by flooding. Advise received from several industry experts including stormwater engineers noted South Creek cannot not be categorised as a pristine waterway.

We request the NSW Government to follow the approach by Melbourne Water and adopted a MARV control commensurate to the actual condition of South Creek, the size and scale of stormwater infrastructure would significantly reduce, (by up to 70%). This would result in an affordable DSP solution to be delivered by Sydney Water and would create no interim land sterilisation prior to any regional system becoming operational.

We strongly recommend IPART to consider the Melbourne Water process in developing stormwater targets and suggest this should form part of a new Technical Working Group.

Rooftop Irrigation

MLOG has engineered and proposed an alternate option to managing stormwater in Mamre Road Precinct, which is developer delivered and managed. This solution is irrigation on top of warehouse roofs, where stormwater is captured onsite, is cleaned via bioretention or mechanical methods and this "clean" water discharged as a fine mist into the atmosphere

With their large area and generally higher temperatures, warehouse roofs provide an excellent opportunity to install these innovative irrigation systems, which are cost effective when compared to the proposed DSP and will be delivered and maintained by developers at no cost to government.

Stormwater engineers AT&L were commissioned by MLOG to model rooftop irrigation as a way to achieve the current stormwater targets, which resulted in a compliant solution on-lot at a cost of c$300,000/ha. Further to this modelling, AT&L completed a trial of the irrigation system on a warehouse in Erskine Park (adjacent to the Mamre Road Precinct), which further validated the modelling results.

This system was fully documented and included in five of the early SSDA application. This proposed system was rejected by NSW Government.

Rooftop irrigation has been extensively used in the mining industry and is also used in the United States of America for similar applications. Barings requests that IPART reconsider this solution if stormwater DSP cannot be reduced and/or targets cannot be amended as per Melbourne Water example.

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6.4 How should the costs of delivering Sydney Water's Stormwater Scheme Plan be funded? Are there elements that should be paid by developers, taxpayers or other parties?

As stated in the MLOG submission, there is a identified capacity to pay for developers and investors in the precinct, which has been verified by Atlas Economics and governments own consultant SGS (refer to **Appendix A** and **C**)

Notwithstanding this Capacity To Pay Assessment, industry provided correspondence at request of NSW Government outlining maximum feasibility for development within the Mamre Road Precinct could be maintained with a stormwater DSP of $500,000/ha of developable area subject to the following:

- Increased certainty on planning approval timeframes to no greater than six (6 months);
- Funding and delivery of regional road upgrades for Mamre Road upgrade and Southern Link Road; and **most importantly**
- No abortive costs for interim compliance or sterilisation of developable land in advance of delivery of a regional stormwater scheme.

Noting the affordability and feasibility considerations within the Mamre Road Precinct and more broadly the Aerotropolis, in the absence of the NSW Government completing a review of the waterway health targets in line with the *Risk Based Framework,* Barings provide the following recommendations:

- Direct developer contribution cannot exceed $500,000/ha of developable area. Industry simply cannot afford any more
- Government may want to consider;
    - Ongoing charges via Sydney Water rates to be investigated given the proposed stormwater DSP and regional scheme assumes a 100-year lifecycle
    - A broader contribution catchment to be investigated, as the regional stormwater scheme benefits areas greater than the Mamre Road Precinct and Western Sydney Aerotropolis. This can be funded by the NSW Government or taxpayers.
    - Land tax should be exempt from Sydney Water's DSP costs.
    - Relaxing the targets to reduce the size and complexity of the Stormwater Scheme

SWC DSP threshold:	Description
$500,000 / Ha Developable Land	Paid by developers to Sydney Water prior to release of Section 73 certificate / Occupancy Certificate.
$500,000 - $800,000 / Ha Developable Land	• Contributed by Government • Contributed by other developers outside the Mamre Road Precinct / tenants / asset owners as part of quarterly or yearly rates notices

6.5 What environmental, economic or social outcomes would be lost if Sydney Water's Stormwater Scheme Plan for the Mamre Road Precinct did not go ahead in its current form?

The proposed stormwater DSP and the current stormwater targets contained in the Mamre Road Precinct DCP cannot be supported in their current form. As detailed in this submission, the new stormwater targets are a step change from what has been adopted in NSW to date and have resulted in a requirement for large scale, inefficient and unaffordable infrastructure proposed by Sydney Water in the Mamre Road Precinct.

If the stormwater DSP and regional scheme does not proceed and current stormwater targets remain, development in the Mamre Road Precinct and Aerotropolis will halt. In contrast if the current stormwater DSP charge proceeds and interim land sterilisation remains, investment and development will also grind to a halt.

This submission identifies fundamental issues associated with the cost of the proposed Sydney Water scheme, which includes delays to development of zoned and serviced land prior to the scheme plan being built and operational. The BARINGS has provided a breakdown of the environmental, economic, and social ramification associated with the proposed stormwater DSP.

Environmental

As outlined earlier in this submission, the Stormwater Targets were developed by a Brisbane-based civil engineer with support from a local ecologist. There has been limited information shared to industry on the assumptions which informed the waterway health targets. The targets were not peer reviewed and no engagement with industry occurred during its development, which is contrast to the Melbourne Water example.

Industry have submitted requests to understand categorisation and condition of the major waterway (South Creek), data collected at points along the waterway, and the stormwater model. We have requested a technical working group with government, industry and leading stormwater experts. This request has been consistently ignored by NSW Government and IPART should investigate why this is not being shared

Barings support the environmental objectives trying to be achieved in the Wianamatta-South Creek catchment. However in lieu of the requested information, we question if the current proposed targets, which informed the Sydney Water scheme, produce the best outcome from an environmental, social and economic perspective.

The limited transparency and information sharing between industry and government has made it impossible to quantify whether there will be real and significant environmental impacts (particularly South and Ropes Creek) if the Stormwater Scheme Plan does not proceed or if the waterway health targets are relaxed.

With a forecast cost to industry of c$11 billion over the Mamre Road Precinct and Aerotropolis, without adequate consultation or justification, it is strongly recommended that IPART commission a full peer review of the stormwater targets and complete a cost benefit analysis prior to providing any endorsement of the Scheme Plan.

Economic

Economic implications will occur should the Sydney Water scheme proceed. It will also have a negative effect to the economy if it is not delivered and no change to current policy. To assist in justifying the economic implications of both scenarios, we have outlined the potential economic cost for each scenario.

<u>Without Sydney Water</u>

If the Sydney Water Scheme Plan does not proceed and current stormwater targets are maintained, developers in the Mamre Road Precinct and Aerotropolis will need to treat stormwater on lot. To comply with these new targets, a

series of large-scale stormwater retention basins, biofiltration ponds and land irrigation systems are required to be built on developable land, which are generally up to 55% of the total developable area. This broad scale sterilisation of developable industrial land for on lot stormwater infrastructure will result in Mamre Road Precinct not meeting its purpose, which is to provide supply of land in a constrained market.

Developers that own land in the Mamre Road Precinct and Aerotropolis cannot continue to invest in projects with half of developable land sterilised. It will force businesses to invest in other projects that can offer reasonable returns with less risk. This is especially important given the current global economic environment.

With Sydney Water

If the proposed stormwater DSP proceeds in its current form, there is a similar economic outcome to 'without Sydney Water'. Land sterilisation will still impact developments in the short and medium term. Further, the stormwater DSP to tip feasibility of development to not viable.

If this investment is not made in Western Sydney or NSW, it will result in the following:

- *Loss of employment;* The Mame Road Precinct was forecasted to deliver 17,000 jobs and the wider Aerotropolis 200,000 jobs. Without investment and development, these job targets will significantly reduce, with other states benefiting from interstate migration of construction projects and businesses. As outlined in section 3 of this submission. the current rental gap between Melbourne and Sydney is up to $100/ square meter (80%) and Brisbane and Sydney $80/ square meter (65%), which is the highest recorded and has started a trend of industrial businesses relocating their whole or major parts of their industrial businesses to these more accessible and affordable states. This trend will continue and become exaggerated if development in Sydney continues to be levied with contributions and land remains scarce.

- *Loss of investment*; The industrial sector is a major contributor to the NSW economy and as identified in section 3 of this submission, contributes more than $70 billion to the NSW economy, which is 18% of the total. This investment will decline if the sector cannot grow and businesses relocate to other states, which will in turn affect tax revenue for the state government

- *Supply Chain Disruption*; with a growing population and international migration forecast to be c90,000 people annually, there is a need for additional industrial space to support the increase in population. This is coupled with a shift in the way people are shopping and the rise of E-Commerce, where consumers are purchasing products online, increasing the need for warehousing space. If NSW becomes increasingly reliant on products and materials being transported from other states, this will result in product delays, material shortages and an overall cost of products, passed onto the consumer. The Atlas Economics report identified Sydney as having the lowest global vacancy rate at 0.8% and only 1 year of industrial supply. The Mamre Road precinct was the short term solution to this issue, with c800 hectares of land suitable for industrial development and the ability to maintain efficient supply chains. Without the supply generated from the Mamre Road Precinct, the costs associated with supply chain disruptions will be passed over to consumers and further add to the cost of living crises.

- *Success of the Western Sydney Airport*; The development of the Western Sydney Airport is a once in a generational opportunity to create a vibrant third city within Sydney and act as a catalyst for employment and residential growth. The Airport itself must be supported by complementary development, including industrial, commercial, recreational and retail amenity, attracting businesses that can co-locate and provide support functions to the airport operations (eg engineering industries, catering, warehousing). With airport operations set to commence in 2026, industrial industries in the Mamre Road Precinct would be the first of these supporting businesses, followed by land closer to the airport site itself. If development and investment is no longer feasible in the Aerotropolis, the Western Sydney Airport will fail and essentially be a runway surrounded by paddocks, not the vision set by the federal and state governments.

Further detail around the critical industrial land supply shortage in Sydney and ecomomic consequences of not delivering affordable industrial solutions are contained in Atlas Ecominics report contained in **Appendix A**

Social
There are significant social impacts associated with the Sydney Water Scheme Plan and without the plan. These are broad and far reaching, including;

- Reduction in employment opportunities within Western Sydney, particularly in areas that have the highest unemployment rates in Sydney. Residents in Western Sydney will continue to rely on vehicular commuting to work, increasing traffic on the roads and leading to a decline in mental health. Certainly the governments vision for a “30 minute city” outlined in the region plan will not be achieved.

- Delays to receiving goods and materials due to supply chain issues, with more of these products being transported from other states. This will affect the consumer due to cost increases (associated with increased transport costs) and businesses as they face issues with the delay in receiving goods and materials essential to run their operations

- Disruption to the health sector, with critical health infrastructure like pharmaceutical manufacturing and storage facilities located in other states, leading to potential shortages of vaccines, medicines and other key health products, which have traditionally been housed in facilities within the Sydney metro area

- Impacts to achieving the governments current housing supply targets (200,000 new dwellings per annum). There is a direct correlation between the delivery of housing and the amount of industrial storage / manufacturing space, facilities that store and manufacture building products. Atlas Economics has investigated this vital link and has confirmed that for every single dwelling, additional industrial space is required to support construction activities. With the cost of living a national crisis and housing affordability a major component, the only solution is to create more supply, which must be supported by the industrial sector. The Atlas report is contained in **Appendix B**

- Significant increases in carbon emissions associated with transporting goods from other states. The NSW government has recently set net zero carbon emissions targets for the state (by 2041) which will be severely impacted by additional trucks on the road travelling for longer distances on a more consistent basis.

- Inability for government to achieve the open space and blue green grid aspirations contained in the region and deliver the vision for the “western Parkland City”. If development within the Mamre Road Precinct and Aerotropolis does not progress due to affordability constraints, none of the open space, health, retail and open space amenity will be constructed, leaving large areas of the region void of employment and areas where residents can recreate. (keen to get BARINGS views on anything to add here on Social impacts)

6.6 Are there any other related issues you would like to tell us about?

IPART must consider the following items, which impact the viability of the stormwater system:

- The IPART review must consider the assessment of the proposed Stormwater DSP charge against the *Risk-based framework for considering waterway health outcomes in strategic land-use planning decisions* prepared by Office of Environment and Heritage and NSW EPA in 2017.
- The development of the stormwater targets and nomination of Sydney Water of the regional stormwater authority need to follow this framework based on the significant infrastructure costs and land sterlisation.
- Under Step 4 of this framework, it requires a strategic impact assessment to be undertaken prior to design and implementation. This assessment requires a robust vetting to ensure *‘selected*

management responses are reasonable, practical and cost-effective.' The BARINGS view is this criterion has not been met as:

- Land sterilisation creates significant cost burden on holding costs for landowners and prevents the Precinct on delivering its objective for employment uses in the short and medium term.
- Significant cost burden of stormwater infrastructure, which is more than double of cumulative costs under State and local infrastructure contributions. Both contributions cover a range of infrastructure projects including land acquisition, roads, public open space, environmental conservation areas, etc.
- Sydney Water's assumptions used under the proposed DSP cost assume a developer-led delivery of the stormwater infrastructure. This assumption is not appropriate and currently there is no appetite for developers to deliver this infrastructure due to the current land sterlisation and costs.
- The delivery of the regional stormwater scheme assumes developer's own land to create basins. This is not appropriate as majority of the land is not within ownership of the BARINGS. Our businesses will not support an acquisition of land that has environmental constraints, which majority of the basins are located.
- If a reasonable regional stormwater system is progressed, it needs to have an acquisition strategy to getting basins online as soon as possible to align with development outcomes for the Precinct. There needs to be a strategy presented by the regional stormwater authority on how they will acquire land, especially in the Kemps Creek catchment and the northern catchment adjacent to the existing school and aged care facility. Sydney Water cannot assume developers will acquire constrained land to build basins.
- Sydney Water has assumed delivery of stormwater infrastructure is to be undertaken by Part 4 of the *Environmental Planning and Assessment Act 1979* (**EP&A Act**). This would require a developer to lodge a development application for the delivery of works. This is not a supportive avenue for approvals. The regional stormwater scheme must enable Part 5 planning pathway, which allows an infrastructure agency to grant approvals for infrastructure services.
- Sydney Water is proposing a current works-in-kind arrangement for developers to deliver regional stormwater infrastructure. This policy does not work and historically has not enabled full recovery of costs for the works undertaken.
- The delivery of basins by developers needs to be an open book process with the ability to tender and recover full costs. Further, developers need to be able to offset costs off DSP charge to incentivise delivery of stormwater infrastructure.
- Trunk drainage channels form part of the regional stormwater system. If they offer benefit to the system, they should be acquired by the regional stormwater authority. The current policy requires an easement to be created to allow Sydney Water to maintain the channel, but the land remains in private ownership.

7. Conclusion

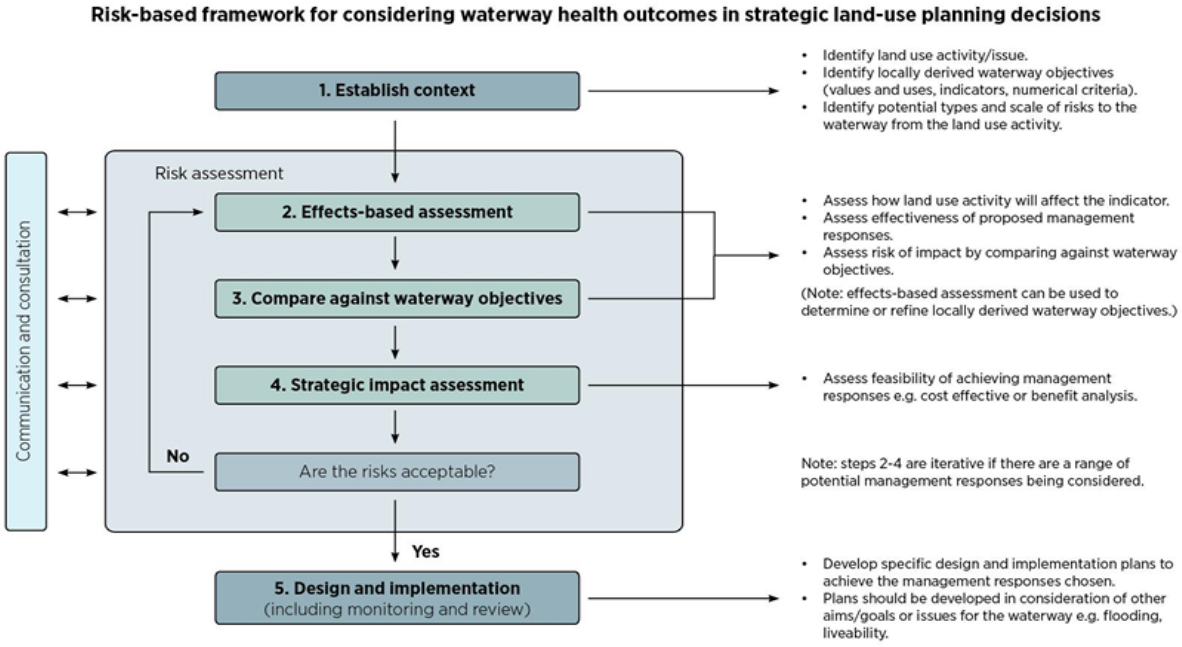
This submission supports the MLOG submission and Barings appreciates the opportunity to comment on IPART's review of the cost of stormwater drainage in the Mamre Road Precinct. The outcomes of IPART's review is critical to the Precinct's viability and ability for us to respond to the industrial supply shortfall in NSW.

The stormwater DSP is one of the last remaining items required to be resolved to provide confidence in the market to roll out delivery of industrial facilities within the Precinct This submission has clearly identified the impacts of government not working with industry to provide a stormwater solution for the Mamre Road Precinct and Aerotropolis and we welcome the opportunity to use all our resources to assist in this process

Given the estimated cost of the system c$11 billion, we request government complete a cost-benefit analysis of the proposed Stormwater Scheme, working collaboratively with industry. It is not acceptable for government to assume all infrastructure costs to be paid by developers and for zoned land to be steralised.

Step 4 of the NSW Government Risk-Based Framework (note figure below) must be undertaken and we ask government to follow its own poiicy int his respect

Framework flowchart



Barings remains committed to working with NSW Government, including Sydney Water, on a reasonable resolution of the stormwater scheme. We would appreciate a meeting with IPART on the matters raised in this submission to assist in clarifying any items raised in the submission.

Should you have any questions, please do not hesitate to contact

[redacted]

Stephen O'Connor

Project Director - Barings

BARINGS

Appendix A

Atlas Economics
Mamre Road Precinct
Feasibility Analysis and Value to Greater Sydney

Mamre Road Precinct

Feasibility Analysis and Value to Greater Sydney

Mamre Road Landowners' Group

June 2023

Atlas ECONOMICS
ANALYSIS. INSIGHTS. OUTCOMES.

Document Control

Executive Summary

BACKGROUND

The NSW Government rezoned the Mamre Road Precinct (**the Precinct**) under the *State Environmental Planning Policy (Western Sydney Employment Area 2009* in June 2020. The Precinct encompassed approximately 800ha of industrial land. Since the rezoning, there has been significant market interest amid low levels of supply in Sydney. Over 20 businesses have committed (signed heads of agreements or leases) with many more seeking to secure a premises in the Precinct.

Precinct Planning and Rezoning

The Precinct rezoning facilitated capacity for up to 17,000 jobs (depending on the nature of development proposals) with a focus on freight and logistics uses as reported by NSW Government.

The rezoning of the Precinct was identified (in 2019) to assist delivering the growing demand for industrial land in Western Sydney because "***industrial land ready to develop in this area could be exhausted within 4 to 5 years***" (DPE, 2019). The rezoning sought to:

- Address the projected demand in Greater Sydney.
- Provide around 800ha of new industrial land for Western Sydney.
- Contribute to opportunities for 'jobs closer to home' and support the NSW economy.

A Special Infrastructure Contribution (SIC) was identified to be required to fund regional infrastructure for the Precinct. Until such time the Aerotropolis SIC was in place, developers were required to make contributions towards state/ regional infrastructure under Voluntary Planning Agreements.

In 2022 NSW Government and Penrith City Council finalised infrastructure contributions (SIC and s7.11) which totals approximately $800,000/ha NDA (not indexed). This was supported by a feasibility study prepared for NSW Government which concluded infrastructure contributions could not exceed $900,000/ha NDA.

Proposed Water Infrastructure Charges

Sydney Water recently announced a charge of $1.3 million per hectare (stormwater and recycled water) and $50,000 per hectare (DSP - drinking and waste water) in the Precinct. This is an unforeseen cost with significant implications for development feasibility. Atlas understands $1.15 million per hectare could apply under Sydney Water's refined estimates.

Atlas Economics (Atlas) is engaged by the Mamre Road Landowners' Group to examine the impacts of the proposed water infrastructure charges on development feasibility, rents and competitiveness.

The overarching objective of the Study is to understand the implications of the proposed water infrastructure charges and the urgency of enabling large scale servicing of industrial zoned land and development that is feasible.

The Study develops scenarios for the purposes of estimating the economic impacts of the Precinct. These are developed with reference to committed occupier data. An industry mix is also developed from this occupier data, enabling Atlas to estimate the future direct and indirect impacts from investment foregone were the Precinct not developed as envisaged.

DEMAND AND SUPPLY OF INDUSTRIAL LANDS

All economic indicators point to a severely undersupplied industrial market in Sydney - one with insufficient supply of land to respond to market demand.

- Sydney's rents average $220/sqm compared to Melbourne ($120/sqm) and Brisbane ($135/sqm). Rents in Western Sydney and the Precinct average $185/sqm (which are lower than rents in prime markets in South Sydney and Botany).
- Sydney has the lowest vacancy rate in any global city (0.2%).
- Sydney's employment growth in the Industrial sector averaged 0.5% over the 2016-2021 period, lagging Melbourne (1.2%) and Brisbane (1.1%).

Take-up of Industrial Land and Remaining Supply

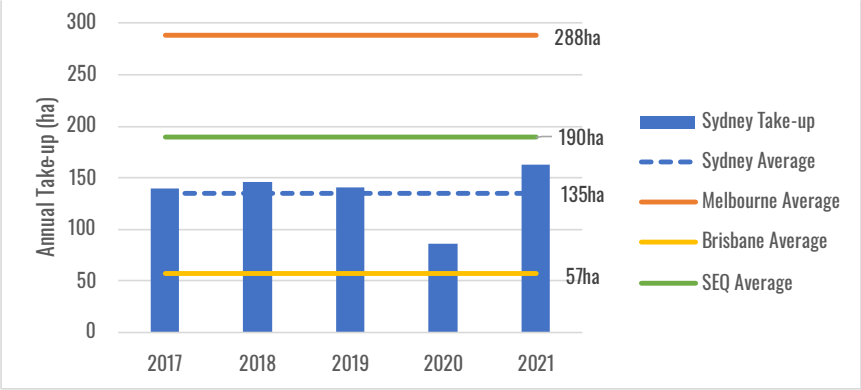
Annual take-up of industrial land in Greater Sydney has averaged 135ha in the 2017-2021 period. In contrast, metropolitan Melbourne's take-up of industrial land has averaged 288ha and Southeast QLD (SEQ)'s 190ha over the same period.

Table ES-1: Annual Take-up of Industrial Land - Sydney, Melbourne, Brisbane and SEQ (2017-2021)

Region	Value of Industrial Sector (IVA)	Population (2021)	Annual Land Take-up (ha)					
			2017	2018	2019	2020	2021	Avg. (2017-2021)
Greater Sydney	$70.0 billion	5.3 million	139.6	145.8	140.2	86.0	163.1	135.0
Metropolitan Melbourne	$62.7 billion	5.0 million	317.8	219.7	324.3	305.8	273.0	288.0
Brisbane Region	$30.3 billion	2.6 million		47.1	70.2	67.7	42.5	56.9
Southeast QLD (SEQ)		3.6 million		185.9	261.3	168.3	146.2	190.4

Source: DPE (2022), DELWP, DSDMIP, CBRE, Atlas

Figure ES-1: Sydney Annual Take-up of Industrial Land (2017-2021)



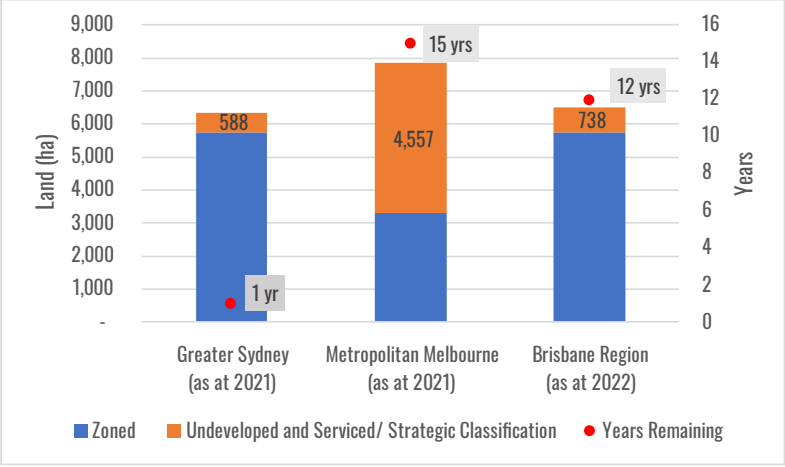
Source: DPE (2022), DELWP, DSDMIP, CBRE, Atlas

Sydney has the largest population base (5.3 million residents) compared to Melbourne (5.0 million) and SEQ (3.6 million). Sydney's container throughput (a significant driver for the logistics sector) is similar to Melbourne and much greater than Brisbane. Despite these factors, Sydney's average annual take-up of land has been less than 50% of Melbourne's 290ha per annum and only 70% of SEQ's 190ha per annum.

The analysis highlights the shortage of serviced land in Sydney. The lack of serviced land supply in Sydney has constrained its ability to respond to demand and resulted in escalating rents and almost zero vacancy.

Figure ES-2 shows a comparison of Sydney's remaining industrial land supply, Metropolitan Melbourne, and Brisbane region.

Figure ES-2: Industrial Land Supply - Sydney, Melbourne and Brisbane



Source: DPE (2022), DELWP, DSDMIP, CBRE, Atlas

With land supply being close to exhaustion, the Precinct is important to easing Sydney's chronic capacity issue.

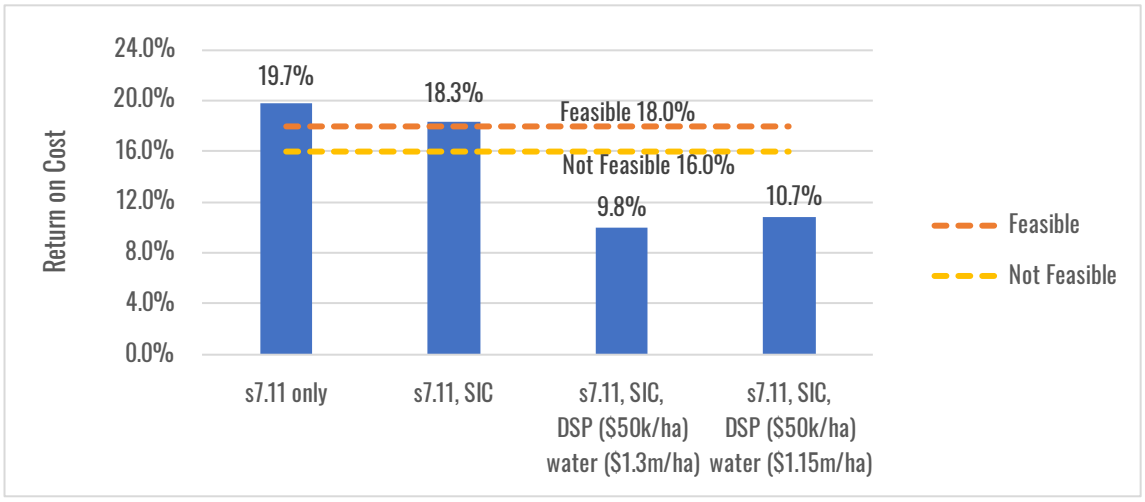
FEASIBILITY ANALYSIS OF MAMRE ROAD PRECINCT

Impact of Proposed Water Infrastructure Charges

Feasibility testing shows that after including the proposed DSP and stormwater charges, development is no longer feasible. At current conditions, development has no capacity to pay for water charges at the proposed rates.

- At the proposed water charges ($1.3m/ha NDA), the return on cost is at 9.8%.
- At a reduced water charge of $1.15m/ha NDA, the return on cost is 10.7%.

Figure ES-3: Comparison of Feasibility Modelling Results



Source: Atlas

The assumed return on cost hurdle of 18% is in line with market expectations, consistent with Atlas' previous work for DPE. The testing ***does not*** include the cost of interim stormwater infrastructure that will reduce developable land and that is redundant works to be paid by developers and not to be used for the ultimate scheme.

Scope for Water Infrastructure Charges

Atlas understands that NSW Government published a report in 2022 named *Review of Water-sensitive Urban Design Strategies for Wianamatta – South Creek*, which provided estimates of regional stormwater costs and indicative levies. The report concluded a $191,000/ha (infrastructure works) and $96,000/ha (land acquisition costs) to facilitate delivery of a regional stormwater system. This totals $287,000/ha for stormwater levies.

Given that development feasibility is marginal even before any water infrastructure charges, a cost of $287,000/ha would require the charging of higher rents. The earlier feasibility modelling assumed net rents of $185/sqm and capitalisation rate of 4.75% to arrive at a capital value of $3,900/sqm. A rent of $195/sqm capitalised at 4.75% would result in $4,105/sqm.

Atlas notes that capitalisation rates have been at historic lows and the assumed 4.75% rate is not sustainable long term.

Table ES-2 tests the sensitivity of building capital values to net rents and softer capitalisation rates (5.0% and 5.25%). A softening to 5% reduces value from $4,105/sqm to $3,900/sqm, extinguishing any value increase from the higher rent.

Table ES-2: Sensitivity of Building Capital Values to Rents and Capitalisation Rates

Net Rent capitalised at	4.75%	5.0%	5.25%
$185/sqm	$3,895	$3,700	$3,524
$195/sqm	$4,105	$3,900	$3,714

Source: Atlas

If the recommendations of the 2022 report were adopted and a stormwater charge of $287,000/ha were required, an increase in rent to at least $195/sqm would be required. Rents at this level are not tested with the market.

New tenants ***may*** be willing to pay $195/sqm if they can be assured of the delivery of warehouse premises in the time required, i.e. that all infrastructure required (road and utilities infrastructure) was certain to be delivered in a timely manner.

The modelling finds there is provisional capacity to pay a $287,000/ha charge if rents were increased to $195/sqm (from $185/sqm), however this is subject to:

- Tenants agreeing to a higher net rent of $195/sqm.
- Market yields (and capitalisation rate) softening by no more than 25bps.
- Construction cost at no more than $1,200/sqm.
- No other water infrastructure costs (e.g. interim on-site infrastructure and/ or loss of developable area).
- All infrastructure required to deliver the Precinct (not just utilities infrastructure but road and other infrastructure) are certain and to be delivered in a timely manner.

Rents in the Precinct currently average $185/sqm which are 50% more than three years ago. This is 55% more than average Melbourne rents ($120/sqm) and 37% more than average Brisbane rents ($135/sqm). There is little capacity for tenants to pay much higher rents as they grapple with the rising cost of fuel and energy and reduction in demand for non-essential goods.

Any increase in rents in the Precinct will either be met with resistance (i.e. tenants will remain in their current, smaller premises or pursue development opportunities in other states) or if accepted, the higher rent is expected to be passed onto their customers and increasing risk of higher cost of living for every resident in NSW.

SYDNEY'S NATIONAL COMPETITIVENESS

The lack of serviced industrial land has clearly constrained Sydney's take-up of land. Over the 2017-2021 period, Sydney has averaged 135ha per annum whereas Melbourne and SEQ have averaged 290ha and 190ha per annum respectively.

Analysis of ELDM and ABS data affirms that a constrained land supply situation has 'held back' investment and growth of the Industrial sector, with employment growth in Greater Sydney averaging 0.5% per annum over the 2016-2021 period compared to Melbourne's annual average of 1.2% and Brisbane's annual average of 1.1% over the same period.

With less than one year of serviced supply remaining (compared to 15 years in Melbourne and 12 years in Brisbane), there is no room for business investment, business growth and further employment opportunities.

In 2019 when progressing the rezoning of the Mamre Road Precinct, DPE identified 4-5 years of land remaining. Since then, there has been no large scale servicing of land. Further the COVID-19 pandemic has turbo-charged land demand as consumers turn to e-commerce platforms.

The low stock levels have now been depleted. This has been met with near zero vacancy and skyrocketing rents. This has severely affected Sydney's national competitiveness and added to the cost of living.

Businesses are unable to invest in Western Sydney. The Mamre Road Precinct is therefore an important part of the solution to easing Sydney's chronic capacity issue of having less than one year's supply of land remaining.

Government Intervention Required

Feasibility testing highlights that development of land in the Precinct is not financially viable after the introduction of the water charges (even after a reduction to $1.15m/ha) - factoring in current rents, capitalisation rates, and construction costs.

Given the lack of serviced supply of industrial land in Greater Sydney, businesses that are committed to premises in the Precinct cannot invest in other parts of the Sydney region due to the shortage of serviced industrial land. These businesses will either decide not to expand their Sydney operations and/ or reconfigure their operations to expand in other cities (most likely Melbourne) to cater for future growth in Sydney. As a result, the economic activity that is foregone in the Precinct will represent a ***net loss*** to the Greater Sydney economy.

The economic impacts to Greater Sydney's economy should development of the Precinct not occur would result in foregone business investment, employment opportunities and economic output.

There are more than 20 businesses who have already committed to the Precinct (approx. 204ha of land). There are many more seeking to secure a premises in the Precinct if there was planning and infrastructure certainty and rents were affordable.

The Landowners' Group controls 550ha zoned land (equivalent to approximately 466ha NDA). More than 200ha of the developable land has been committed to (referred to as **Stage 1**), with the remaining 263ha for future development (referred to as **Stage 2**).

Immediate development (**Stage 1 that is already pre-committed to**) would facilitate the following annual economic activity through direct and indirect (flow-on) impacts associated with operations in the Precinct:

- $3.0 billion in output (including $1.3 billion in direct activity).
- $1.5 billion contribution to GVA (including $615.9 million in direct activity).
- $781.3 million in incomes and salaries paid to households (including $360.3 million in direct income) and up to $42.6 million in payroll tax depending on the share of wages paid above the payroll tax threshold.
- 7,433 ongoing FTE jobs (including 3,333 FTE directly related to activity in the Precinct).

Stage 1 has the ability to generate economic impact to the regional economy of $1.5 billion in the first year of operations, which would be recurring annually. The direct private construction investment of circa $1.5 billion will enable over 6,600 jobs during construction and approximately 7,400 full time jobs annually in operations (directly and indirectly).

When completed and operational, the Proposal (Stage 1 and Stage 2) is estimated to result in a total increase in economic activity (including committed and future developments once fully developed and occupied) through direct and indirect (flow-on) annually at:

- $12.1 billion additional in output (including $5.5 billion in direct activity).
- $6.0 billion additional in contribution to GVA (including $2.5 billion in direct activity).
- $3.1 billion additional in incomes and salaries paid to households (including $1.4 billion directly) and up to $169.1 million payroll tax contribution.
- 28,448 additional FTE jobs (including 12,144 additional FTE jobs directly related to activity in the Precinct).

The economic impacts estimated in this section demonstrates the Proposal has economic merit, having the ability to contribute significantly to the Greater Sydney economy.

During *construction* of Stage 1 alone, the following economic activity is estimated:

- $4.1 billion in output (including $1.9 billion in direct activity).
- $1.7 billion contribution to GVA (including $568.6 million in direct activity).
- $864.8 million in incomes and salaries paid to households (including $309.9 million in direct income) and up to $47.1 million in payroll tax depending on the share of wages paid by businesses above the payroll tax threshold.
- 8,329 FTE jobs (including 3,055 FTE directly employed in construction activity).

If NSW Government chooses to proceed with implementation of the proposed water charges, this economic potential of the Precinct is at risk to not be realised. The unlocking of the Mamre Road Precinct will add 3 years of industrial land supply to the market. While it does not solve the broader pipeline issue, it provides a short-term relief to solve the medium and long term supply.

With less than one year remaining of serviced vacant industrial land, Sydney's competitive position is at significant risk of losing $1.9 billion in capital investment and 7,400 ongoing employment opportunities for Western Sydney and Sydney more broadly. Government intervention to enable development in the Precinct is critical.

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Terms and Abbreviations

Terms

Development Margin	Development Margin is profit divided by total costs (including selling costs).
Growth Area	An area identified for urban development; as defined under the State Environmental Planning Policy (Industry and Employment) 2021 and (Precincts - Western Parkland City) 2021
Industrial Sector	Sectors critically reliant on industrial lands to directly support operations based on ANZSIC categories - Manufacturing, Wholesale Trade & Transport, Logistics & Warehousing
Initial Precincts	Rezoned precincts in the Aerotropolis - Aerotropolis Core, Badgerys Creek, Northern Gateway, Wianamatta-South Creek, Agribusiness Precinct
Project IRR	Project IRR is the project return on investment, where the discount rate where the cash inflows and cash outflows are equal.
Residual Land Value	The Residual Land Value is the maximum price a developer would be prepared to pay for a site in exchange for the opportunity to develop the site, whilst achieving target hurdle rates for profit and project return
Return on Cost	used interchangeably with Development Margin
The Aerotropolis	Western Sydney Aerotropolis
The Precinct	Mamre Road Precinct

Abbreviations

ANZSIC	Australia New Zealand Standards Industry Classification
DPE	Department of Planning and Environment
DSP	Development Servicing Plan
ELDM	Employment Lands Development Monitor
FSR	Floor Space Ratio
FTE	Full-time Equivalent
GFA	Gross Floor Area
GLA	Gross Lettable Area
GVA	Gross Value Added
IRR	Internal Rate of Return
IVA	Industry Value Added
LGA	Local Government Area
NDA	Net Developable Area
PoW	Place of Work
RLV	Residual Land Value
SEPP	State Environmental Planning Policy
SIC	Special Infrastructure Contributions
TEU	Twenty-foot equivalent unit
WSA	Western Sydney Airport

1. Introduction

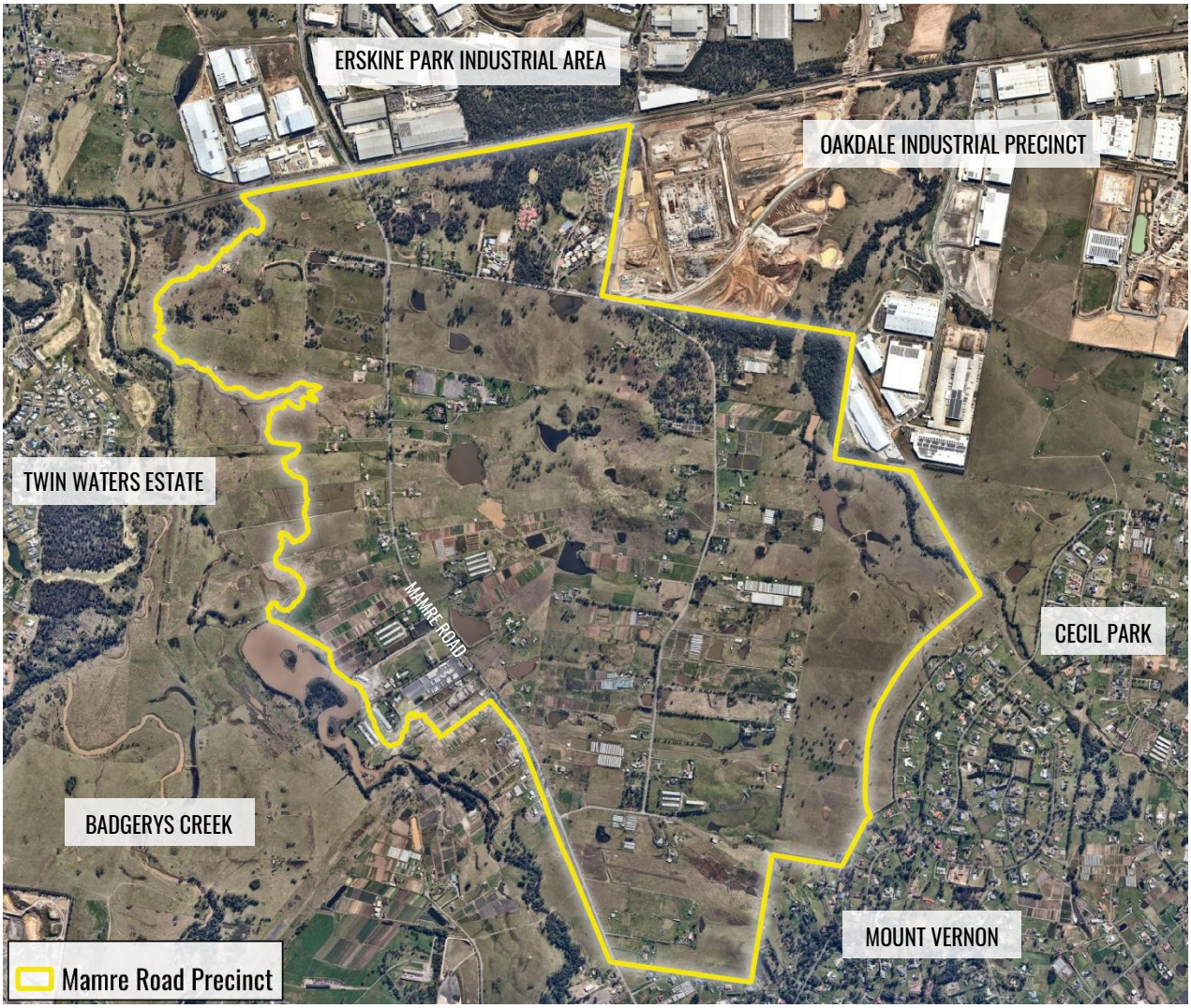
1.1 Background and Overview

The Mamre Road Precinct (**the Precinct**) was rezoned by the State Environmental Planning Policy (Western Sydney Employment Area) 2009, now known as the Industry and Employment SEPP 2021 in June 2020. The Precinct accommodates about 800ha of gross zoned industrial land.

The Precinct is located within the Penrith LGA, 12km southeast of the Penrith City Centre. The Precinct has historically been a peri-urban area characterised by a mix of rural residential and small-scale farming operations. Compared to other precincts in the Aerotropolis, the Precinct is less fragmented with 100 allotments with a median lot size of 10ha. There are nine major landowners who control approximately 550ha of gross zoned land in the Precinct.

Figure 1.1 illustrates the formal boundaries of the Precinct and nature of surrounding land uses.

Figure 1.1: Mamre Road Precinct



Source: Atlas

Precinct Planning and Rezoning

The rezoning documentation prepared by Department of Planning and Environment (DPE) identified capacity for up to 17,000 jobs (depending on the nature of development proposals) with a focus on freight and logistics uses. The rezoning supports delivery of a potential intermodal terminal to service the existing Western Sydney Employment Area (WSEA) and Western Sydney Aerotropolis and provides protection for Wianamatta-South Creek precinct.

The rezoning of the Precinct was identified (in 2019) as needed to assist delivering the growing demand for industrial land in Western Sydney because "***industrial land ready to develop in this area could be exhausted within 4 to 5 years***" (DPE, 2019). The rezoning was essential to:

- Address the projected demand.
- Provide around 800ha of new industrial land for Western Sydney.
- Contribute to opportunities for 'jobs closer to home' and support the NSW economy.

A Special Infrastructure Contribution (SIC) was identified to be required to fund regional infrastructure for the Precinct. Until such time the Aerotropolis SIC was in place, developers were required to make contributions towards state/ regional infrastructure under Voluntary Planning Agreements.

Determination of a SIC and s7.11 Infrastructure Contributions

In 2020, DPE commenced investigations into design and implementation of a SIC for the Aerotropolis including the Precinct.

Atlas Economics (**Atlas**) was engaged by DPE to assess the capacity of the targeted precincts to tolerate a SIC in terms of development feasibility (the 2020 Study). The 2020 Study carried out a wide-ranging assessment of different development typologies that could be developed in the Aerotropolis and the Precinct and their tolerance range for a potential SIC. The Study additionally considered the cumulative impact of other contributions that would be payable (i.e. local contributions).

In its investigations for a potential SIC in the Precinct, the 2020 Study found that a SIC rate of $200,000/ha of NDA could be feasibly tolerated in the Precinct. At the time, Penrith City Council (**Council**) were carrying out investigations into local infrastructure and had raised the possibility for a s7.11 contribution rate to be in the order of $700,000/ha NDA.

The 2020 Study was informed of this potential local infrastructure contribution and tested the impact of $700,000/ha rate. The Study found that if a s7.11 rate of $700,000/ha NDA were implemented, development feasibility would be undermined.

In November 2020 DPE publicly exhibited proposed rates for the Aerotropolis SIC and Atlas' 2020 Study. The Aerotropolis SIC for the Precinct was determined at $200,000/ha and came into effect in March 2022. A SIC rate of $200,000/ ha of NDA henceforth applied in the Precinct before 1 July 2022 to be indexed to the Consumer Price Index on 1 July annually.

In March 2022, Council adopted the Mamre Road Development Contributions Plan 2022. A s7.11 contribution rate of $599,225/ha NDA was to apply in the Precinct (expressed in September 2021 dollars). The rate was to be subject to annual indexation (Consumer Price Index for works and House Price Index for land acquisition). According to the 2020 Study's findings, the adopted SIC and s7.11 rate would have been 'just' tolerated in the Precinct.

1.2 The Issues

Demand v Deliverable Supply

Sydney's industrial market had been growing for a number of years in the lead up to the initial outbreak of COVID-19 in March 2020. The outbreak of COVID-19 has amplified economic demand drivers with a convergence of tailwinds driving some of the strongest market conditions in the industrial sector on record.

Western Sydney's industrial market has been subject to strong market demand driven by a combination of infrastructure and building construction activity, population growth and the petetration of online retail.

Despite demand for industrial floorspace, serviced lot production has regrettably not kept pace with demand, leading to escalating land values in a highly competitive context. The non-alignment of services, utilities and road infrastructure with the rezoning of land in Western Sydney is a key driver of these escalating prices and rents.

Analysis of DPE's Employment Land Development Monitor (ELDM) shows that as at January 2022:

- In the Western City, there was 5,576ha of zoned vacant land but only 375ha was serviced (6.7%).
- In Greater Sydney, 588ha of undeveloped land was serviced, the Western City contributing 375ha (64%) of that supply.

Data for industrial land take-up for 2022 is not available from the ELDM, however published industry data highlights that industrial take-up in Western Sydney was 290ha in 2022 (Colliers, Q1 2023). This indicates the availability of serviced land in the Western City is now much lower than 375ha reported in the ELDM at January 2022.

In 2019, DPE identified Western Sydney's stock of serviced land could be exhausted in 4-5 years. Since that time in 2019, structural changes following the COVID-19 pandemic have amplified demand for employment lands and there has been little to no servicing of zoned employment lands. The supply that was identified in 2019 has now been depleted to critical lows. This has been met by a corresponding collapse in vacancy rates and sharp escalation of rents and prices.

Unless there is large scale servicing of zoned land, the rapidly escalating prices in Western Sydney (and elsewhere in Sydney) will continue amid a shrinking pool of serviced land. This has serious consequences for Sydney's competitiveness and the industrial sector's ability to expand.

Feasibility of Development

The Precinct is identified by strategic planning and market commentary as required to address a lack of supply in Sydney.

Major landowners in the Precinct have secured commitments from business occupiers ready to occupy more than 200ha of land (>1 million sqm floorspace). Some of these occupiers are new entrants to the Sydney market, others have smaller facilities across Sydney and seek expanded facilities at the Precinct to cater to current and future growth.

Sydney Water has announced charges in the Precinct - stormwater and recycled water ($1.3 million per ha) and drinking and wastewater ($50,000 per ha). This is a significant cost with significant implications for development feasibility.

If development in the Precinct is no longer feasible, there are far-reaching ramifications not just for the Precinct, but Sydney's capacity to receive business investment and generate new jobs. Even though there is investment committed to the Precinct, that investment will be unrealised if the Precinct is not developed in timeframes that those businesses require.

Land availability in Melbourne and Brisbane (and broader Southeast Queensland) at much lower prices is already having the effect of drawing business investment away from Sydney. Given the almost zero supply of serviced employment land remaining, if the Precinct is not serviced and available for development in the short term, there are serious risk implications for Sydney's competitiveness and its cost of living.

1.3 Scope of the Analysis

Atlas Economics (Atlas) is engaged by the Mamre Road Landowners' Group to examine the impacts of the proposed water infrastructure charges from the perspective of:

1. The developer - development feasibility in the context of existing fees and charges (SIC, s7.11).
2. The occupier/ user - additional rent required for cost-recovery to enable feasible development.
3. Market competitiveness of the Mamre Road Precinct - before and after additional rents for cost-recovery.
4. Significance of the Mamre Road Precinct and economic impacts of non-delivery to the city and state of NSW.

The overarching objective of the Study is to understand the implications of the proposed water infrastructure charges and the urgency of enabling large scale servicing of zoned land and development that is feasible. It reviews Sydney's national competitiveness and considers why Do-Nothing is not a tenable option.

The Study is structured as follows:

- Chapter 2 reviews and estimates the size and significance of the Industrial sector in Greater Sydney and NSW. It also compares the scale and contribution of the Industrial sector to the capital cities of Melbourne and Brisbane.
- Chapter 3 examines the patterns of supply and demand of industrial lands in Greater Sydney, its market indicators and provides a snapshot of remaining land supply.
- Chapter 4 carries out feasibility analysis of development, with and without the proposed water infrastructure charges. It also considers the quantum of additional rents required for cost-recovery of the proposed water charges.
- Chapter 5 considers the economic impacts from development in the Precinct and were business investment to be foregone in circumstances where development is no longer feasible to undertake.

The Study develops scenarios for the purposes of estimating the economic impacts of the Precinct. These are developed with reference to committed occupier data from the Landowners' Group. An industry mix is developed from this occupier data, enabling Atlas to estimate the direct and indirect impacts from investment foregone were the Precinct not developed.

2. Size and Significance of the Industrial Sector

This chapter reviews the industrial employment sector for Greater Sydney and NSW, considering key economic indicators and overall significance to provide context for the need to deliver development of the Mamre Road Precinct.

2.1 Defining the Industrial Sector

This analysis considers the following key users of industrial employment space, based on Australia and New Zealand Standard Industrial Classification (ANZSIC) categories:

- Manufacturing.
- Wholesale trade.
- Transport, logistics and warehousing.

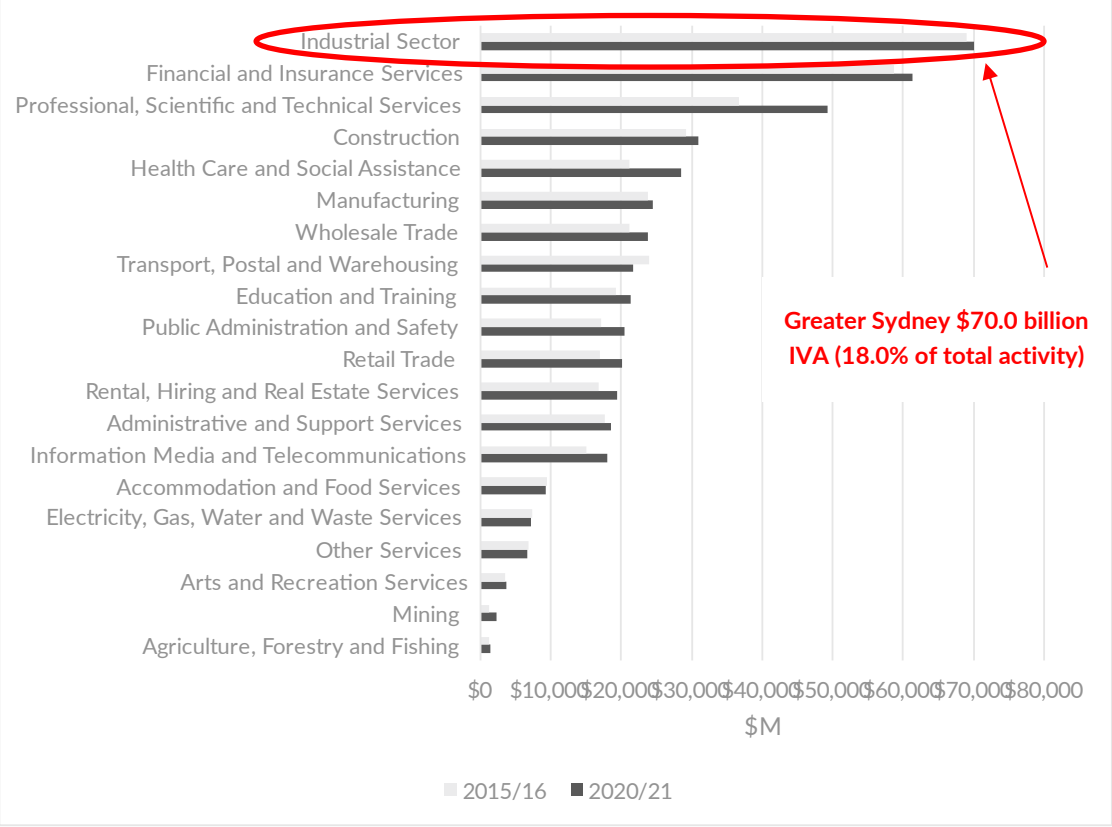
Atlas highlights that industrial land development facilitates economic activity across a broad range of sectors (beyond those modelled in this analysis). For example, distribution centres provide large retail chains with stock for sale instore, which is required for these businesses to function, and restaurants and cafés rely on the delivery of a wide range of products from various warehouses around the region. At the same time, industrial activity is becoming an increasingly diverse employment area due to changing business models and market factors including scale and affordability. The core aim of this analysis is to highlight the employment sectors which are most critically reliant on industrial lands to directly support operations.

2.2 Direct Economic Contribution

2.2.1 Industry Value Added

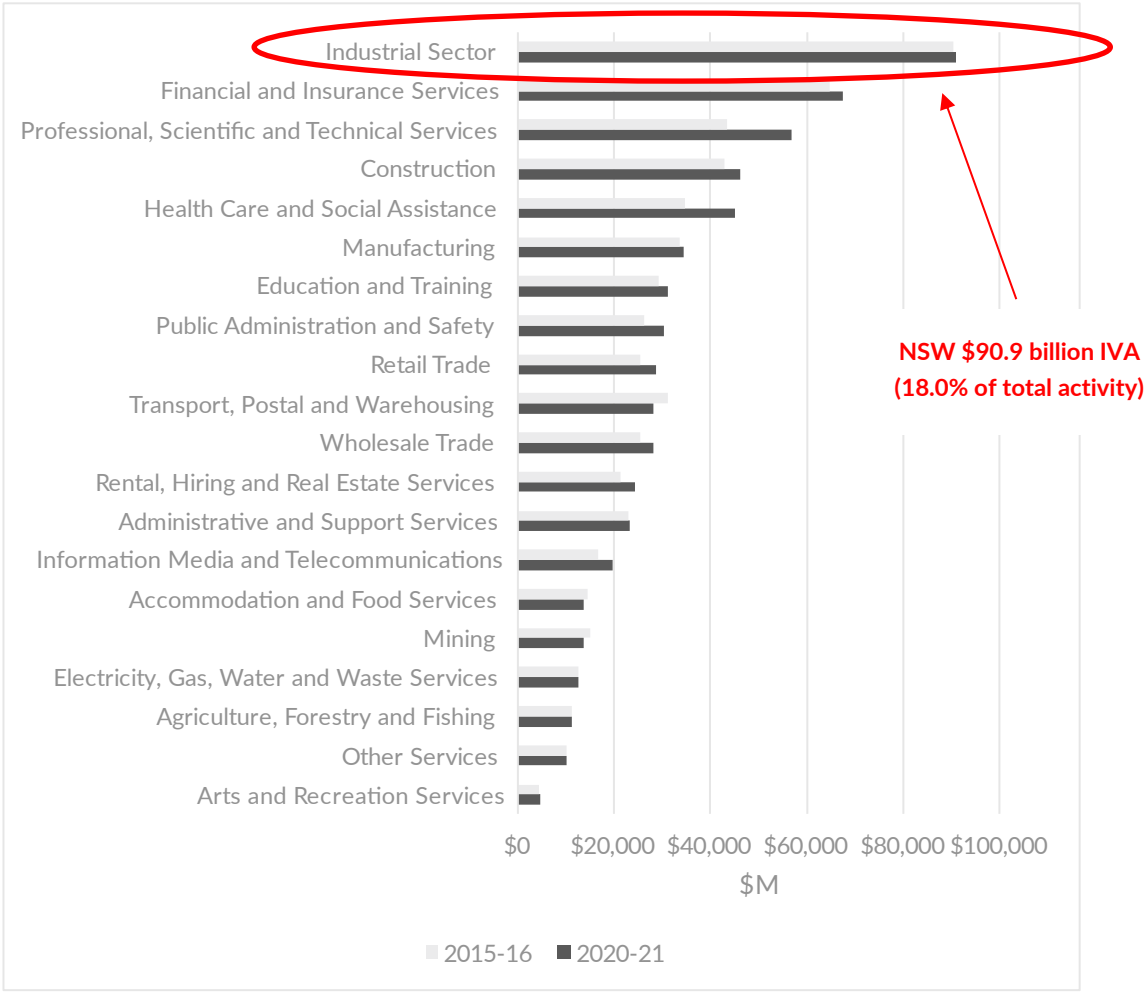
Across NSW, the industrial sector contributed almost $91 billion in 2020-21, with five-year average annual growth of 0.1%. Industry Value Add (IVA) for the Greater Sydney region and NSW is presented in **Figure 2-1** and **Figure 2-2**.

Figure 2-1: Greater Sydney Industry Value Add (2015/16 and 2020/2021)



Source: NIEIR (2022)

Figure 2-2: NSW Industry Value Add (2015/16 and 2020/21)



Source: NIEIR (2022)

During 2020-21 the industrial sector contributed an estimated $70.0 billion (18.0%) to the Greater Sydney economy. Over the past five years the sector's contribution has grown by just over $1.1 billion (0.3% per annum) compared to total Industry Value Added (IVA) growth of 2.3% per annum.

Key drivers of industrial sector activity included:

- **Manufacturing ($24.4 billion contribution, 0.5% p.a. growth over the past five years)**

  New advanced manufacturing opportunities and global supply chain disruptions through the COVID-19 pandemic are driving a strong case for greater local production. This has created the opportunity for a new wave of manufacturing industry growth in Greater Sydney and NSW against a longer-term historical trend of outsourcing/ global production and reduced employment through automation/mechanisation in the sector.

- **Wholesale trade ($23.9 billion, 2.5% p.a. growth)**

  The wholesale sector has been the main source of industrial growth over the past five years, the sector has a strong growth outlook due to the shift to online retail and distribution models. This sector has a large floorspace requirement for warehousing facilities.

- **Transport, postal and warehousing ($21.7 billion, -1.9% p.a. growth)**

  The sector was temporarily impacted through the COVID-19 pandemic. The road transport sector is currently suffering from a shortage of drivers at a time when demand is surging.

Combined, the wholesale trade and transport, postal and warehousing industries would represent the logistics sector.

2.2.2 Employment

During the 2021 Census period the industrial sector was shown to be contributing just over 318,000 jobs (by Place of Work (PoW)) to the Greater Sydney economy (14.8% of total jobs). The majority of jobs were provided in the Manufacturing (123,000 jobs, 5.8% of total employment), and Transport, Postal & Warehousing (116,000 jobs, 5.4% of total employment) sectors, with Wholesale Trade accounting for 77,000 local jobs (3.6% of total employment).

Changes in industrial employment levels during the 2021 Census period were notably different to IVA activity, and it should be noted that the COVID-19 pandemic and JobKeeper payments program (aimed at allowing employers to maintain staff through the worst of the pandemic) substantially impacted the employment data[1].

Employment for the Greater Sydney region and NSW is presented in **Table 2-1** and **Table 2-2** respectively.

Table 2-1: Employment by Industry, Greater Sydney (2016-2021)

Industry	2021		2016		Change	Average Annual Growth
	No.	%	No.	%	2016 - 2021	2016 - 2021
Agriculture, Forestry and Fishing	8,338	0.4%	8,107	0.4%	231	0.6%
Mining	4,573	0.2%	4,487	0.2%	86	0.4%
Manufacturing	*124,704*	*5.8%*	*123,858*	*6.2%*	*846*	*0.1%*
Electricity, Gas, Water and Waste Services	18,870	0.9%	16,541	0.8%	2,329	2.7%
Construction	159,632	7.4%	143,607	7.2%	16,025	2.1%
Wholesale Trade	*77,071*	*3.6%*	*79,918*	*4.0%*	*-2,847*	*-0.7%*
Retail Trade	199,227	9.3%	194,687	9.8%	4,540	0.5%
Accommodation and Food Services	121,793	5.7%	140,563	7.0%	-18,770	-2.8%
Transport, Postal and Warehousing	*116,311*	*5.4%*	*107,103*	*5.4%*	*9,208*	*1.7%*
Information Media and Telecommunications	57,120	2.7%	61,460	3.1%	-4,340	-1.5%
Financial and Insurance Services	168,811	7.9%	143,409	7.2%	25,402	3.3%
Rental, Hiring and Real Estate Services	44,759	2.1%	42,000	2.1%	2,759	1.3%
Professional, Scientific and Technical Services	260,415	12.1%	218,211	10.9%	42,204	3.6%
Administrative and Support Services	67,990	3.2%	69,734	3.5%	-1,744	-0.5%
Public Administration and Safety	128,091	6.0%	119,826	6.0%	8,265	1.3%
Education and Training	188,796	8.8%	172,334	8.6%	16,462	1.8%
Health Care and Social Assistance	295,725	13.8%	239,942	12.0%	55,783	4.3%
Arts and Recreation Services	33,150	1.5%	35,227	1.8%	-2,077	-1.2%
Other Services	68,913	3.2%	73,377	3.7%	-4,464	-1.2%
Industrial Sector	***318,086***	***14.8%***	***310,879***	***15.6%***	***7,207***	***0.5%***
Total	**2,144,289**	**100.0%**	**1,994,391**	**100.0%**	***149,898***	**1.5%**

Note: Excludes inadequately described and not stated responses.
Source: ABS (2022)

Table 2-2: Employment by Industry, NSW (2016-2021)

Industry	2021		2016		Change	Average Annual Growth
	No.	%	No.	%	2016 - 2021	2016 - 2021
Agriculture, Forestry and Fishing	75,236	2.1%	73,132	2.3%	2,104	0.6%
Mining	34,646	1.0%	30,443	1.0%	4,203	2.6%
Manufacturing	*201,894*	*5.8%*	*196,910*	*6.2%*	*4,984*	*0.5%*
Electricity, Gas, Water and Waste Services	35,516	1.0%	31,695	1.0%	3,821	2.3%
Construction	314,158	9.0%	280,552	8.8%	33,606	2.3%

[1] Though it should be noted that the JobKeeper program had concluded by the time of the 2021 Census survey.

Industry	2021		2016		Change	Average Annual Growth
	No.	%	No.	%	2016 - 2021	2016 - 2021
Wholesale Trade	*105,052*	*3.0%*	*103,955*	*3.2%*	*1,097*	*0.2%*
Retail Trade	330,780	9.4%	325,234	10.2%	5,546	0.3%
Accommodation and Food Services	227,806	6.5%	238,757	7.5%	-10,951	-0.9%
Transport, Postal and Warehousing	*169,619*	*4.8%*	*158,294*	*4.9%*	*11,325*	*1.4%*
Information Media and Telecommunications	68,521	2.0%	73,036	2.3%	-4,515	-1.3%
Financial and Insurance Services	195,139	5.6%	167,192	5.2%	27,947	3.1%
Rental, Hiring and Real Estate Services	62,384	1.8%	59,304	1.9%	3,080	1.0%
Professional, Scientific and Technical Services	326,550	9.3%	272,194	8.5%	54,356	3.7%
Administrative and Support Services	117,944	3.4%	116,824	3.7%	1,120	0.2%
Public Administration and Safety	213,284	6.1%	196,609	6.1%	16,675	1.6%
Education and Training	320,474	9.1%	280,281	8.8%	40,193	2.7%
Health Care and Social Assistance	528,476	15.1%	419,986	13.1%	108,490	4.7%
Arts and Recreation Services	51,395	1.5%	51,516	1.6%	-121	0.0%
Other Services	124,764	3.6%	123,842	3.9%	922	0.1%
Industrial Sector	***476,565***	***13.6%***	***459,159***	***14.3%***	***17,406***	***0.7%***
Total	**3,503,638**	**100.0%**	**3,199,756**	**100.0%**	**303,882**	**1.8%**

Note: Excludes inadequately described and not stated responses.
Source: ABS (2022)

2.2.3 Exports

The industrial sector in Greater Sydney generated approximately $100 billion in exports (sales of goods and services to non-resident households, businesses and other organisations, outside Greater Sydney boundaries) during 2020-21 and was responsible for approximately 30% of total Greater Sydney and NSW exports produced.

Over the past five years Greater Sydney's industrial sector exports has grown by 1.5% per annum. Estimates of exports by industry for Greater Sydney and NSW are presented in **Table 2-3** and **Figure 2-3**.

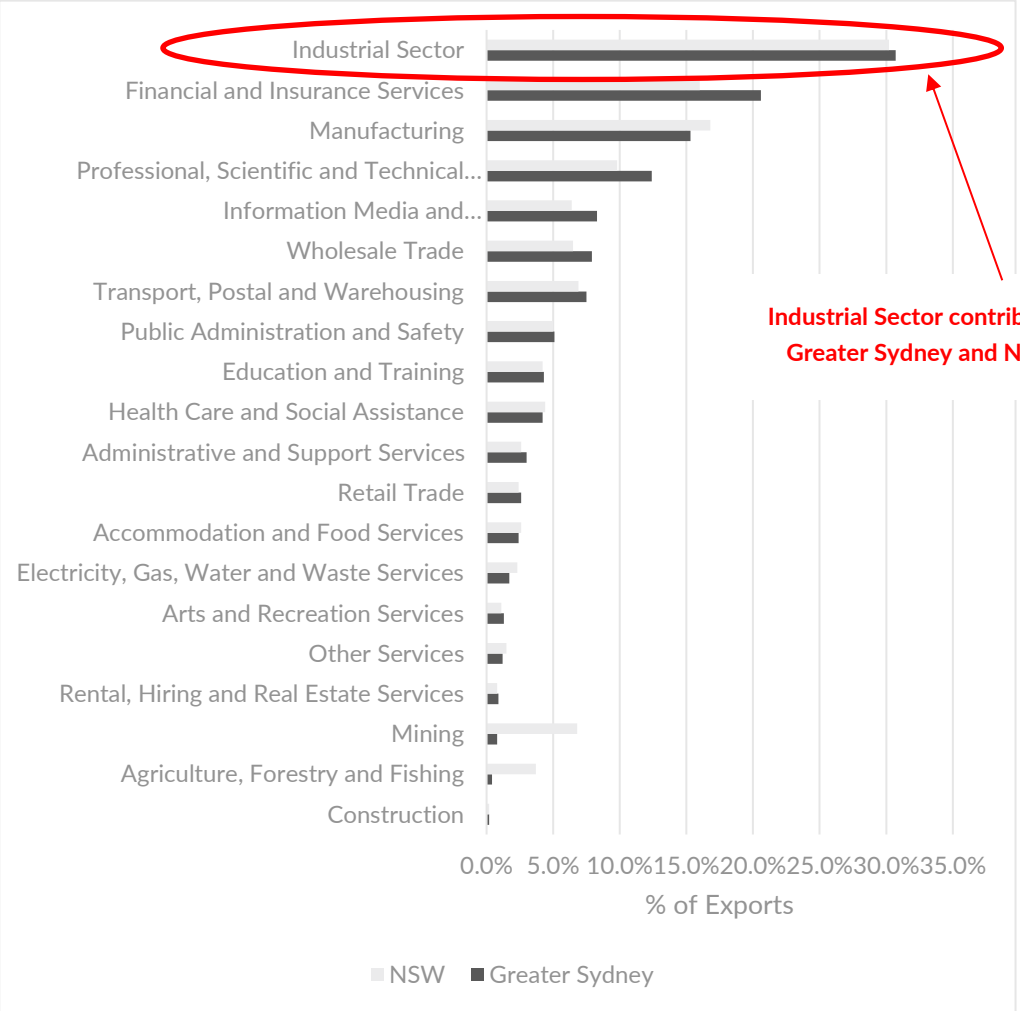
Table 2-3: Exports by Industry, Greater Sydney and NSW (2015/16 and 2020/21), $M

Industry	2020/21			2015/16			2015/16 to 2020/2021	
	Greater Sydney	% Greater Sydney	% NSW	Greater Sydney	% Greater Sydney	% NSW	Change	Avg. Annual Growth
Agriculture, Forestry and Fishing	$1,314.9	0.4%	3.7%	$904.5	0.3%	3.7%	$410.4	7.8%
Mining	$2,551.6	0.8%	6.8%	$2,059.0	0.7%	8.4%	$492.6	4.4%
Manufacturing	$49,738.0	15.3%	16.8%	$45,083.3	15.6%	16.4%	$4,654.8	2.0%
Electricity, Gas, Water and Waste Services	$5,693.1	1.7%	2.3%	$5,995.9	2.1%	2.5%	-$302.8	-1.0%
Construction	$657.4	0.2%	0.2%	$403.6	0.1%	0.2%	$253.8	10.2%
Wholesale Trade	$25,772.1	7.9%	6.5%	$21,492.6	7.4%	5.9%	$4,279.5	3.7%
Retail Trade	$8,434.6	2.6%	2.4%	$7,428.9	2.6%	2.3%	$1,005.7	2.6%
Accommodation and Food Services	$7,793.8	2.4%	2.6%	$7,761.8	2.7%	3.0%	$32.0	0.1%
Transport, Postal and Warehousing	$24,467.6	7.5%	6.9%	$26,213.0	9.1%	8.1%	-$1,745.4	-1.4%
Information Media and Telecommunications	$26,916.8	8.3%	6.4%	$20,302.5	7.0%	5.3%	$6,614.3	5.8%
Financial and Insurance Services	$67,301.5	20.6%	16.0%	$62,574.5	21.6%	16.2%	$4,727.0	1.5%
Rental, Hiring and Real Estate Services	$2,835.9	0.9%	0.8%	$2,896.5	1.0%	0.9%	-$60.7	-0.4%
Professional, Scientific and Technical Services	$40,410.5	12.4%	9.8%	$32,108.5	11.1%	8.7%	$8,302.0	4.7%
Administrative and Support Services	$9,731.6	3.0%	2.6%	$9,990.9	3.5%	3.1%	-$259.3	-0.5%

Industry	2020/21			2015/16			2015/16 to 2020/2021	
	Greater Sydney	% Greater Sydney	% NSW	Greater Sydney	% Greater Sydney	% NSW	Change	Avg. Annual Growth
Public Administration and Safety	$16,533.1	5.1%	5.0%	$13,248.1	4.6%	4.6%	$3,285.0	4.5%
Education and Training	$14,124.3	4.3%	4.2%	$11,863.8	4.1%	4.1%	$2,260.5	3.5%
Health Care and Social Assistance	$13,539.5	4.2%	4.4%	$10,174.7	3.5%	3.7%	$3,364.7	5.9%
Arts and Recreation Services	$4,363.9	1.3%	1.1%	$4,626.0	1.6%	1.3%	-$262.2	-1.2%
Other Services	$3,905.4	1.2%	1.5%	$4,212.3	1.5%	1.5%	-$307.0	-1.5%
Industrial Sector	***$99,977.7***	***30.7%***	***30.2%***	***$92,788.9***	***32.1%***	***30.4%***	***$7,188.9***	***1.5%***
Total	**$326,085.6**	**100.0%**	**100.0%**	**$289,340.7**	**100.0%**	**100.0 %**	**$36,744.9**	**2.4%**

Source: NIEIR (2022)

Figure 2-3: Exports by Industry, Greater Sydney and NSW (2020/21)



Source: NIEIR (2022)

The Industrial sector is important to the Greater Sydney and NSW economies. The sector provides a large number of jobs, generates a significant portion of economy activity and contributes considerably to Gross State Product of NSW.

The sector is also a significant source of exports, providing a valuable input to the state and national economy.

2.2.4 Payroll Tax

Published data from the NSW Department of Customer Service (2019) indicates the NSW industrial sector contributed approximately $2.1 billion in payroll tax during 2017-18 (approximately 21% of total payroll tax collected).

Based on the share of employment located within Greater Sydney around two-thirds of this tax revenue ($1.4 billion) is estimated to have been contributed by businesses operating within then Greater Sydney region.

Table 2-4: NSW Payroll Tax by Industry (2017-18)

ANZSIC	Payroll Tax Paid 2017-18	% of Payroll Tax
Agriculture, Forestry and Fishing	$65,241,085	0.7%
Mining	$183,137,361	1.9%
Manufacturing	$798,754,337	8.1%
Electricity, Gas, Water and Waste Services	$121,748,768	1.2%
Construction	$584,134,100	5.9%
Wholesale Trade	$719,036,894	7.3%
Retail Trade	$623,796,934	6.3%
Accommodation and Food Services	$235,624,447	2.4%
Transport, Postal and Warehousing	$546,826,083	5.5%
Information Media and Telecommunications	$332,599,067	3.4%
Financial and Insurance Services	$1,343,196,495	13.6%
Rental, Hiring and Real Estate Services	$231,164,904	2.3%
Professional, Scientific and Technical Services	$1,087,934,926	11.0%
Administrative and Support Services	$880,161,507	8.9%
Public Administration and Safety	$1,177,694,424	11.9%
Education and Training	$353,910,358	3.6%
Health Care and Social Assistance	$272,538,188	2.8%
Arts and Recreation Services	$86,124,402	0.9%
Other Services	$123,275,130	1.2%
Unknown	$98,211,746	1.0%
Industrial Sector	***$2,064,617,314***	***20.9%***
Total	**$9,865,111,156**	**100.0%**

Source: NSW Department of Customer Service (2019)

Given the significant employment in the Industrial sector, these businesses pay a meaningful amount of payroll taxes.

As the Industrial sector continues to grow and expand, so too will the payroll taxes it pays. Payroll taxes received by the State Government go to fund a number of important local services.

2.3 Indirect Economic Contribution

Beyond its direct economic contribution, the industrial sector forms a critical component of regional and State supply chains, including purchases of upstream materials and services as well as supplying the downstream retail and services industries. Specifically, all parts of the economy rely on the logistics sector to a certain extent.

The current flow-on contribution of the industrial sector has been estimated utilising Input-Output multipliers. Input-Output modelling considers economic activity through examining four types of impacts as described in **Table 2-5**.

Table 2-5: Economic Indicators

Indicator	Description
Output	The gross value of goods and services transacted, including the cost of goods and services used in the development and provision of the final product. Care should be taken when using output as an indicator of economic activity as it counts all goods and services used in one stage of production as an input to later stages of production, thus overstating economic activity.
Gross Value Added	The value of output after deducting the cost of goods and services inputs in the production process (less the impact of net taxes on final production). Gross Value Added (GVA) defines a net contribution to economic activity.
Incomes	The wages and salaries paid to employees either directly or indirectly.
Employment	Employment positions generated by the Project or Proposal (either full time or part time, directly or indirectly). Employment is reported in terms of Full-time Equivalent (FTE) positions or person-years.

Source: Atlas

Input-Output modelling estimates show the impacts of direct spending in a particular industry as well as from production-induced impacts (Type I) or consumption-induced impacts (Type II).

- **Production-induced impacts (Type I)** show the effects of industrial support effects of additional activities undertaken by supply chain industries increasing their production in response to direct and subsequent rounds of spending.
- **Consumption-induced impacts (Type II)** estimate the re-circulation of labour income earned as a result of the initial spending, through other industry impacts, and impacts from increased household consumption.

The estimates of economic impacts consider production and consumption-induced flow-on impacts consumption-induced (Type II) impacts are commonly considered to overstate economic activity and therefore the types of flow-on impacts are reported separately.

Flow-on impacts have been estimated based on the direct economic activity (IVA/GVA) for the 2020-21 financial year as reported in section 2.2, which were applied in the Input-Output model as the driver of direct activity. The resulting flow-on economic activity results are reported in **Table 2-6**.

Across Greater Sydney the industrial sector is estimated to contribute through additional flow-on activity:

- $210 billion in output.
- $109 billion in GVA.
- $53 billion in incomes and salaries paid to Greater Sydney workers.
- Approximately 505,000 FTE jobs.

Across NSW the industrial sector is estimated to contribute through additional flow on activity:

- $360 billion in additional output.
- $181 billion in GVA.
- $88 billion in wages and salaries paid to NSW workers.
- Approximately 876,000 FTE jobs.

Beyond the direct impacts of the Industrial sector, the industry is also very important as it impacts and supports the general supply chain across all industries. Almost all businesses in the State will be impacted by the logistics sector in some way. The Industrial sector is very important to the functioning of the regional and State economies.

Table 2-6: Industrial Sector Indirect Economic Contribution (2020-21)

Impact	Output ($M)	GVA ($M)	Incomes ($M)	Employment FTE*
Greater Sydney				
Flow-on Type I	$104,913	$49,637	$27,642	241,145
Flow-on Type II	$104,921	$59,042	$25,543	264,064
Total Indirect Impact	**$209,834**	**$108,680**	**$53,185**	**505,209**
New South Wales				
Flow-on Type I	$183,508	$84,290	$44,911	420,614
Flow-on Type II	$176,669	$97,088	$43,121	455,786
Total Indirect Impact	**$360,178**	**$181,378**	**$88,032**	**876,401**

*Input-Output modelling estimates of direct FTE employment should not be compared with Census employment estimates as Census counts are an undercount of total population, some people don't state their workforce status or industry, counts by place of work exclude those with no fixed workplace address.

Source: Atlas

2.4 Comparison with Select Capital Cities

For comparative purposes the direct contribution of the Greater Sydney industrial sector is benchmarked against the Greater Melbourne and Brisbane regions. Key points of note include:

- While Greater Sydney hosts the largest Industrial sector at $70 billion, the industrial sector contributes a greater share of activity in Greater Melbourne and Brisbane (approx. 19.5% of IVA in both compared to 18.0% in Greater Sydney).
- The Industrial sector also contributes a significantly higher share of total exports (approximately 40% of Greater Brisbane exports and nearly 70% Greater Melbourne compared to 30% Greater Sydney).
- Greater Sydney has experienced comparable industrial sector growth to Greater Brisbane, while Greater Melbourne declined by 0.2% per annum over the past five years.
- Industrial employment growth in Greater Sydney (0.5% per annum) has significantly lagged Greater Melbourne (1.2% per annum) and Greater Brisbane (1.1% per annum) between 2016 and 2021.

Headline industrial sector statistics comparing Greater Sydney, Melbourne, and Brisbane are presented in **Table 2-7**.

Table 2-7: Industrial Sector Comparison

Indicator	Greater Sydney	Greater Melbourne	Greater Brisbane
Resident Population (2021)	5.3 million	5.0 million	2.6 million
IVA (2020-21)	$70.0 billion	$62.7 billion	$30.3 billion
% of Total IVA	18.0%	19.4%	19.6%
IVA Growth (2016-2021)	0.3% p.a.	-0.2% p.a.	0.4% p.a.
Employment (PoW, 2021)	318,086	360,149	165,725
% of Total Employment	14.8%	15.9%	14.8%
Employment Growth (2016-2021)	0.5% p.a.	1.2% p.a.	1.1% p.a.
Exports (2020-21)	$100.0 billion	$22.5 billion	$41.9 billion
% of Total Exports	30.7%	68.7%	39.6%
Exports Growth (2016-2021)	0.5% p.a.	-0.2% p.a.	-0.5% p.a.
Port Container Throughput (2021-22)	2.8 million TEUs	3.2 million TEUs	1.5 million TEUs

Source: NIEIR (2022), ABS (2016, 2022), NSW Ports (2023), Port of Melbourne (2023), Port of Brisbane (2023)

Even though Sydney is a much larger capital city (5.3 million residents compared to 5 million in Melbourne and 2.6 million in Brisbane) and has a much more significantly sized Industrial sector ($70 billion compared to $62.7 billion in Melbourne and $30.3 billion in Brisbane), employment growth has been less than half that of the other cities.

Container throughput is a significant driver for the logistics sector. Sydney's container throughput is similar to Melbourne and much greater than Brisbane.

3. Demand and Supply of Industrial Lands

3.1 Market Conditions

Demand for industrial floorspace is influenced by a broad set of macro-economic factors - at the global and domestic level. Population and economic growth, infrastructure investment, changing consumer patterns and technological advancements are some of these core drivers which guide businesses' floorspace requirements and how floorspace is utilised.

Understanding the broader context in the industrial sector operates is essential to understanding the drivers of value and ultimately what the market is prepared to pay for industrial property in the Mamre Road Precinct.

Sydney's industrial market had been growing for a number of years in the lead up to the initial outbreak of COVID-19 in March 2020. The outbreak of COVID-19 has amplified these demand drivers with a convergence of tailwinds driving some of the strongest market conditions in the industrial sector on record. Looking forward, industrial market conditions in Sydney's industrial sector are expected to remain strong due to the following key drivers:

- Large scale transport infrastructure projects and residential development underway and in the pipeline stimulating industrial activity, particularly in Western Sydney.
- Continued development of manufacturing sectors particularly advanced manufacturing.
- Continued uptake of e-commerce platforms by consumers and businesses, driving significant demand for freight and logistics floorspace.
- Population growth driving demand in the food and beverage and urban services sector (e.g. waste recycling, automotive services, utilities, small scale manufacturing).
- Further growth in internet usage driving demand for data storage in large, purpose-built facilities (i.e. data centres).

These strong tailwinds have resulted in significant investment interest into industrial assets across Greater Sydney in recent years, as institutional investors and real estate trusts seek to increase their exposure to the industrial sector (predominantly freight and logistics). This investment focus is expected to continue and strengthen moving forward.

3.2 Demand and Take-up of Industrial Lands

In line with the broader investment market, demand for industrial land in Western Sydney was significant in 2021 with approximately $1.5 billion trading across multiple deals. By area, the land sales in 2021 represent just over three million sqm with the average price being $802/sqm. In 2022 market activity was more cautious given higher funding costs.

Land Value and Building Capital Value Movements

The adequacy of land to meet demand can be observed through market signals. Market indicators such as rising prices, falling incentives, falling vacancy rates, etc. suggest a market that is undersupplied.

Table 3-1 outlines the rapid growth of land values in the Outer West region of Sydney, averaging between 10% and 31% increase between 2020 and 2022.

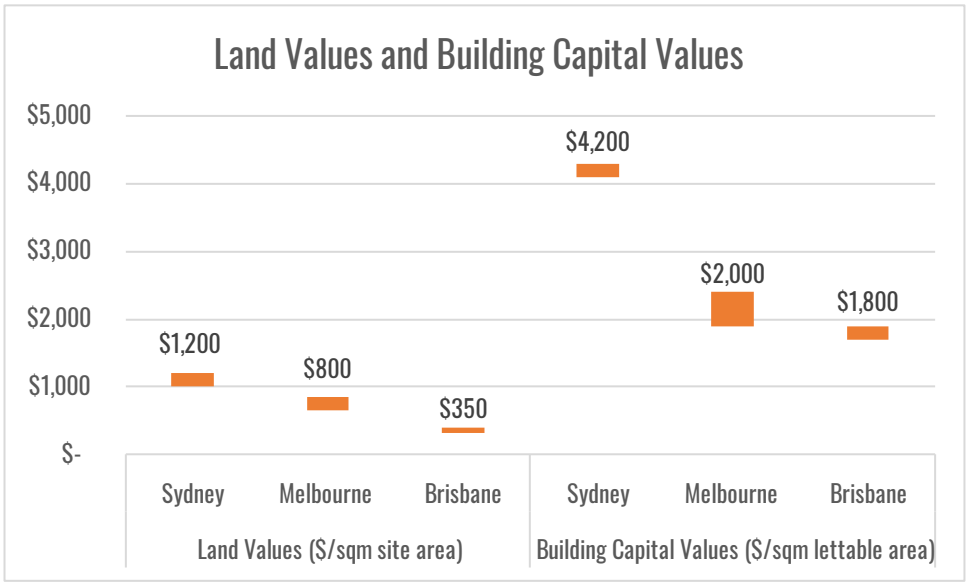
Table 3-1: Vacant Land Values, Outer West (2020-2022)

Outer West region	2020	2021	2022	Avg. Ann Growth (2020-2022)
<2,000sqm	$1,000	$1,000	$1,201	10%
2,000sqm to 5,000sqm	$800	$800	$1,101	17%
5,000sqm to 10,000sqm	$650-$700	$750-$850	$1,000-$1,200	31%
>10,000sqm	$650-$700	$750-$850	$1,000-$1,200	31%

Source: Cushman and Wakefield (2020, 2021, 2022)

Figure 3-1 shows a comparison of land values and building capital values between Sydney, Melbourne and Brisbane. The significant gap between Sydney and the other major cities highlights the affordability crisis in Sydney.

Figure 3-1: Land Values and Building Capital Values - Sydney, Melbourne, Brisbane (2022)



Source: Cushman and Wakefield (2020, 2021, 2022)

Rents and Vacancy Rates

Table 3-2 outlines the rapid growth of rents in the Outer West region of Sydney, averaging between 22% and 26% increase between 2020 and 2022. This is unprecedented as long-term growth trends are generally between 4% and 6% annually.

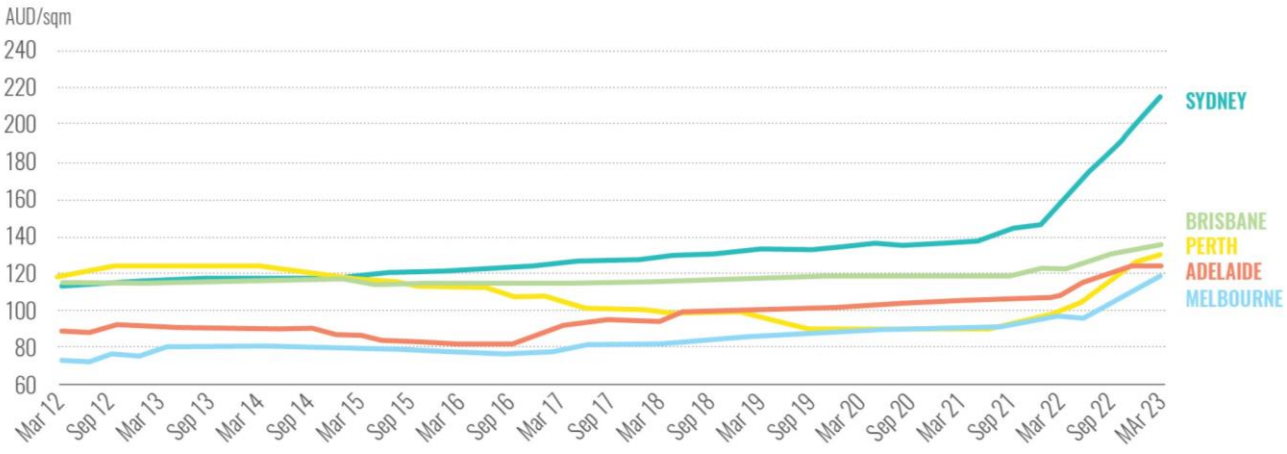
Table 3-2: Prime Net Rents, Outer West (2020-2022)

Outer West region	2020	2021	2022	Avg. Ann Growth (2020-2022)
<2,000sqm	$130-$140	$140-$150	$200-$250	24%
2,000sqm to 5,000sqm	$125-$140	$125-$140	$200-$250	26%
5,000sqm to 10,000sqm	$125-$135	$125-$135	$185-$225	22%
>10,000sqm	$120-$130	$120-$135	$185-$225	23%

Source: Cushman and Wakefield (2020, 2021, 2022)

Figure 3-2 illustrates the significantly higher rents in Sydney compared to the rest of the country, highlighting further Sydney's affordability problem for businesses. The rapid scale of the increases in industrial rents in Sydney demonstrates the extent of the industrial land shortage.

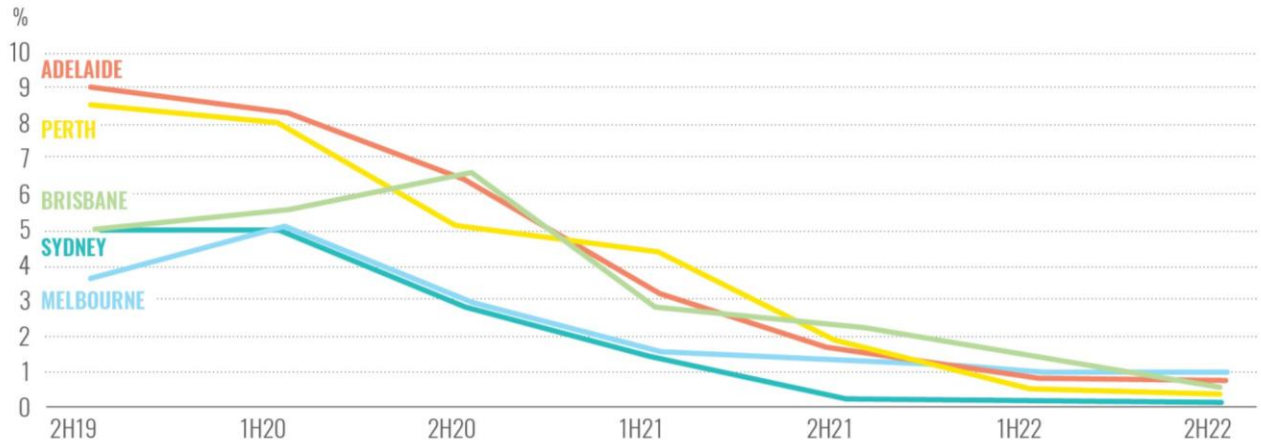
Figure 3-2: Prime Net Rents, Australian Major Markets (2022)



Source: CBRE (2023)

The shortage of industrial land in Sydney is so severe, not only does Sydney have the lowest industrial vacancy rate in Australia, but the world. **Figure 3-3** shows Sydney's vacancy level at 0.2%, which is cited to be the lowest in any global city.

Figure 3-3: Vacancy Rates, Australian Major Markets (2022)



Source: CBRE (2023)

All market indicators point to a severely undersupplied industrial market in Sydney - one that has insufficient supply of land to respond to market demand.

Take-up of Industrial Land

Annual take-up of industrial land in Greater Sydney has averaged 135ha in the 2017-2021 period. In contrast, metropolitan Melbourne's take-up of industrial land has averaged 288ha and Southeast QLD (SEQ)'s 190ha over the same period.

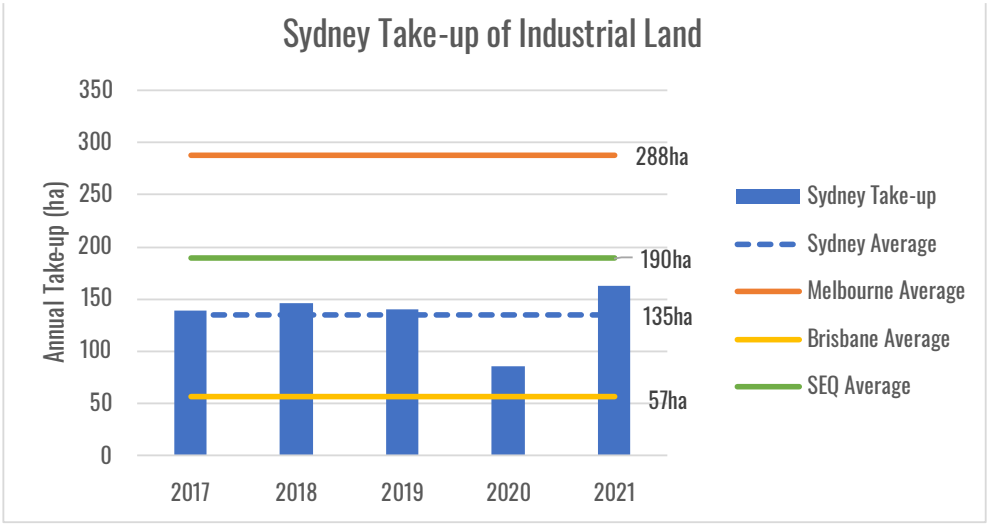
Table 3-3 and **Figure 3-4** compare the relative sizes of the capital city markets against their annual take-up of land.

Table 3-3: Annual Take-up of Industrial Land - Sydney, Melbourne, Brisbane and SEQ (2017-2021)

Region	Value of Industrial Sector (IVA)	Population (2021)	Annual Land Take-up (ha)					
			2017	2018	2019	2020	2021	Avg. (2017-2021)
Greater Sydney	$70.0 billion	5.3 million	139.6	145.8	140.2	86.0	163.1	135.0
Metropolitan Melbourne	$62.7 billion	5.0 million	317.8	219.7	324.3	305.8	273.0	288.0
Brisbane Region	$30.3 billion	2.6 million		47.1	70.2	67.7	42.5	56.9
Southeast QLD (SEQ)		3.6 million		185.9	261.3	168.3	146.2	190.4

Source: DPE (2022), DELWP, DSDMIP, CBRE, Atlas

Figure 3-4: Annual Take-up of Industrial Land (2017-2021)



Source: DPE (2022), DELWP, DSDMIP, CBRE, Atlas

Sydney has the largest population base (5.3 million residents) compared to Melbourne (5.0 million residents) and SEQ (3.6 million residents). Furthermore, container throughput in Sydney is similar to Melbourne and much greater than Brisbane. Despite these factors, Sydney's average annual take-up of land has been less than 50% of Melbourne's 290ha per annum and only 70% of SEQ's 190ha per annum, a region that is less than 70% the size of Sydney.

The analysis highlights that a lack of serviced land supply in Sydney has constrained its ability to respond to demand and resulted in escalating rents and almost zero vacancy.

Data for industrial land take-up for 2022 is not available from the ELDM, however discussions with real estate professionals as well as published data from agency firms highlights that industrial take-up was 290ha in 2022 (Colliers, Q1 2023).

3.3 Remaining Supply of Industrial Lands

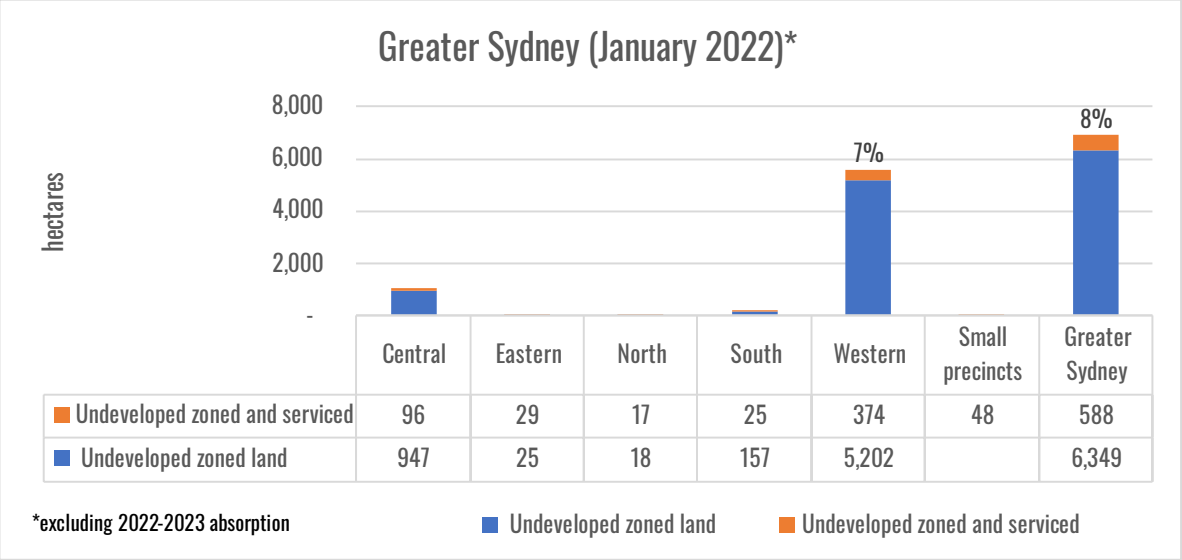
Land Supply

As at January 2022, the DPE's Employment Land Development Monitor (ELDM) showed the supply of undeveloped zoned and serviced land in Greater Sydney was 588ha (only 8% of total undeveloped zoned land). The Western City had 374ha of zoned and serviced land (which was less than 7% of zoned land).

Currently (at the time of writing in June 2023), the amount of serviced land is even lower after allowing for take-up and development of land during 2022 and 2023. Based on published research from agency firms as well as with industry, currently, industrial land stocks would be close to exhaustion.

Figure 3-5 illustrates the supply of undeveloped land in Greater Sydney (serviced and not serviced) as at January 2022. The significant amount of undeveloped zoned land is unable to be developed due to a lack of infrastructure servicing.

Figure 3-5: Undeveloped Zoned Land and Serviced Land, Greater Sydney (January 2022)



Source: DPE (2022)

These simple land supply metrics do not provide the whole picture. To be desirable from a market and industry perspective, the land needs to be appropriately located and possess size and site attributes to be viable. Industrial sites are requiring larger sizes to keep up with demand. The following recent projects demonstrate current size requirements for industry:

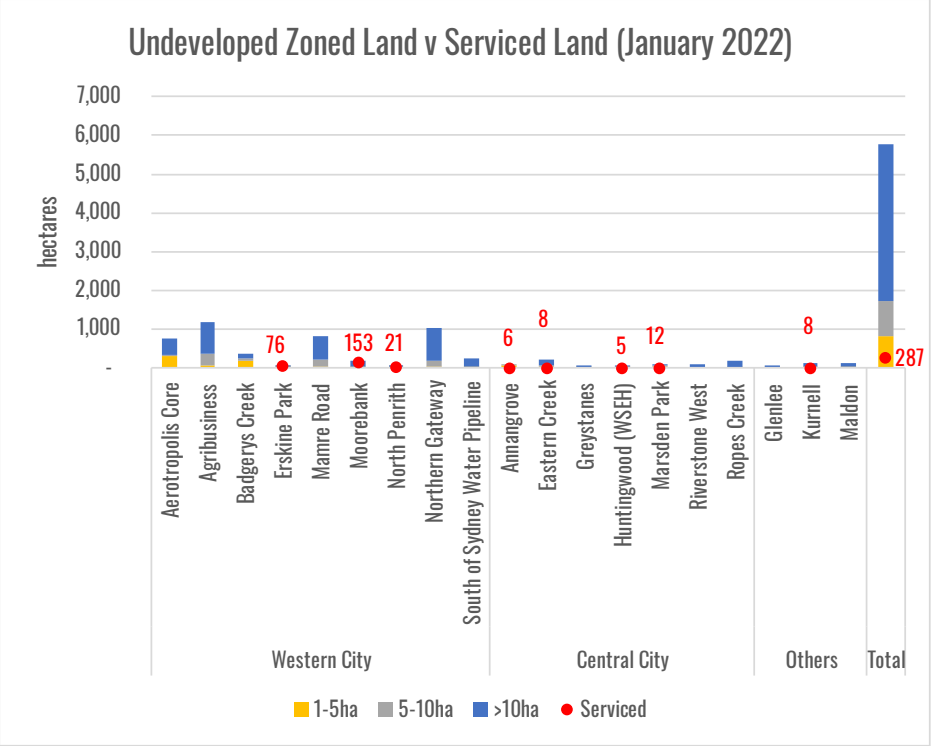
- Techtronic Industries (75,000sqm).
- Toll (68,000sqm).
- Woolworths Distribution Centre (76,000sqm at Wetherill Park, 35,000 at Kemps Creek).
- Australia Post Distribution Centre (36,000sqm).
- Mainfreight Distribution Centre (55,800sqm).

To support these developments, they require a site area between 8 and 11 hectares.

Of the precincts listed in the ELDM as having serviced land, only four have land size greater than 20ha. At the time of writing, Atlas is aware of two sites that accommodate warehouses >30,000sqm, with one of those sites requiring tenants to have connection to the Moorebank Intermodal Terminal.

Atlas undertook an exercise of identifying undeveloped zoned and serviced land greater than 1ha, shown in **Figure 3-6**.

Figure 3-6: Undeveloped Zoned Land and Serviced Land by Size, >1ha (January 2022)



Source: DPE (2022)

The analysis reveals that 287ha of land in Greater Sydney is sized >1ha (compared to the overall 588ha of serviced land available). Furthermore, the data is at January 2022 and does not account for take-up of land in 2022 and 2023.

At an annual take-up rate of 300ha (the likely take-up in 2022 and similar to demand levels in Melbourne), Sydney has less than one year of remaining industrial land supply.

Atlas notes that while the above analysis assumes a minimum land size of 1ha, the businesses seeking to locate at the Precinct have much larger size requirements (>6ha). When considering the needs of businesses who require greater than 1ha, the remaining supply situation is even worse.

Sydney v Melbourne and Brisbane

The analysis above shows that Greater Sydney has less than one year of remaining industrial land supply.

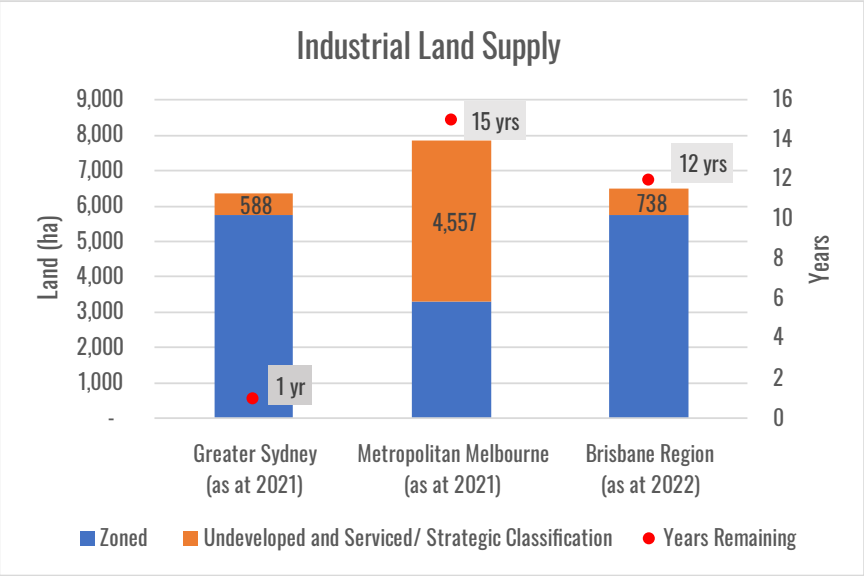
In Melbourne, as at 2021, there was 7,856ha of vacant zoned industrial land, of which 4,557ha (58%) is within State Significant Industrial Precincts (SSIPs). Victoria's precinct structure planning process coordinates land rezoning and infrastructure servicing. At an annual absorption rate of 300ha, the land supply in the SSIPs is equivalent to 15 years supply.

In the Brisbane region, as at September 2022 there was more than 700ha of serviced vacant land. At an annual absorption rate of 60ha, the serviced land supply is equivalent to 12 years supply.

Both State Governments in Victoria and Queensland have supply buffer policies that require 15 years of forward land supply. Atlas is not aware of a similar policy that exists in NSW.

Figure 3-7 compares Sydney's remaining industrial land supply with Metropolitan Melbourne and the Brisbane region.

Figure 3-7: Industrial Land Supply - Sydney, Melbourne and Brisbane



Source: Atlas

3.4 Implications for Greater Sydney's Competitiveness

The lack of serviced industrial land has evidently constrained Sydney's take-up of land. Over the 2017-2021 period, Sydney has averaged 135ha per annum whereas Melbourne and SEQ have averaged 290ha and 190ha per annum respectively.

For the largest capital city in Australia with both the largest population base and largest industrial sector, demand for land would be expected to be at least more than just 135ha per annum.

The analysis of data from the ELDM and Atlas' analysis of ABS data affirms that a constrained land supply situation has 'held back' investment and growth of the Industrial sector, with employment growth in Greater Sydney averaging 0.5% per annum over the 2016-2021 period compared to Melbourne's annual average of 1.2% and Brisbane's annual average of 1.1% over the same 2016-2021 period.

With less than one year of serviced supply remaining (compared to 15 years in Melbourne and 12 years in Brisbane), there is no room for business investment, business growth and further employment opportunities.

In 2019 when progressing the rezoning of the Mamre Road Precinct, DPE identified 4-5 years of land remaining. Since then, there has been no large scale servicing of land and structural changes following the COVID-19 pandemic have turbo-charged land demand. The low stock levels have now been depleted. This has been met with near zero vacancy and skyrocketing rents. This has severely affected Sydney's national competitiveness and added to the cost of living.

The Mamre Road Precinct is therefore an important part of the solution to easing Sydney's chronic capacity issue.

The Industrial sector is important to the regional and State economies, providing a growing number of jobs in Sydney.

The Industrial sector is not just important in its own right in terms of its economic contribution, but the fact that the industrial sector in general (and logistics sector specifically) supports many other industries across the economy, so constraints in the industrial sector will impact other parts of the economy as well.

The shortage of serviced, industrial land in Sydney has reached a critical point. The incredibly low vacancy rate and spiking prices demonstrate the severity of the issue and remaining serviced, industrial land stocks are almost exhausted.

The Mamre Road Precinct is important to not only solve the shortage of industrial land, but to allow the Sydney economy to grow, triggering business investment, generating new jobs and supporting the rest of the economy to grow as well.

4. Feasibility Analysis of Development

4.1 Methodology

Generic feasibility testing is carried out to ascertain the tolerance of development in the Precinct to the proposed water infrastructure charges. The Hypothetical Development or Residual Land Value (RLV) approach is adopted for the purposes of feasibility testing.

The RLV approach involves assessing the value of hypothetical development, considering total potential revenue and development costs, and making a further deduction for the profit and risk that a developer would require to take on the project.

The RLV can be defined as the maximum price a developer would be prepared to pay for a site in exchange for the opportunity to develop the site based on proposed (or existing) planning controls, whilst achieving target hurdle rates for profit and project return.

Key Assumptions

Feasibility modelling is premised on a notional development scheme - development yields assumed are the product of numeric application of site cover ratio (or FSR) to an assumed gross site area and net developable area (NDA) metrics.

Cost and revenue assumptions are generic and do not have regard to site-specific characteristics (e.g. topography, environmental factors, etc.) that a detailed site feasibility analysis/market valuation would typically have.

Revenue assumptions adopted are informed by a property market appraisal and consultation with marketing agents active in Western Sydney. Cost assumptions adopted are derived from standard industry publications and past experience.

The cash rate was kept at record lows for the last five years, with that and financing costs now returning to long-term trend. Since their lowest position in mid-2022, average yields have softened by 95bps (Knight Frank, 2023). A minor softening of market yields by 25bps can extinguish any margins and render a project not feasible.

The set of revenue and cost assumptions adopted in feasibility testing are provided in SCHEDULE 1.

Hurdle Rates

In assessing the tolerance of development to contributing to the proposed water infrastructure charges, the key performance indicators and metrics relied upon are development margin[2] and project IRR[3].

The objective of feasibility testing is to assess if, after contribution to the water charges, development margin and project IRR are within acceptable range. Where development is found to result in either development margin or project IRR falling below the acceptance range, it is concluded that there is no tolerance to the proposed water charges.

Benchmark hurdle rates and their 'feasible' ranges for each development typology are indicated in **Table 4.1**.

Table 4.1: Benchmark Hurdle Rates

Hurdle Rates	Feasible	Marginal to Feasible	Not Feasible
Return on Cost (Development Margin)	>18%	16%-18%	<16%
Project IRR	>18%	16%-18%	<16%

Source: Atlas

Target hurdle rates depend on the perceived risk associated with a project. Risks generally include planning, market, financial and construction risk. The greater the risk the higher the hurdle rates required for investment. The Precinct has been rezoned, with precinct plans and development control plans in place to guide future development applications. Servicing and road infrastructure are however uncertain.

The adopted benchmark hurdle rates align with industry/ market expectations and are consistent with Atlas' previous work.

[2] Development Margin is profit divided by total costs (including selling costs)
[3] Project IRR is the project return on investment, where the discount rate where the cash inflows and cash outflows are equal

4.2 Review of Development Feasibility

The feasibility testing utilises the Hypothetical Development method or Residual Land Value (RLV) method. If the residual land value is the same as (or exceeds) the assumed cost of land while achieving the target hurdle rates (identified in **Table 4.1**), the development is considered feasible.

Tested Development and Scenarios

The section develops a notional development reflecting a 'likely' development in the Precinct. The development is then tested for impact of the proposed water infrastructure. The feasibility testing is shown in several steps:

1. Development (with s7.11 contributions only)
2. Development (with s7.11 contributions and SIC)
3. Development (with s7.11 contributions, SIC and proposed water charges)
    - Proposed DSP charges (drinking water and wastewater) at $50,000/ha NDA
    - Proposed stormwater and recycled water at $1,300,000/ha NDA (also a reduced charge or $1,150,000/ha NDA based on Sydney Water refinements)

Table 4-2 provides a numerical overview of the assumed development parameters and **Figure 4-1** shows an indicative site plan of the assumed development parameters for the purposes of feasibility testing.

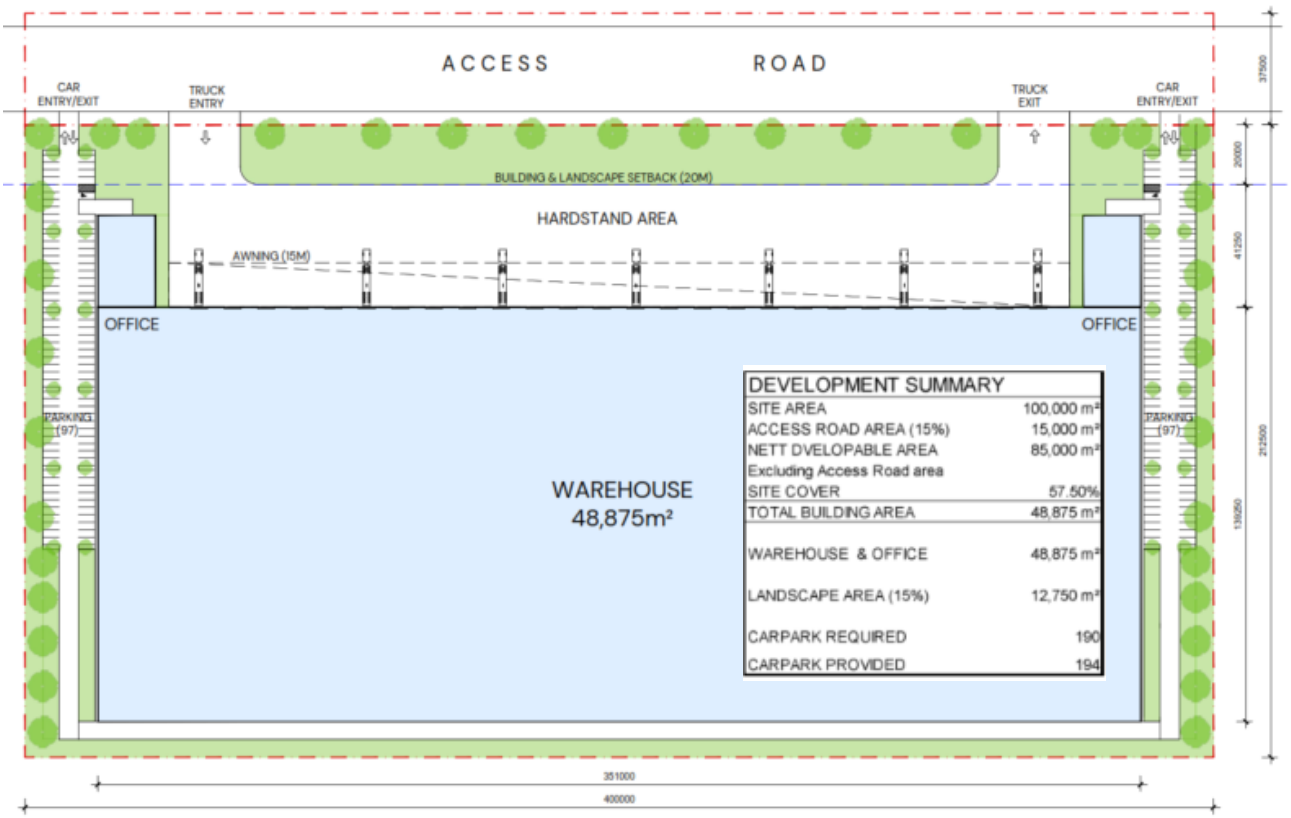
Table 4-2: Notional Development Parameters

Gross Site Area (sqm)	NDA (sqm)	Site Cover	GLA/GFA (sqm)*	Parking
100,000	85,000 (85%)	57.5%	48,875	At-grade

*Gross Lettable Area and Gross Floor Area are assumed similar for the analysis

Source: Atlas

Figure 4-1: Indicative Site Plan of Assumed Development Parameters



Source: ESR

Table 4-3 outlines the assumed rates for the fees and charges. Other statutory fees including DA fees, CC fees, long service levy, etc. are also included.

Table 4-3: Assumed Fees and Charges

Fees and Charges	$/ha NDA	$/sqm NDA
s7.11 contributions (as at March 2023)	$669,000	$66.9
SIC (as at 1 July 2022)	$210,763	$21.1
Proposed DSP charges (drinking water and wastewater)	$50,000	$5.0
Proposed stormwater and recycled water charges	$1,300,000	$130
Proposed reduced charge (stormwater only)	$1,150,000	$115

Source: Atlas

The RLV method requires cost and revenue assumptions which are detailed in SCHEDULE 1.

Modelling Results

Table 4-4 summarises the results and compares the feasibility indicators (with and without the proposed water charges).

Table 4-4: Feasibility Testing Results

Item	s7.11 only	s7.11, SIC	s7.11, SIC, water (DSP at $50k/ha, stormwater at $1.3m/ha)	s7.11, SIC, water (DSP at $50k/ha, stormwater at $1.15m/ha)
Gross Site Area (sqm)	100,000	100,000	100,000	100,000
Net Developable Area (sqm)	85,000	85,000	85,000	85,000
Gross Floor Area (sqm)	48,875	48,875	48,875	48,875
Assumed Fees and Charges ($/sqm)				
s7.11 contributions	$66.9	$66.9	$66.9	$66.9
Special Infrastructure Contributions (SIC)		$21.1	$21.1	$21.1
DSP charges (drinking water, wastewater)			$5.0	$5.0
Stormwater/ recycled water charges			$130.0	$115.0
Revenue				
Gross Sales Revenue*	$194,101,709	$194,101,709	$194,101,709	$194,101,709
Less: Selling Costs	$3,882,034	$3,882,034	$3,882,034	$3,882,034
Net Sales Revenue	$190,219,675	$190,219,675	$190,219,675	$190,219,675
Total Revenue	**$190,219,675**	**$190,219,675**	**$190,219,675**	**$190,219,675**
Costs				
Land Purchase Cost	**$57,500,000**	**$57,500,000**	**$57,500,000**	**$57,500,000**
Transaction Costs	$3,434,200	$3,434,200	$3,434,200	$3,434,200
Construction Costs (incl. Contingency)	$59,016,562	$59,016,562	$59,016,562	$59,016,562
Professional Fees	$5,016,408	$5,016,408	$5,016,408	$5,016,408
Statutory Fees (incl. s7.11)	$4,974,571	$4,974,571	$4,974,571	$4,974,571
Estate Servicing	$20,000,000	$20,000,000	$20,000,000	$20,000,000
Special Infrastructure Contributions	-	$1,791,486	$1,791,486	$1,791,486
Water Infrastructure Charges	-	-	$11,475,000	$10,200,000
Land Holding Costs	$2,463,272	$2,463,272	$2,463,272	$2,463,272
Finance Charges	$350,000	$350,000	$350,000	$350,000
Interest Expense	$5,499,752	$5,689,358	$6,903,843	$6,768,900
Total Costs	**$158,254,765**	**$160,235,857**	**$172,925,342**	**$171,515,399**
Performance Indicators				
Return on Cost	19.7%	18.3%	9.8%	10.7%
Residual Land Value	**$59,695,360**	**$57,852,841**	**$46,005,935**	**$47,321,535**
Feasible?	Yes	Yes	No	No

*Based on current net market rents of $185/sqm and capitalisation rate of 4.75%

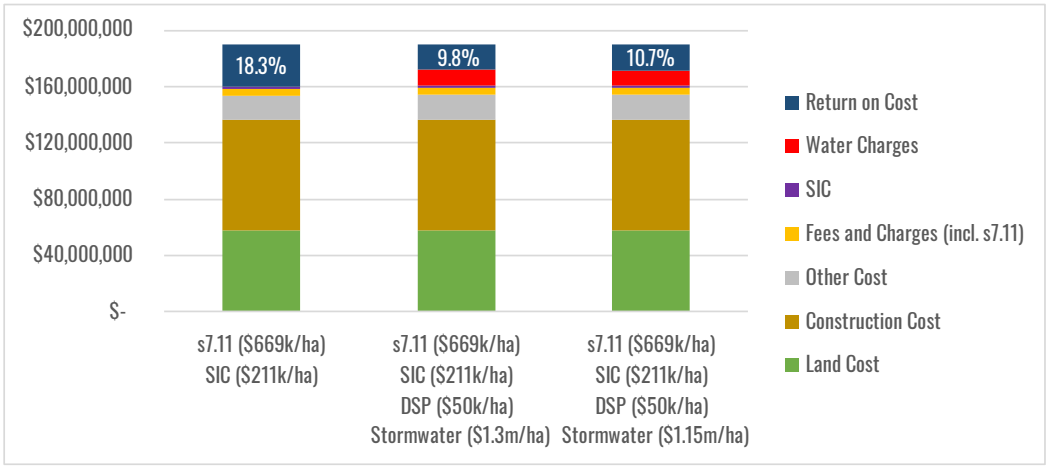
The assumed cost of land at $575/sqm aligns with the cost in the Mamre Road Precinct Development Contributions Plan (as at 2021). Atlas acknowledges that $575/sqm is a conservative assumption, which is below current market transactions.

The modelling results indicate:

- Development which includes s7.11 contributions and SIC is just feasible - return on cost is 18.3%.
- After inclusion of the proposed DSP and stormwater charges ($1.3m/ha NDA), development feasibility is severely affected. The return on cost is at 9.8%, which is well below the target of 18%.
- At a reduced stormwater charge of $1.15m/ha NDA, the return on cost is 10.7%, also well below the target of 18%.

Figure 4-2 illustrates the impact of inclusion of the proposed water infrastructure charges on return on cost.

Figure 4-2: Comparison of Feasibility Modelling Results



Source: Atlas

The feasibility modelling shows the proposed water charges are not marginally more, but significantly more than what is tolerated by development.

4.3 Scope for Water Infrastructure Charges

After the proposed DSP and stormwater charges, feasibility is adversely and significantly affected. At current assumptions, development has no capacity to pay for water charges at the proposed rates (even if reduced to $1,150,000/ha NDA).

Atlas understands that NSW Government published a report in 2022 named *Review of Water-sensitive Urban Design Strategies for Wianamatta - South Creek* (**the 2022 report**), which provided estimates of stormwater costs and indicative levies. The report concluded a $191,000/ha (infrastructure works) and $96,000/ha (land acquisition costs) to facilitate delivery of a regional stormwater system. This totals $287,000/ha ($29/sqm) for stormwater levies.

Given that development feasibility is marginal even before any water infrastructure charges, a cost of $287,000/ha would require higher rents to be charged. Current net rents average $185/sqm in the Precinct, which are 50% more than three years ago. A 5% increase would increase net rents to $195/sqm, which would put even more cost pressure on businesses.

The feasibility modelling in section 4.2 assumed net rents of $185/sqm and capitalisation rate of 4.75% to arrive at a building capital value of $3,900/sqm. A net rent of $195/sqm capitalised at 4.75% would arrive at $4,105/sqm building capital value.

Capitalisation rates have been at historic lows and the assumed 4.75% rate is not sustainable in the longer term.

Table 4-5 tests the sensitivity of building capital values to assumed net rents and softer capitalisation rates (5.0% and 5.25%). A softening to 5% reduces value from $4,105/sqm to $3,900/sqm, extinguishing any increase in value from the higher rent.

Table 4-5: Sensitivity of Building Capital Values to Rents and Capitalisation Rates

Net Rent capitalised at	4.75%	5.0%	5.25%
$185/sqm	$3,895	$3,700	$3,524
$195/sqm	$4,105	$3,900	$3,714

Table 4-6 applies the capital values derived in **Table 4-5** under different rents and capitalisation rates assuming:

- Cost of $287,000/ha for stormwater charges.
- Construction costs increased by $50/sqm to $1,200/sqm (as is indicated by current construction contracts).

Table 4-6: Feasibility Testing Results assuming Stormwater at $287,000/ha NDA

Item	s7.11, SIC, water (DSP at $50k/ha, stormwater at $1.15m/ha)	s7.11, SIC, water (DSP at $50k/ha, stormwater at $287k/ha)	s7.11, SIC, water (DSP at $50k/ha, stormwater at $287k/ha)	s7.11, SIC, water (DSP at $50k/ha, stormwater at $287k/ha)
Gross Site Area (sqm)	100,000	100,000	100,000	100,000
Net Developable Area (sqm)	85,000	85,000	85,000	85,000
Gross Floor Area (sqm)	48,875	48,875	48,875	48,875
Revenue Assumptions				
Net rent ($/sqm)	$185	$195	$195	$195
Capitalisation rate	4.75%	4.75%	5.00%	5.25%
Building capital value ($/sqm)	$3,895	$4,105	$3,900	$3,714
Cost Assumptions				
Build cost ($/sqm)	$1,150	$1,200	$1,200	$1,200
Assumed Fees and Charges ($/sqm)				
s7.11 contributions	$66.9	$66.9	$66.9	$66.9
Special Infrastructure Contributions (SIC)	$21.1	$21.1	$21.1	$21.1
DSP charges (drinking water, wastewater)	$5.0	$5.0	$5.0	$5.0
Stormwater/ recycled water charges	$115.0	$28.7	$28.7	$28.7
Revenue				
Gross Sales Revenue	$194,101,709	$204,593,693	$194,364,008	$185,108,579
Less: Selling Costs	$3,882,034	$4,091,874	$3,887,280	$3,702,172
Net Sales Revenue	$190,219,675	$200,501,819	$190,476,728	$181,406,408
Total Revenue	**$190,219,675**	**$200,501,819**	**$190,476,728**	**$181,406,408**
Costs				
Land Purchase Cost	**$57,500,000**	**$57,500,000**	**$57,500,000**	**$57,500,000**
Transaction Costs	$3,434,200	$3,434,200	$3,434,200	$3,434,200
Construction Costs (incl. Contingency)	$59,016,562	$61,582,500	$61,582,500	$61,582,500
Professional Fees	$5,016,408	$5,234,513	$5,234,513	$5,234,513
Statutory Fees (incl. s7.11)	$4,974,571	$4,986,648	$4,986,648	$4,986,648
Estate Servicing	$20,000,000	$20,000,000	$20,000,000	$20,000,000
Special Infrastructure Contributions	$1,791,486	$1,791,486	$1,791,486	$1,791,486
Water Infrastructure Charges	$10,200,000	$2,864,500	$2,864,500	$2,864,500
Land Holding Costs	$2,463,272	$2,463,272	$2,463,272	$2,463,272
Finance Charges	$350,000	$350,000	$350,000	$350,000
Interest Expense	$6,768,900	$6,095,999	$6,095,999	$6,095,999
Total Costs	**$171,515,399**	**$166,303,117**	**$166,303,117**	**$166,303,117**
Performance Indicators				
Return on Cost	10.7%	20.1%	14.2%	8.9%
Residual Land Value	**$47,321,535**	**$60,285,323**	**$52,383,645**	**$45,234,917**
Feasible?	No	Yes	No	No

The feasibility modelling shows how sensitive building capital values are to the capitalisation rate. Even if rents were able to be increased to $195/sqm, a softening of 25bps to 5.0% effectively extinguishes any increase in building capital value from the higher rent.

The modelling finds there is provisional capacity to pay a $287,000/ha charge if rents were increased to $195/sqm (from $185/sqm), however this is subject to:

- Tenants agreeing to a higher net rent of $195/sqm.
- Market yields (and capitalisation rate) softening by no more than 25bps.
- Construction cost at no more than $1,200/sqm.
- No other water infrastructure costs (e.g. interim on-site infrastructure and/ or loss of developable area).
- All infrastructure required to deliver the Precinct (not just utilities infrastructure but road and other infrastructure) are certain and to be delivered in a timely manner.

The cost of construction has been under significant upward pressure in the last 24 months. Some industry commentators expect cost rate escalations to return to trend from 2025. This does not mean construction cost prices will return to their previous levels, merely that annual cost rises will be circa 3%-4%. It is unknown whether construction costs will continue to face sustained upward pressure and the extent of cost inflation likely to be witnessed over the medium term.

A net rent of $195/sqm does not reflect rents agreed with the already committed tenants in the Precinct. This rent increase is untested with the market. Due to the severely constrained supply in Greater Sydney, businesses are already paying 50% more rent than they were three years ago. This has placed significant cost pressure on businesses. Businesses may well decide to remain in their existing, smaller premises if higher rents are not viable for their business operating model.

Financing costs and market yields have been at historic lows for the last few years. The softening of hurdle rates is inevitable and especially given the increase in financing costs and increasing global uncertainty. Indeed, average yields are noted to have softened by 95bps since their lowest position in mid-2022 (Knight Frank, 2023). As **Table 4-5** has shown, softening of the adopted 4.75% capitalisation rate by 25bps to 5.0% extinguishes the revenue gains from the higher $195/sqm rents.

Implications for the Precinct

The modelling shows that if the recommendations of the 2022 report were adopted and a stormwater charge of $287,000/ha were required, there would be capacity for development to pay but an increase in rent to at least $195/sqm would be required. Rents at this level are not tested with the market.

New tenants (other than those already committed) ***may*** be willing to pay $195/sqm if they can be assured of the delivery of warehouse premises in the time required, i.e. that all infrastructure required (road and utilities infrastructure) was certain to be delivered in a timely manner.

Rents in the Precinct currently average $185/sqm which are 50% more than they were three years ago. This is 55% more than average Melbourne rents ($120/sqm) and 37% more than average Brisbane rents ($135/sqm). Accordingly, there is little capacity for business tenants to pay much higher rents as they grapple with the rising cost of fuel and energy and reduction in demand for non-essential goods.

Any increase in rents in the Precinct will either be met with resistance (i.e. tenants will remain in their current, smaller premises or pursue development opportunities in other states) or if accepted, the higher rent is expected to be passed onto their customers.

5. Economic Impacts of Mamre Road Precinct

This chapter examines the economic activity and impacts that could result through delivery of the Mamre Road Precinct (**the Proposal**) during construction works and through ongoing activity upon completion.

5.1 Overview and Approach

Economic impacts are considered against a Base Case of no Government intervention where development is not feasible. Some committed developments can progress, however, the vast majority of development is no longer feasible to deliver and will not proceed.

The Landowners' Group controls 550ha zoned land (equivalent to approximately 466ha NDA). More than 200ha of the developable land has been committed to (referred to as **Stage 1**), with the remaining 263ha for future development (referred to as **Stage 2**).

Methodology

Atlas reviewed details of more than 20 businesses who have committed to the Precinct (who have signed heads of agreement) to build a profile understanding of:

- Floorspace and land committed in the Precinct.
- Industry sector and sub-sector (by ANZSIC).
- Whether the occupier was a new entrant to Sydney or if premises at Mamre Road represented an expansion of their current business operations.

Table 5-1 develops a profile of business activity that could occur in the Precinct (in Stage 1) should development proceed as planned. For the purposes of modelling the economic impacts, the profile of business activity in Stage 1 is assumed to be replicated in Stage 2.

Table 5-1: Profile of Businesses Committed to the Precinct

Industry	Land Committed (ha)	%	Floorspace Committed (sqm)	%
Basic Chemical Manufacturing	5.3	2.6%	24,785	2.4%
Wholesale Trade	45.1	22.1%	234,289	22.5%
Internet Service Providers, Internet Publishing and Broadcasting, Websearch Portals	23.5	11.5%	164,288	15.8%
Motor Vehicles and Parts, Other Transport Equipment Manufacturing	3.4	1.7%	8,640	0.8%
Human Pharmaceutical and Medicinal Product Manufacturing	5.0	2.5%	28,955	2.8%
Road Transport	115.8	56.8%	550,607	52.9%
Other Fabricated Metal Product Manufacturing	2.8	1.4%	14,000	1.3%
Plaster and Concrete Product Manufacturing	3.0	1.5%	15,000	1.4%
Total	**203.8**	**100.0%**	**1,040,564**	**100.0%**

Source: Landowners' Group, Atlas

The committed floorspace (1,040,564sqm) is equivalent to approximately FSR 0.5:1, which is consistent with on-the-ground observations in other estates.

Atlas undertook a process in collaboration with the leasing agents responsible for placing the businesses at the Precinct of identifying whether the premises would be an expansion/ consolidation of current premises elsewhere in Sydney or if the premises represent a net addition. In the case of the former, the economic impacts associated with the expanded floorspace (net new floorspace) was considered for modelling. As such, the economic impact considered only *net new economic activity* and excludes any existing economy activity already taking place in the Sydney region by the businesses committed to the Precinct.

After building the likely occupier/ business activity profile, Atlas assessed the economic impacts of the activity at the Greater Sydney level. An Input-Output model (including the development of specific regional Input-Output transaction tables) was developed to reflect the economic structure of Greater Sydney (see SCHEDULE 2 for further detail).

Input-Output modelling considers economic activity through examining four types of impacts as described in **Table 5-2**.

Table 5-2: Economic Indicators

Indicator	Description
Output	The gross value of goods and services transacted, including the cost of goods and services used in the development and provision of the final product. Care should be taken when using output as an indicator of economic activity as it counts all goods and services used in one stage of production as an input to later stages of production, thus overstating economic activity.
Gross Value Added	The value of output after deducting the cost of goods and services inputs in the production process (less the impact of net taxes on final production). Gross Value Added (GVA) defines a net contribution to economic activity.
Incomes	The wages and salaries paid to employees as a result of the Project either directly or indirectly.
Employment	Employment positions generated by the Project or Proposal (either full time or part time, directly or indirectly). Employment is reported in terms of Full-time Equivalent (FTE) positions or person-years.

Source: Atlas

Input-Output modelling estimates show the impacts of direct spending in a particular industry as well as from Production-induced impacts (Type I) or Consumption-induced impacts (Type II).

- **Production-induced impacts (Type I)** show the effects of industrial support effects of additional activities undertaken by supply chain industries increasing their production in response to direct and subsequent rounds of spending.
- **Consumption-induced impacts (Type II)** estimate the re-circulation of labour income earned as a result of the initial spending, through other industry impacts, and impacts from increased household consumption.

The estimates of economic impacts consider production and consumption-induced flow-on impacts. Type II impacts are commonly considered to overstate economic activity and therefore the types of flow-on impacts are reported separately.

Drivers of Economic Activity

To understand the economic impacts likely to result from the Proposal, it is necessary to distinguish economic impacts during the construction phase and those economic impacts that will be more permanent in nature following construction completion and operations commencement and stabilisation to long-run averages.

- **Construction Phase:** Construction activity will draw resources from and thereby generate economic activity in Greater Sydney. Modelling assumes the construction phase is serviced by labour and businesses within the Greater Sydney area.
- **Operational Phase:** Estimated ongoing economic activity from industrial businesses locating into the Precinct.

Economic activity through the construction and operational phases has been divided into:

- **Stage 1 Committed Development (Net Additional Activity):** Activity generated through committed developments within the Precinct. Economic activity from these occupiers has been reported net of:
    - Existing regional employment space (elsewhere in Sydney) that will be vacated to relocate into Mamre Road.
    - Developments that are likely to go ahead elsewhere or within the Precinct regardless of proposed water infrastructure charges.
- **Stage 2 Future Development Activity:** Activity on parcels of land within the Precinct that have not yet been committed to by a specific operator but will be available for future development. Assumptions have been made by Atlas regarding the types of businesses that will likely occupy this space in the future given the mix of committed developments. Estimates of future activity have been reported without allowance for relocation from existing employment space within Greater Sydney.

Refer to SCHEDULE 2 for a description of the drivers and assumptions that underpin the assessed economic impacts.

5.2 Economic Activity and Impacts

Economic impacts arising in the construction phase are estimated separately to the operational phase. Construction impacts are expected to be short-term in nature (occurring as individual sites are developed) and will conclude when development activity is completed.

Construction Phase

Through construction works the Proposal is projected to generate significant economic impacts for Greater Sydney, including:

- **Stage 1** - currently committed developments are estimated to generate:
  - $4.1 billion in output (including $1.9 billion in direct activity).
  - $1.7 billion contribution to GVA (including $568.6 million in direct activity).
  - $864.8 million in incomes and salaries paid to households (including $309.9 million in direct income). Based on NSW current payroll tax rate of 5.45% this would result in up to $47.1 million in payroll tax depending on the share of wages paid by businesses above the payroll tax threshold.
  - 8,329 FTE jobs (including 3,055 FTE directly employed in construction activity).
- **Stage 2** - future development activity has the potential to generate even greater activity over the longer term:
  - $8.7 billion in output (including $4.1 billion in direct activity).
  - $3.6 billion contribution to GVA (including $1.2 billion in direct activity).
  - $1.9 billion in incomes and salaries paid to households (including $664.7 million in direct income) and up to $101.2 million in payroll tax contribution.
  - 17,895 FTE jobs (including 6,568 FTE directly employed in construction activity).

Economic impacts during construction are summarised in **Table 5-3**.

Atlas highlights that construction impacts are reported ***in total*** for the construction phase over the life of the development, and do not represent an average annual estimate.

Table 5-3: The Proposal Construction Impacts, Greater Sydney

Indicator	Output ($M)	GVA ($M)	Incomes ($M)	Employment (FTE)
Committed Development (Stage 1)				
Direct	$1,909.5	$568.6	$309.9	3,055
Flow-on Type I	$1,153.0	$524.9	$310.8	2,750
Flow-on Type II	$1,002.9	$564.3	$244.1	2,524
Total	**$4,065.4**	**$1,657.8**	**$864.8**	**8,329**
Future Development Activity (Stage 2)				
Direct	$4,103.6	$1,219.5	$664.7	6,568
Flow-on Type I	$2,477.8	$1,127.6	$667.5	5,908
Flow-on Type II	$2,153.2	$1,211.7	$524.2	5,419
Total	**$8,734.6**	**$3,558.8**	**$1,856.4**	**17,895**
Total Economic Activity				
Direct	$6,013.1	$1,788.1	$974.6	9,623
Flow-on Type I	$3,630.8	$1,652.5	$978.3	8,658
Flow-on Type II	$3,156.1	$1,776.0	$768.3	7,943
Total	**$12,800.0**	**$5,216.6**	**2,721.2**	**26,224**

Note: Totals may not sum due to rounding
Source: Atlas

The Proposal is estimated to result in significant construction activity over the life of the development (Stage 1 and 2):

- $12.8 billion additional in output (including $6.0 billion in direct activity).
- $5.2 billion additional in contribution to GVA (including $1.8 billion in direct activity).
- $2.7 billion additional in incomes and salaries paid to households (including $974.6 million directly).
- Up to $148.3 million payroll tax contribution.
- 26,224 additional FTE jobs (including 9,623 additional FTE jobs directly).

Operational Phase

Following the completion of construction, the Proposal is estimated to support the following annual economic activity through direct and indirect (flow-on) impacts associated with operations in the Precinct:

- **Stage 1** Committed Developments (Net Additional Activity):
  - $3.0 billion in output (including $1.3 billion in direct activity).
  - $1.5 billion contribution to GVA (including $615.9 million in direct activity).
  - $781.3 million in incomes and salaries paid to households (including $360.3 million in direct income).
  - Up to $42.6 million payroll tax contribution.
  - 7,433 ongoing FTE jobs (including 3,333 FTE directly related to activity in the Precinct).
- **Stage 2** Future Developments (once fully developed and occupied):
  - $9.1 billion in output (including $4.2 billion in direct activity).
  - $4.5 billion contribution to GVA (including $1.9 billion in direct activity).
  - $2.3 billion in incomes and salaries paid to households (including $1.1 million in direct income).
  - Up to $126.5 million payroll tax contribution.
  - 21,015 ongoing FTE jobs (including 8,811 FTE directly related to activity in the Precinct).

Table 5-4 summarises the estimated economic impacts during the operational phase supported by Stage 1.

Table 5-4: Stage 1 Operational Impacts, Greater Sydney

Indicator	Output ($M)	GVA ($M)	Incomes ($M)	Employment (FTE)
Committed Development (Net Additional Activity)				
Direct	$1,340.6	$615.9	$360.3	3,333
Flow-on Type I	$782.1	$374.5	$215.1	1,972
Flow-on Type II	$845.6	$475.8	$205.8	2,128
Total	**$2,968.3**	**$1,466.2**	**$781.3**	**7,433**
Future Development Activity				
Direct	$4,175.3	$1,917.3	$1,056.1	8,811
Flow-on Type I	$2,453.6	$1,164.6	$654.0	5,880
Flow-on Type II	$2,512.7	$1,414.0	$611.7	6,324
Total	**$9,141.7**	**$4,496.0**	**$2,321.8**	**21,015**
Total Economic Activity				
Direct	$5,515.9	$2,533.2	$1,416.4	12,144
Flow-on Type I	$3,235.7	$1,539.1	$869.1	7,852
Flow-on Type II	$3,358.3	$1,889.8	$817.5	8,452
Total	**$12,110.0**	**$5,962.2**	**$3,103.1**	**28,448**

Note: Totals may not sum due to rounding.
Source: Atlas

The Proposal facilitates a significantly intensified use of the Precinct, accommodating more businesses and employment activity, resulting in greater levels of output and contribution to the Greater Sydney economy.

The Proposal (Stage 1 and Stage 2) is estimated to result in a total increase in economic activity (including committed and future developments once fully developed and occupied) through direct and indirect (flow-on) annually at:

- $12.1 billion additional in output (including $5.5 billion in direct activity).
- $6.0 billion additional in contribution to GVA (including $2.5 billion in direct activity).
- $3.1 billion additional in incomes and salaries paid to households (including $1.4 billion directly) and up to $169.1 million payroll tax contribution.
- 28,448 additional FTE jobs (including 12,144 additional FTE jobs directly related to activity in the Precinct).

The economic impacts estimated in this section demonstrates the Proposal has economic merit, having the ability to contribute significantly to the Greater Sydney economy.

5.3 Implications for Greater Sydney's Economy

Given the lack of serviced supply of industrial land in Greater Sydney, businesses that are committed to premises in the Precinct are not expected to be able to locate elsewhere. This means that the economic activity that is foregone in the Precinct will represent a ***net loss*** to the Greater Sydney economy.

The economic impacts to Greater Sydney's economy should development of the Precinct not occur would result in foregone business investment, employment opportunities and economic output.

There are more than 20 businesses who have already committed to the Precinct (approx. 204ha of land) and are ready to invest and create jobs. There are many more enquiries, but the uncertainty of delivery is deterring tenant commitment. Immediate development would facilitate the following annual economic activity through direct and indirect (flow-on) impacts associated with operations in the Precinct:

- $3.0 billion in output (including $1.3 billion in direct activity).
- $1.5 billion contribution to GVA (including $615.9 million in direct activity).
- $781.3 million in incomes and salaries paid to households (including $360.3 million in direct income).
- 7,433 ongoing FTE jobs (including 3,333 FTE directly related to activity in the Precinct).

Without available industrial land, Sydney's competitive position is at significant risk of losing these immediate opportunities and the 7,400 employment opportunities for Western Sydney. More broadly, without additional available and serviced industrial land, Greater Sydney has no room for more investment and will miss out on additional jobs.

The unlocking of development in the Precinct will add 3 years to Sydney's industrial land supply. While not solving the broader issue of land supply, it will provide temporary/ short-term relief. Government intervention to enable development in the Precinct is critical.

References

ABS (2017). *Census of Population and Housing, 2016*. ABS, Canberra.

ABS (2022). *Census of Population and Housing, 2021*. ABS, Canberra.

ABS (20223a). *Australian National Accounts: Input-Output Tables, 2020-21*. Cat. No. 5209.0.55.001. ABS, Canberra.

ABS (2023b). *Consumer Price Index, Australia*. Cat. No. 6401.0. ABS, Canberra.

CBRE (Q1 2023), *Sydney Industrial and Logistics 1Q23*. CBRE. Available from: https://www.cbre.com.au/insights/reports/figures-sydney-industrial-and-logistics-1q23

Colliers (Q1 2023). *Industrial Development Update Western Sydney*. Q1 2023. Available from: https://www.colliers.com.au/en-au/research/western-sydney-industrial-development-update-q1-2023

Cushman and Wakefield (Q1 2023, 2022, 2021). *Marketbeat Sydney*. Available here: https://www.cushmanwakefield.com/en/australia/insights/sydney-marketbeat

Cushman and Wakefield (Q1 2023). *Marketbeat Melbourne*. Available here: https://www.cushmanwakefield.com/en/australia/insights/melbourne-marketbeat

Cushman and Wakefield (Q1 2023). *Marketbeat Brisbane*. Available here: https://www.cushmanwakefield.com/en/australia/insights/brisbane-marketbeat

Kronenberg, T. (2009). *Construction of Regional Input-Output Tables Using Nonsurvey Methods: The Role of Cross-Hauling*. International Regional Science Review, 32(1), 40–64.

DPE (2022). *Employment Lands Development Monitor*. Available from: https://www.planning.nsw.gov.au/research-and-demography/employment-lands/employment-lands-development-monitor

DPE (2019). *Mamre Road Precinct Frequently Asked Questions*. November 2019. Available from: https://shared-drupal-s3fs.s3-ap-southeast-2.amazonaws.com/master-test/fapub_pdf/Exhibition+attachments+/Final+FAQ+Mamre+Rd+2019+11+18.pdf

Department of Transport and Planning (2021). *Urban Development Program*. Available from: https://www.planning.vic.gov.au/land-use-and-population-research/urban-development-program/industrial-2021

Knight Frank (2023). Australian Industrial Review. Q1 2023. Available from: https://content.knightfrank.com/research/2293/documents/en/australian-industrial-review-may-2023-10246.pdf

NIEIR (2022). *Economic Data Provided*. NIEIR, Melbourne.

Norbert, S. (2015). Methods for Regionalising Input-Output Tables. *Regional Statistics*, 5(1), 44-65.

NSWPorts (2023). *NSW Ports Monthly Trade Report June 2022 (FY22)*. NSWPorts, Sydney.

NSW Department of Customer Service (2019). *Payroll Tax and Salaries Payments by NSW Businesses*. Available from: https://data.nsw.gov.au/data/dataset/payroll-tax-and-salaries-payments-by-nsw-businesses

Port of Brisbane (2023). *Monthly Trade Report, June 2022*. Port of Brisbane, Port of Brisbane QLD.

Port of Melbourne (2023). *Trade performance*. Available from: https://www.portofmelbourne.com/about-us/trade-statistics/trade-performance/

QLD State Development, Infrastructure, Local Government and Planning (2018-2021). *Land Supply and Development Monitoring Reports*. Available from: https://planning.dsdmip.qld.gov.au/report/lsdm?release=2021&area=seq&page=industrial

Schedules

SCHEDULE 1

Development Feasibility Testing Assumptions

Feasibility modelling is undertaken to examine the tolerance of development to the proposed water infrastructure charges.

Development Typology

Based on proposed land uses in the Precinct, a typical development is numerically constructed for feasibility testing.

Table S1-1: Notional Development Parameters

Gross Site Area (sqm)	NDA (sqm)	Site Cover	GLA/GFA (sqm)*	Parking
100,000	85,000 (85%)	57.5%	48,875	At-grade

*Gross Lettable Area and Gross Floor Area are assumed similar for the analysis

Source: Atlas

Timing Assumptions

The following assumptions are made to reflect construction programme of the notional development.

Table S1-2: Timing of Development

Construction Program	Month Start	Month Span
Land purchase/ design	0	6
Development approvals	6	12
Infrastructure/ Estate servicing	18	8
Building works	26	14
Completion	40	1

Source: Atlas

Revenue Assumptions

Revenue assumptions for the completed industrial floorspace assume:

- Net market rent of $185/sqm lettable area.
- Capitalisation rate of 4.75% thereby resulting in a $3,900/sqm capital building value.

Other revenue assumptions:

- GST is excluded.
- Marketing and legal costs are each assumed at 0.25% of gross sales revenue.
- Sales commission on sales included at 1.5% of gross sales revenue.

Cost Assumptions

The cost of land assumed at $575/sqm of gross site area.

- Legal and due diligence costs assumed at 0.5% of land cost and is assumed to be paid on exchange in Month 1.
- The site is assumed to be appropriately zoned with design and development planning occurring immediately upon settlement.

Construction cost assumptions are generic in nature and based on experience and industry cost publications.

- Construction build cost at $1,150/sqm GFA.
- Estate servicing at $200/sqm of gross site area.

Other cost assumptions:

- Professional fees at 8.5% of construction cost expensed as follows:
  - 5.5% pre-construction (during design and DA documentation).
  - 3.0% pro-rated with construction.
- Construction contingency of 5% of construction cost.
- Statutory fees and charges:
  - DA, CC and long service levy at statutory rates.
  - Section 7.11 contributions at $668,893/ha NDA (assuming 20% can be offset against works-in-kind), as at March 2023.
  - SIC at $210,763/ha NDA (assuming no state roads), as at 1 July 2022.
- Holding costs including land tax, Council and water rates.

Other cost assumptions:

- Developer equity used for land purchase cost with remaining costs debt funded with interest capitalised monthly (nominal 5.5% per annum).
- Finance establishment cost of 0.35% of peak debt.

Hurdle Rates and Performance Indicators

Target hurdle rates are subject to perceived risk of a project (planning, market, financial and construction risk). The higher the project risk, the higher the hurdle rate. The following performance indicators are relied upon:

- Development Margin is profit divided by total development costs (including selling costs).
- Discount rate refers to the project internal rate of return (IRR) where net present values of an investment is zero.
- Residual Land Value is arrived at by assessing the maximum land value a developer is willing to pay based on both hurdles of development margin and discount rate being met.

The following benchmark hurdle rates are assumed.

Table S1-3: Benchmark Hurdle Rates

Hurdle Rates	Feasible	Marginal to Feasible	Not Feasible
Return on Cost (Development Margin)	>18%	16%-18%	<16%
Project IRR	>18%	16%-18%	<16%

Source: Atlas

SCHEDULE 2

Input-Output Modelling Methodology

Input-Output models are a method to describe and analyse forward and backward economic linkages between industries based on a matrix of monetary transactions. The model estimates how products sold (outputs) from one industry are purchased (inputs) in the production process by other industries.

The analysis of these industry linkages enables estimation of the overall economic impact within a catchment area due to a change in demand levels within a specific sector or sectors.

Impacts are traced through the economy via:

- **Direct impacts**, which are the first round of effects from direct operational expenditure on goods and services.
- **Flow-on impacts** (indirect impacts), which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales. Flow-on impacts can be disaggregated to:
    - **Industry Support Effects (Type I)** derived from open Input-Output models. Type I impacts represent the production induced support activity as a result of additional expenditure by the industry experiencing the stimulus on goods and services, and subsequent round effects of increased purchases by suppliers in response to increased sales.
    - **Household Consumption Effects (Type II)** derived from closed Input-Output Models. Type II impacts represent the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries being paid within the catchment economy.

Economic analysis considers the following four types of impacts.

Table S2-1: Economic Activity Indicators

Indicator	Description
Output	The gross value of goods and services transacted, including the cost of goods and services used in the development and provision of the final product. Care should be taken when using output as an indicator of economic activity as it counts all goods and services used in one stage of production as an input to later stages of production, thus overstating economic activity.
Gross Value Added	The value of output after deducting the cost of goods and services inputs in the production process (less the impact of net taxes on final production). Gross Value Added (GVA) defines a net contribution to economic activity.
Incomes	The wages and salaries paid to employees as a result of the Project or Proposal either directly or indirectly.
Employment	Employment positions generated by the Project or Proposal (either full time or part time, directly or indirectly). Employment is reported in terms of Full-time Equivalent (FTE) positions or person-years.

Source: Atlas

Regional Model Development

Multipliers used in this assessment have been created using a regionalised Input-Output model derived from the 2020-2021 Australian transaction table (ABS, 2023a).

Estimates of gross industry production in the catchment area were developed based on the share of employment (by place of work) of the catchment area within the Australian economy (ABS, 2022) using the Flegg Location Quotient and Cross Hauling Adjusted Regionalisation Method (CHARM). See Norbert (2015) and Kronenberg (2009) for further details. Where required, values were indexed to current dollar values using CPI (ABS, 2023b).

Modelling Limitations and Assumptions

Input-Output modelling is subject to a number of key assumptions and limitations (ABS, 2023a):

- **Lack of supply–side constraints:** The most significant limitation of economic impact analysis using multipliers is the implicit assumption that the economy has no supply–side constraints. That is, it is assumed that extra output can be produced in one area without taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or near capacity.
- **Fixed prices:** Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. Prices are assumed to be unaffected by policy and any crowding out effects are not captured.
- **Fixed ratios for intermediate inputs and production:** Economic impact analysis using multipliers implicitly assumes that there is a fixed input structure in each industry and fixed ratios for production. As such, impact analysis using multipliers can be seen to describe average effects, not marginal effects. For example, increased demand for a product is assumed to imply an equal increase in production for that product. In reality, however, it may be more efficient to increase imports or divert some exports to local consumption rather than increasing local production by the full amount.
- **No allowance for purchasers' marginal responses to change:** Economic impact analysis using multipliers assumes that households consume goods and services in exact proportions to their initial budget shares. For example, the household budget share of some goods might increase as household income increases. This equally applies to industrial consumption of intermediate inputs and factors of production.
- **Absence of budget constraints:** Assessments of economic impacts using multipliers that consider consumption induced effects (type two multipliers) implicitly assume that household and government consumption is not subject to budget constraints.

Despite these notable limitations, Input-Output techniques provide a solid approach for assessing the direct and flow-on economic impacts of a project or policy that does not result in a significant change in the overall economic structure.

Drivers of Economic Impact

In order to understand the economic impacts likely to result from the Proposal, it is necessary to distinguish economic impacts during the construction phase and those economic impacts that will be more permanent following construction completion.

- **Construction Phase:** Construction activity will draw resources from and thereby generate economic activity in the Greater Sydney economy as well as from outside Greater Sydney

  Assumptions are made on the proportion sourced from within and from outside Greater Sydney.
- **Operational Phase:** Estimated ongoing economic activity from industrial businesses locating onto the Site has been divided into:
  - **Stage 1 Committed Development (Net Additional Activity):** Activity generated through committed developments within the Precinct. Economic activity from these occupiers has been reported net of existing employment space and developments that are likely to go ahead elsewhere in the absence of the Proposal or within the Precinct regardless of water infrastructure charge impacts.
  - **Stage 2 Future Development Activity:** Activity on parcels within Mamre Road Precinct that have not yet been committed to by a specific operator but will be available for future development.

Construction Phase

For modelling purposes, construction costs (including contingency) for the Proposal were broken down into their respective Australia and New Zealand Standard Industrial Classification (ANZSIC) industries.

The breakdowns were developed based on the following assumptions by Atlas regarding the most appropriate ANZSIC industries for each activity and estimated average square metre construction costs for occupying businesses.

Activity has been split into committed developments (sites with a committed proponent for development, likely to undergo construction in the near term of the Proposal proceeds) and future development activity (sites which are yet to be purchased for development).

Construction costs have been estimated based on industry benchmarks from sources such as RLB as well as from Atlas industry knowledge. Estimated construction costs were affirmed by the Landowner's Group to accurately reflect the projects being considered for development.

Table S2-2: Construction Cost Allocation (including Contingency)

Work Type	($M)	ANZSIC
Committed Developments		
Buildings	$1,256.5	Non-Residential Building Construction
Site Works	$503.4	Heavy and Civil Engineering Construction
Professional Services Costs	$149.6	Professional, Scientific and Technical Services
Total	**$1,909.5**	-
Future Development Activity		
Buildings	$2,715.5	Non-Residential Building Construction
Site Works	$1,066.6	Heavy and Civil Engineering Construction
Professional Services Costs	$321.5	Professional, Scientific and Technical Services
Total	**$4,103.6**	-

Note: Totals may not sum due to rounding.
Source: Atlas

For modelling purposes, it is assumed that construction and professional services activity will be sourced from within the Greater Sydney catchment area.

Operational Phase

In order to model the economic impacts, operational employment levels for the economic activity occurring in the Proposal were categorised into the ANZSIC industries. Employment was estimated through converting the floorspace proposed to be developed within the Site based on employment density assumptions by Atlas.

For illustrative purposes, operational activity was divided into:

- **Stage 1 Committed Activity (Net Additional Activity):** Employment estimates for these spaces have based on committed developments within Mamre Road net of any:
    - Existing local employment space held by the occupier.
    - Developments likely to proceed elsewhere (or continue on the site regardless of the water charges).

  The above assumptions have been developed based on market intelligence from leasing agents working on the Precinct. Proposed occupiers have been allocated to the most relevant ANZSIC sectors based on assumptions by Atlas.

  Information for individual occupiers has not been disclosed to maintain commercial confidentiality and occupancy has been summed based on groupings of ANZSIC categories.

Table S2-3: Committed Developments Net Additional Activity Esitmates

ANZSIC	Occupier Notes	Land Committed (sqm)	Floorspace Committed (sqm)	Net Floorspace Increase[1]	Job Density (sqm/FTE)	Employment Impact (FTE)
Basic Chemical Manufacturing	Limited alternative sites, occupier will stay in current location without the Proposal	52,530	24,785	18,750	150	125
Wholesale Trade	Multiple occupiers, mix of new market entrants and expansion projects	450,731	234,289	190,500	200	953

ANZSIC	Occupier Notes	Land Committed (sqm)	Floorspace Committed (sqm)	Net Floorspace Increase[1]	Job Density (sqm/FTE)	Employment Impact (FTE)
Internet Service Providers, Internet Publishing and Broadcasting, Websearch Portals and Data Processing	New facilities, majority of activity will likely proceed regardless of infrastructure charges	234,697	164,288	-	1,000	0
Motor Vehicles and Parts; Other Transport Equipment manufacturing	Relocation/ expansion, occupier will stay in current location without the Proposal	33,833	8,640	1,400	150	9
Human Pharmaceutical and Medicinal Product Manufacturing	Consolidation of operations into a single site which is unlikely to occur elsewhere without the Proposal	50,014	28,955	24,250	150	162
Road Transport	Multiple occupiers, mix of relocation and new facilities. Existing operators will stay in current location without the Proposal	1,157,835	550,607	494,000	250	1976
Other Fabricated Metal Product Manufacturing	Single occupier expansion project, proponent will maintain current facilities	28,000	14,000	14,000	250	56
Plaster and Concrete Product Manufacturing	Relocation of existing facilitates with significantly expanded footprint.	30,000	15,000	13,000	250	52
Total	-	**2,037,640**	**1,040,564**	**755,900**	**227**	**3,333**

Notes: [1] Estimates adjusted for relocation from existing space and/or development that will occur regardless of infrastructure charges. Totals may not sum due to rounding.
Source: Atlas

- **Stage 2 Future Development Activity:** Based on available employment lands to be developed within the Precinct which have yet to be committed to by a specific occupier (approximately 204ha committed out of 635.5ha developable area). Activities within these spaces has been based on ANZSIC sectors likely to take up space within the Site over time given the profile of committed developments.

  No allowance has been made for the transfer of existing employment to these sites, though given the supply/demand balance for industrial land in Greater Sydney, it is likely that future development will support a net increase in employment and economic activity.

Table S2-4: Future Development Economic Activity Esitmates

ANZSIC	Land Area (sqm)	GFA (sqm)	Employment Density (sqm/FTE)	Future Employment (No.)
Basic Chemical Manufacturing	111,301	52,515	150	350
Wholesale Trade	955,011	507,366	200	2,537
Internet Service Providers, Internet Publishing and Broadcasting, Websearch Portals and Data Processing	497,277	348,094	1,000	348
Motor Vehicles and Parts; Other Transport Equipment manufacturing	71,685	18,306	150	122
Human Pharmaceutical and Medicinal Product Manufacturing	105,970	61,350	150	409
Road Transport	2,453,226	1,199,805	250	4,799
Other Fabricated Metal Product Manufacturing	59,327	29,663	250	119
Plaster and Concrete Product Manufacturing	63,564	31,782	250	127
Total	**4,317,360**	**2,248,881**	**227**	**8,811**

Note: Totals may not sum due to rounding.
Source: Atlas

Employment by industry estimates for committed and future developments were converted to a direct output value using a multiplier based on the national transaction table (ABS, 2023a). The resultant estimates of output were modelled as the direct activity associated with the Proposal.

Table S2-5: Operational FTE Allocation of Floorspace

ANZSIC	Employment (FTE)	Direct Output ($M)
Committed Development (Net Additional Activity)		
Basic Chemical Manufacturing	125	$155.8
Wholesale Trade	953	$466.7
Internet Service Providers, Internet Publishing and Broadcasting, Websearch Portals and Data Processing	0	$0.0
Motor Vehicles and Parts; Other Transport Equipment manufacturing	9	$3.5
Human Pharmaceutical and Medicinal Product Manufacturing	162	$95.0
Road Transport	1,976	$553.5
Other Fabricated Metal Product Manufacturing	56	$29.1
Plaster and Concrete Product Manufacturing	52	$36.9
Total	**3,333**	**$1,340.6**
Future Development Activity		
Basic Chemical Manufacturing	350	$436.3
Wholesale Trade	2,537	$1,243.1
Internet Service Providers, Internet Publishing and Broadcasting, Websearch Portals and Data Processing	348	$713.0
Motor Vehicles and Parts; Other Transport Equipment manufacturing	122	$46.3
Human Pharmaceutical and Medicinal Product Manufacturing	409	$240.4
Road Transport	4,799	$1,344.2
Other Fabricated Metal Product Manufacturing	119	$61.6
Plaster and Concrete Product Manufacturing	127	$90.3
Total	**8,811**	**$4,175.3**

Notes: Totals may not sum due to rounding.
Source: Atlas

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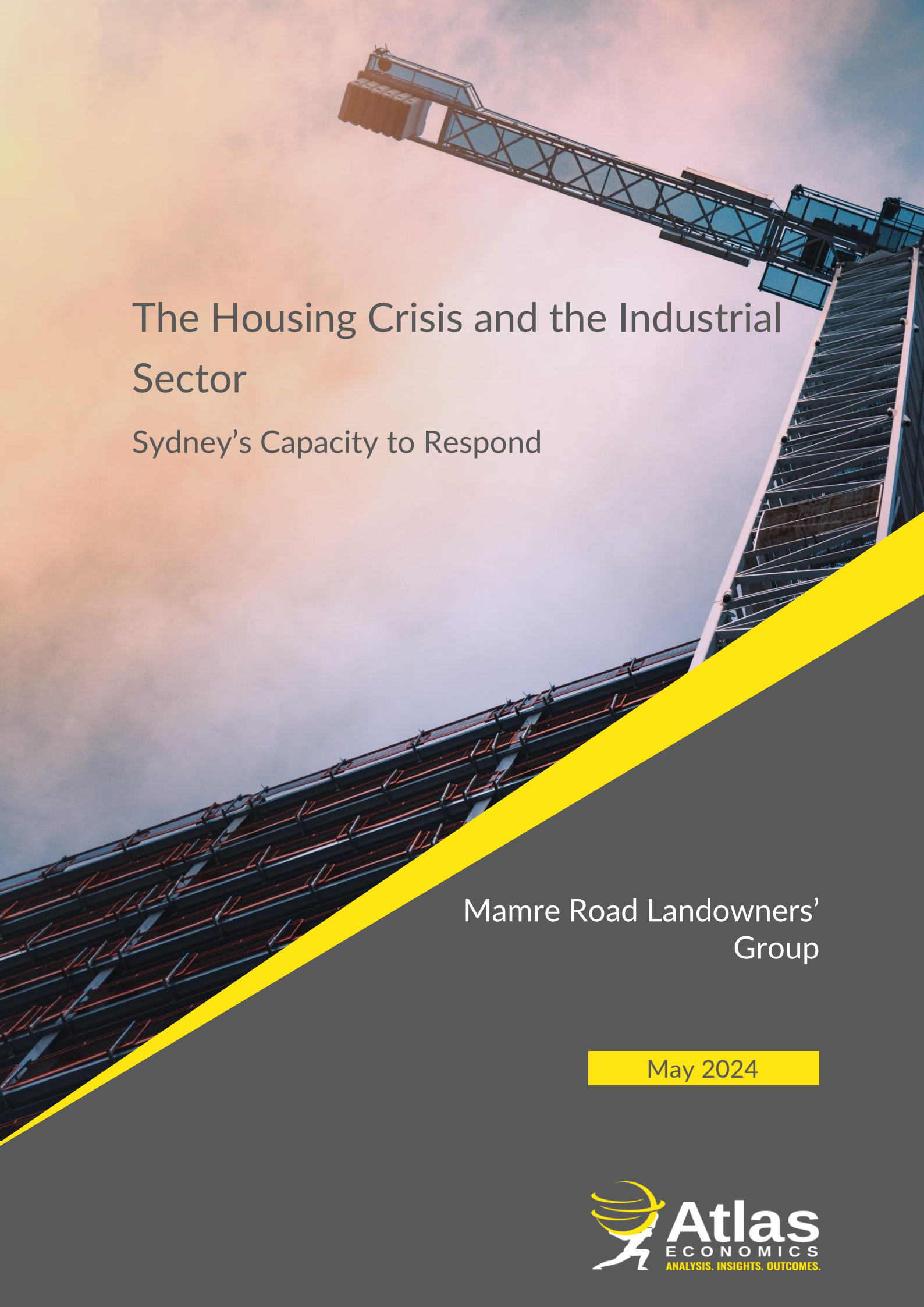
BARINGS

Appendix B

Atlas Economics

The Housing Crisis and the Industrial Sector



The Housing Crisis and the Industrial Sector

Sydney's Capacity to Respond

Mamre Road Landowners' Group

May 2024

Atlas ECONOMICS
ANALYSIS. INSIGHTS. OUTCOMES.

Executive Summary

THE HOUSING CRISIS

The housing crisis in NSW has been well documented and is well known. Currently, housing affordability and availability are at their lowest levels in decades. Homelessness NSW estimates that there is a shortfall of more than 200,000 social and affordable homes in the state, with almost 60,000 households waiting for social housing.

The National Housing Accord is an agreement between the Commonwealth, states and territories to deliver 1.2 million homes from 2024 to 2029. The NSW share is 357,700 dwellings (equivalent to an average of 75,000 dwellings annually) and for Greater Sydney, the target is equivalent to 50,000 annually over the five-year period.

Greater Sydney averaged 30,700 homes annually over the last two decades. The highest level of dwelling completions was 42,000 per annum in 2017/18 and 2018/19. **To meet the National Housing Accord targets, dwelling delivery in Greater Sydney needs to rise 60% from the historical average**, which is a significant, step-change increase.

Atlas Economics (**Atlas**) has been engaged by the Mamre Road Landowners Group to investigate the role of the industrial sector and specifically serviced industrial land in alleviating the Greater Sydney housing crisis (**the Study**).

This Study estimates the quantum of additional industrial land which will be required to deliver the Housing Accord targets. In particular, the Study considers the capacity of construction supply chains in Greater Sydney to deliver the housing targets and achieve the Government's objective of improving housing affordability.

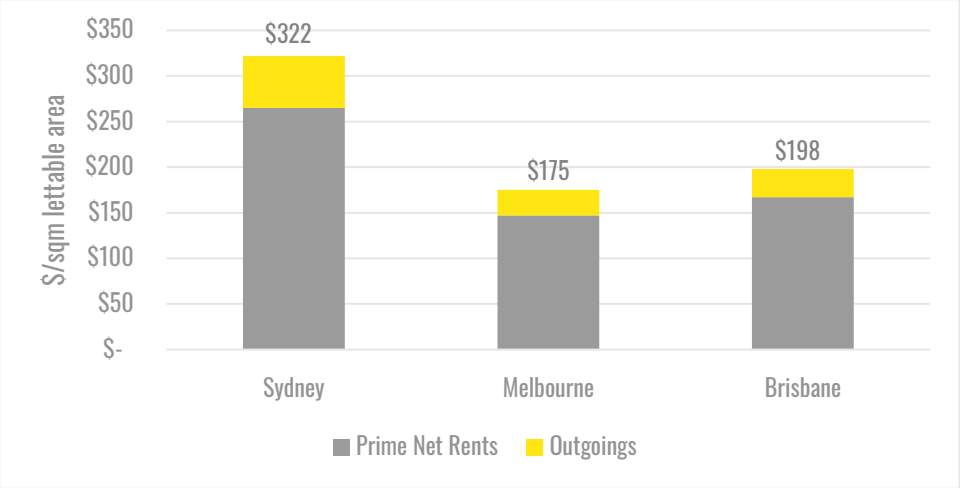
THE CURRENT STATE OF PLAY

Sydney has a housing crisis. Sydney also has an industrial lands crisis. Previous Atlas research found that Greater Sydney has approximately one year of serviced industrial land supply remaining and has the lowest industrial vacancy rate nationally. This acute shortage of industrial supply has serious consequences for the cost of doing business, the cost-of-living and Sydney's ability to be competitive and provide for employment opportunities.

Rents, Land Values and Building Capital Values

Figure ES-1 shows that in 2024, businesses in Sydney are paying rents that are 85% higher than Melbourne's and 65% higher than Brisbane's. This poses an acute affordability problem for businesses.

Figure ES-1: Prime Net Rents and Outgoings - Sydney, Melbourne, Brisbane (2024)

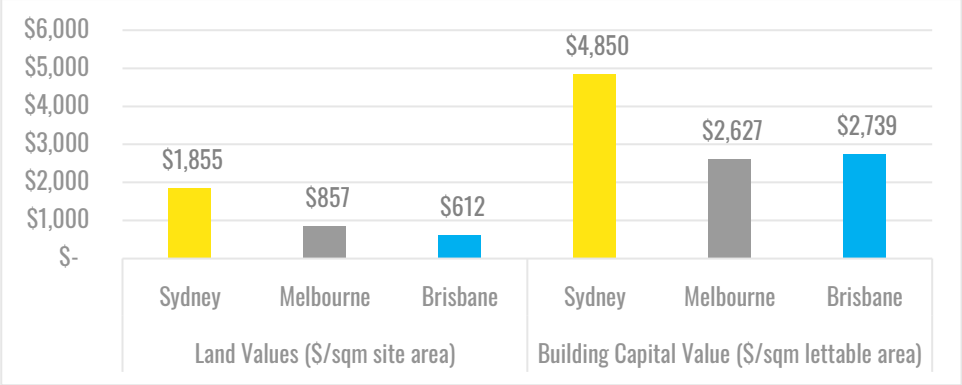


Source: Cushman and Wakefield (2024)

Land values in Sydney are more than double Melbourne's and more than treble Brisbane's. This means much higher economic rents must be charged for development to be feasible.

Figure ES-2 shows a comparison of land values and building capital values between Sydney, Melbourne and Brisbane. The significant gap between the prices of Sydney and peer capital cities highlights a supply and affordability crisis in Sydney.

Figure ES-2: Land Values and Building Capital Values - Sydney Melbourne and Brisbane (2024)



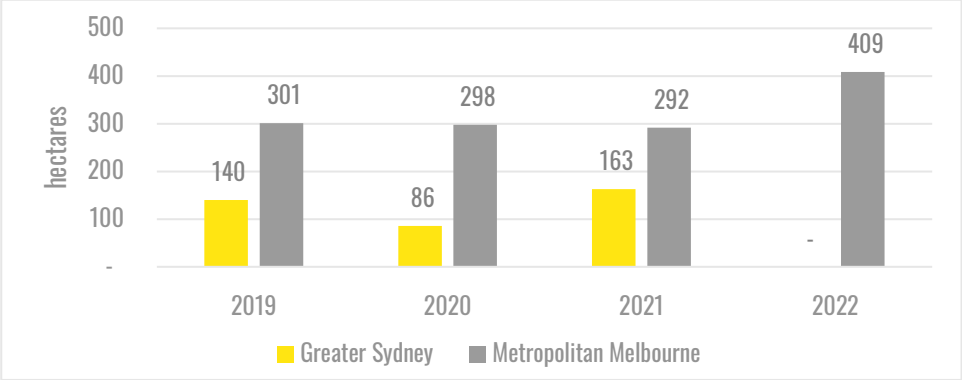
Source: Cushman and Wakefield (2024)

Take-up and Remaining Supply of Industrial Land

The take-up (development of land) is a reflection of market demand. For Australia's largest capital city, demand for land in Sydney would be expected to be at least on par with Melbourne's.

Instead, and as shown in **Figure ES-3**, the annual take-up of industrial land in Sydney has been only 30%-60% of Melbourne's. This is symptomatic of a supply constrained market. The anaemic rate of take-up has been for over more than a decade, and assuming a similar take-up to Melbourne's, the lack of supply has resulted in a cumulative deficit of 1,700 hectares.

Figure ES-3: Annual Take-up of Industrial Land, Sydney v Melbourne (2019-2022)

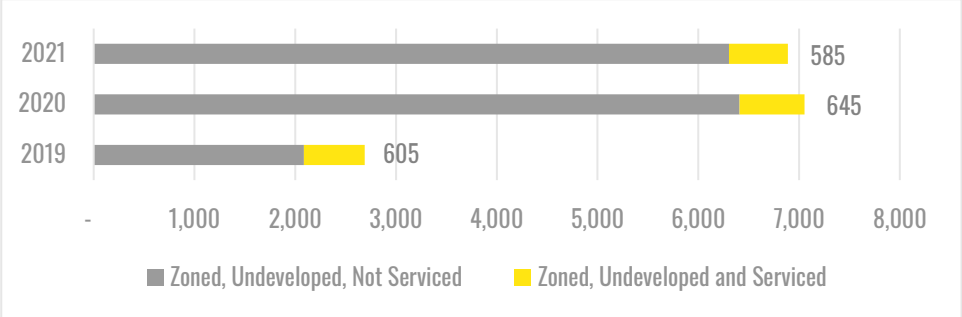


Source: DPHI (2022), DTP (2023), Atlas

Sydney has about 1.5 years of ***theoretical*** supply remaining. However, analysis shows much of that supply is either too small or not available to the general market. Greater Sydney has at best, **about one year of remaining industrial land supply**.

Figure ES-4 illustrates the supply of undeveloped land in Greater Sydney (serviced and not serviced) as at January 2022. There is almost 7,000ha of undeveloped zoned land, but >90% is not serviced (having a lack of roads and utility services).

Figure ES-4: Undeveloped Zoned Land and Serviced Land, Greater Sydney (January 2022)



Source: DPHI (2022)

In stark contrast, Melbourne has about **11.5 years** of theoretical supply and South East Queensland (SEQ) about **13.5 years**. Governments in VIC and QLD have strategic land supply policies that require 15 years of forward land supply.

No Room to Grow

With one year of supply remaining, there is no room for business investment, growth and further employment. With near zero vacancy there is no space available, businesses are forced to pay prices much higher than Melbourne and Brisbane.

Demand from residential construction to meet the Housing Accord targets will place additional demands on industrial land that is constrained and result in even greater upward pressure on rents and prices.

Business Perspectives

The Study interviewed some of the largest businesses within the building and construction supply chain. These businesses manufacture and/or supply a range of critical building materials including steel, cement, timber, wall panels, etc.

The shortage of industrial land in Sydney is well-known in the industry and the Greater Sydney region has long been seen as too expensive to allow for local expansion, even though this would be their preference. Engagement confirmed that the construction industry is running at utilisation levels (85%-90%). Some businesses' Sydney facilities are at full capacity.

The shortage of industrial land in Sydney has forced these businesses to find alternative solutions. Many have expanded to regional areas, while others simply supply the Sydney market from interstate. These strategies have cost implications - the added transport trips increase the price of materials for the construction industry and increase carbon emissions.

CONSTRUCTION DEMAND FOR INDUSTRIAL LAND

Additional Demand

Master Builders Australia (MBA) produces a five-year industry forecast across residential and non-residential construction and heavy and civil engineering (i.e. infrastructure). For NSW, these forecasts show how industry activity can ramp-up to meet the National Housing Accord targets. The forecasts are used to identify the associated demand for industrial land.

The current circumstances do not enable the construction sector to ramp-up to much needed capacity to meet the Housing Accord housing targets. Delivery of 50,000 dwellings (avg. 2 bedroom) requires 50,000 kitchens, 100,000 toilets, 150,000 sinks and taps, etc. per annum. Building materials such as timber, steel, bricks, tiles and sanitary ware will be procured from a mix of offshore and local sources, requiring the supply chain to expand its capacity to source, store and distribute.

No Capacity

Since 2010, Sydney has lagged Melbourne's ability to respond to market demand, resulting in a cumulative deficit of 1,700 hectares. Currently, there is at best, one year of serviced industrial land remaining. Existing serviced stocks in Sydney are all but exhausted. In contrast, Melbourne and SEQ can both draw on stocks of more than 10 years supply of industrial land.

Even if the construction supply chain expanded capacity (at regional and Victorian sites), it would lead to higher costs and longer lead-times. This perversely thwarts the Government's objective of housing supply to improve housing affordability.

Flood of Supply Needed

Using the MBA forecasts, the increased delivery of housing would require about 280-380 hectares of serviced industrial land (the lower of the range required if there was surplus capacity available across existing supply chain facilities in Sydney). In reality though, even if 280-380 hectares of serviced industrial land were to become available, high prices for land would likely remain, making procurement of new facilities not viable for the construction sector (and much of its supply chain). A much greater amount of land is therefore required to not only provide capacity but to ***re-set prices***.

The release of 2,000 hectares of serviced land is needed to act as a pressure valve release for demand that has not been satisfied - a situation that has resulted in runaway rents and prices. That would provide the headroom capacity for broader industries, as well as ~300 hectares to support residential construction (aligned to the National Housing Accord targets). This level of a supply would provide for a re-setting of the current high prices and enable take-up by the construction sector (and others) at affordable prices.

Sydney's strategic location on the East Coast of Australia positions it well as a servicing base for the three most populous states of NSW, Victoria and Queensland. The availability of land that is developable and affordable has ramifications not just for the Housing Accord targets but has broader consequences for Sydney's economic prosperity.

INTERVENTIONS NEEDED

As at January 2022, Sydney had 6,900 hectares of zoned industrial land. Only 8% of that land was serviced, with much of that land is either too small (<5ha) or not available to the general market. There is a concentration of large lots (>5ha) in precincts that are zoned, but not serviced. These are Mamre Road (775ha) precinct and the Northern Gateway (1,000ha), Agribusiness (870ha), Aerotropolis Core (465ha) and Badgerys Creek (180ha) which are in the Western Sydney Aerotropolis.

The Mamre Road Precinct was rezoned in 2020. It is the only zoned precinct that has significant institutional investment and tenant interest and where development planning is well advanced.

Mamre Road Precinct

In 2023, Atlas undertook a feasibility analysis of the Mamre Road Precinct following release of Sydney Water DSP charges at >$1,000,000/ha NDA. The work found that the entire Mamre Road Precinct was not feasible to develop.

The work found that there was provisional capacity to pay up to $287,000/ha NDA for DSP charges subject to a number of factors, including *inter alia*, if rents were increased by 5%, if there was no interim abortive costs or land sterilisation associated with meeting waterway health controls ahead of a regional scheme and if funding and if delivery of the required road infrastructure was forthcoming in a timely manner.

Despite this, the DSP charges submitted by Sydney Water to IPART for finalisation are $800,000/ha NDA and the NSW Government requires interim waterway measures that would sterilise approximately 60% of site area.

The cumulative impact of the loss of developable area ***and*** additional cost associated with the interim solution results in development that is not feasible.

As the Government scrambles to ease the housing crisis and greatly increase the supply of housing in NSW, any increase in housing supply should be supported by an urgent increase in serviced industrial land.

Immediate Steps

There are immediate interventions that can unlock development in the Mamre Road Precinct. Focusing on this precinct makes sense due to development planning that is advanced and the weight of investment capital and tenant interest in play.

- **Administrative amendment of SIC allocation to biodiversity (currently 72%)** - this would enable SIC payments from first mover developers to deliver enabling infrastructure. Once the enabling infrastructure is delivered, the allocation from future SIC payments to biodiversity conservation can be re-adjusted as needed. At present, only 28% from SIC contributions can be offset against works-in-kind (e.g. delivery of roads), with 72% to be paid in cash for biodiversity.
- **Fast track delivery of critical roads Mamre Road and Southern Link Road** - funding accompanied by fast-track delivery.
- **Economic evaluation of new (step-change) water targets** - consider DSP charges in an economic appraisal (including a cost benefit analysis). Atlas is not aware of any cost benefit analysis (**CBA**) completed to weigh up the costs and benefits of the desired stormwater target outcomes. If there is an economic case (i.e. the benefits exceed the costs), the CBA must also consider the distributional impacts of the benefits and the costs.

  A feasibility analysis (by Atlas which was peer reviewed by DPHI) confirms the disproportionate cost burden of the DSP charges and the loss of developable land (60% of site area). The adverse impact on the feasibility of development was found to be severe, not capable of remedy even when construction cost escalations 'settle'.

  The implementation of public policy must have regard to how cost and benefit is distributed. In the case of the desired stormwater targets, the issue is 'who should pay for the targeted benefits?' If development cannot afford to bear the cost and if broader societal net benefits are targeted, it would be appropriate for that cost to be borne by Government. If Government does not have the capacity or appetite to bear the cost, alternate stormwater targets should be developed - targets that are affordable, and which are capable of being delivered.
- Unlock the backlog of planning applications and enable greater flexibility in planning controls.
- Provide an urgent, immediate coordination role to streamline infrastructure delivery and development.

Once implemented, the above interventions would set the scene for delivery of lands in the Western Sydney Aerotropolis.

Integration of Land Use and Infrastructure Planning

It is imperative for Sydney that land use planning is integrated with infrastructure planning. There is little point in rezoning land if that land has no reasonable prospect of being serviced by road and utility infrastructure.

The Victorian PSP (precinct structure plan) process recognises this - it embeds a collaborative process between key stakeholders (developers, referral authorities and decision makers) to resolve key planning challenges early. The Victorian Planning Authority (VPA) leads the preparation of the PSP in close partnership with the associated council and relevant agencies. Land is not rezoned unless it is developable and infrastructure funding arrangements are in place.

The effectiveness of the integration of land use and infrastructure planning and the Victorian PSP process can be observed in the relative pricing of dwellings in greenfield areas. In Sydney, a typical house and land package in a greenfield area is $1,000,000 while in Melbourne, a typical house and land package in a similar greenfield area is $650,000.

The coordinated and orderly release of land in Victoria has meant that land value movements have been more tempered. In contrast, Sydney's land value movements have experienced increases of epic proportions.

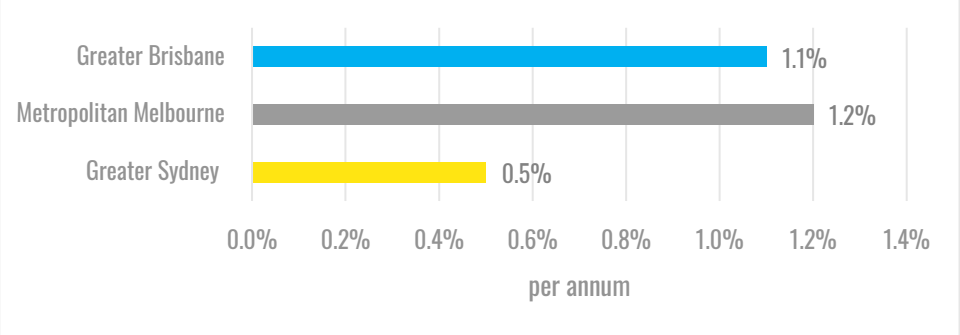
Strategic Land Supply Policy

Victoria and Queensland both have strategic land supply policies that are given statutory weight. Both state planning frameworks require 15 years of land supply that is zoned and serviced, or capable of being serviced.

NSW would benefit from implementing a strategic land supply policy for all land uses. This would ensure a healthy and viable supply of land. This is essential to temper land value movements - which occurred at runaway proportions in Sydney.

The industrial sector is valuable. During 2020-21, the industrial sector contributed an estimated $70 billion (18%) to the Greater Sydney economy. Despite this, Sydney's constrained land supply situation has 'held back' investment and growth of the industrial sector. **Figure ES-5** shows the comparatively low employment growth compared to Melbourne and Brisbane.

Figure ES-5: Industrial Employment Growth, Sydney v Melbourne v Brisbane (2016-2021)



Source: ABS (2022)

The Cost of Do Nothing

Without large-scale unlocking of serviced industrial land, the twin objectives of housing supply and housing affordability of the Housing Accord will not be met. The construction supply chain will be serviced from outside Sydney, leading to higher construction costs. These costs will be passed on and the cost of housing will be even less affordable.

If allowed to continue, the industrial lands crisis in Sydney will continue to:

- Stymie employment growth in the industrial sector.
- Drive up land values and rents, and cumulatively impact the cost of doing business and cost-of-living.
- Stymie business growth and shift investment away from Sydney.
- Increase the environmental cost through greater trucking movements from regional and interstate locations.

Sydney has no capacity to respond to the Housing Accord targets in a timely or cost-effective manner. Immediate interventions are needed at the Mamre Road Precinct to urgently unlock zoned land as longer-term strategies are also pursued but that take time to bear dividend.

Terms and Abbreviations

Terms

Take-up of land	Development of land
Theoretical capacity	Refers to the physical and legal ability of land to be developed. It takes into account permissibility under the planning framework. It is a commercial reality that not all sites will be developed to their theoretical capacity even though permissible. This could be due to various reasons including lack of market demand, ownership and lot fragmentation and high property values.
Market capacity	Refers to the realisable capacity of theoretical capacity. There will be market capacity where there is market demand and development is feasible to undertake.

Abbreviations

ABS	Australian Bureau of Statistics
CBA	Cost Benefit Analysis
DPHI	NSW Department of Planning, Housing and Infrastructure
DSP	Development Servicing Plan
DTP	VIC Department of Transport and Planning
DSDMIP	QLD Department of State Development, Infrastructure, Local Government and Planning
IPART	Independent Pricing and Regulatory Tribunal
NDA	Net developable area
PSP	Precinct structure plan
SEQ	South East Queensland
SIC	Special infrastructure contribution
VPA	Victorian Planning Authority

Table of Contents

Schedules

1. Introduction

1.1 Background

Greater Sydney currently faces one of the most acute housing crises in the world. The city is ranked as the 2nd least affordable city in the world (behind only Hong Kong), and acute issues including rental/ mortgage stress and homelessness have reached crisis proportions. There is general consensus across the community and all levels of government that additional housing supply is the key means to alleviate the housing crisis.

The Federal Government's Housing Accord aims to lift national housing supply significantly beyond the business-as-usual. However, delivering the required housing stock will require significant expansion of industrial supply chains including direct construction, product manufacturing, and warehousing/ transport functions which are critical in new housing construction.

The construction sector faces significant headwinds from the sharp rise in construction input costs, compounded by shortages of labour and materials which has eroded profit margins on existing fixed-price contracts. Contagion presents serious risk where subcontractors do not have a diversified revenue stream and are directly affected by builder insolvency. The construction sector was reported to have the highest number of insolvencies (28%), follows by the accommodation and food services industry (15%) in the 12 months to 30 June 2023 (ASIC, 2023).

The industrial sector is also facing significant headwinds, including rising input costs, labour and skills competition (including from a generational infrastructure construction pipeline). More particularly in Greater Sydney, the industrial sector additionally faces a shortage of serviced land and a shortage of available floorspace.

Atlas' previous research found that Greater Sydney has approximately one year of serviced industrial land supply remaining and has the lowest industrial vacancy rate nationally. The impacts of the acute shortage of industrial supply opportunities is demonstrated in pricing levels:

- Industrial rents in Greater Sydney are 80% higher than Melbourne's and 60% higher than Brisbane's.
- Industrial land values in Greater Sydney are 200% Melbourne's and 300% Brisbane's.

This acute shortage of industrial supply opportunities has serious consequences for the cost of doing business and the cost of living, with broader ramifications for Sydney's competitiveness.

National Housing Accord

In August 2023, the National Cabinet agreed to a national target to build 1.2 million homes over five years from 2024. National Cabinet also endorsed the Commonwealth providing $3.5 billion in payments to state, territory and local governments to support the delivery of new homes towards this target. The Housing Accord is one component of the government's broader housing agenda which also includes significant funding for social and affordable housing and additional support for renters and homebuyers.

As part of the accord, the NSW has a share of the overall delivery target of 375,000 dwellings (75,000 dwellings pa over five years) of which an estimated 245,000 dwellings (49,106 dwellings pa) would be allocated within Greater Sydney based on share of population and identified need.

Figure 1-1: National Housing Accord Targets (2024/25 to 2029/30)

Geography	Share of Population	Dwelling Target (2024/25 to 29/30)	Annual Dwelling Target
Australia	100.0%	1,200,000	240,000
NSW	31.3%	375,665	75,133
Greater Sydney	20.5%	245,532	49,106

Source: Commonwealth Treasury (2024), Atlas

NSW will need to build 375,000 homes (or 75,000 each year), over this period to contribute to the national target. This volume of housing production has never been achieved in NSW, with the highest level in a five-year period achieved over 2016-2021, where ~298,000 dwellings were delivered (equivalent to ~59,000 pa).

Supply Chain Capacity for Expansion

Whilst much has been discussed on what steps the residential construction sector needs to take to meet this housing target, little has been mentioned of the role of industrial lands and businesses in supporting the target.

The residential construction sector is a large user of industrial lands, as is their upstream supply chain. The capacity of the sector to grow and scale at the level needed to meet the NSW housing target is intrinsically tied to the availability of industrial land, particularly in Greater Sydney where the bulk of new housing is planned for delivery.

The construction industry is a notable contributor to the demand for industrial land. Leasing data suggests that demand for industrial land from the construction sector is 5%-7%, which would equate to 600-800 hectares in Greater Sydney.

The Importance of Industrial Lands

Atlas Economics (**Atlas**) has been engaged by the Mamre Road Landowners Group to investigate the role of the industrial sector and specifically serviced industrial land in alleviating the Greater Sydney housing crisis (**the Study**).

This Study investigates the historical links between industrial activity and new housing delivery and estimates the quantum of additional industrial land which will be required to deliver the Housing Accord targets. In particular, the Study considers the capacity of construction supply chains in Greater Sydney to deliver the housing targets and achieve the Government's objective of improving housing affordability.

The twin issues of the affordability of land (and premises) and the cost of doing business are inextricably linked to the ability of the construction sector to deliver more housing, affordably.

1.2 Study Objectives and Approach

The Study focuses primarily on the industrial land requirement to meet the housing targets under the National Housing Accord. Other construction demands (e.g. by non-residential construction and infrastructure delivery) placed on industrial land are also considered in the interest of providing context to the overall demand for industrial land as well as the relationship between new households, new jobs and the infrastructure to support the two.

Optimisation of the Construction Supply Chain

The construction supply chain's requirements depend on whether it is infrastructure (road/ rail) or building construction. Infrastructure construction has greater relative demand for steel and concrete which are more weighted to 'make to order' manufacturing less reliant on warehouse storage. Building construction has greater demand for warehousing as it relies more on 'make to stock' products (e.g. plumbing, electrical, bricks, tiles, etc.), many of which are imported.

One nuance in quantifying the additional demand for land and floorspace is the issue of utilisation and productivity. The demand for land/ floorspace is not linear. If there is a need for more space, suppliers will naturally explore opportunities to utilise their existing facilities more efficiently. This could include interventions such as:

- Putting on more shifts.
- Utilising more automation and investing in technology.
- Reducing their stock of inventory held, therefore increasing the velocity of stock through their warehouse and ultimately the capacity of their facilities.

It is necessary to understand the potential for existing premises to have higher utilisation rates. Industrial facilities could already be operating at high utilisation levels and older premises could be challenging to retrofit with automation and technology to increase utilisation and output.

The ability of supply chains to improve productivity/ capacity depends on a number of factors including transport infrastructure, workforce availability, investment in warehouse layout changes, etc. The assessment of additional land/ floorspace requirement is therefore a complex question.

Atlas worked with Infosys Portland to carry out interviews of select businesses in the construction supply chain. The interviews sought to obtain business perspectives on their likely supply chain response (in particular the need for more land) to an uptick in residential construction activity.

Structure of the Study

The remainder of this Study is structured as follows:

- Chapter 2 analyses historical new home construction data and the links to uptake of industrial lands. This provides historical context and basis for future need.
- Chapter 3 reviews the broader supply and demand dynamics for the Greater Sydney industrial market, providing context for the supply situation that the Housing Accord demand will be driving demand into.
- Chapter 4 considers the capacity of supply chains to increase productivity, capacity and velocity within existing premises and the outlook for Greater Sydney's industrial market from an industry perspective.

  Interviews with businesses who manufacture and/ or supply to the construction sector identify the factors that influence supply chain capabilities and growth prospects. The business perspectives provide insight into the growth expectations of the construction sector.
- Chapter 5 applies transaction table relationships (utilising Input-Output multipliers) to estimate the industrial land needs across the supply chain to deliver additional housing as well as respond to ongoing growth arising from non-residential and infrastructure projects. More particularly, the assessment is cognisant of:
  - The gap between the historical delivery in Greater Sydney and the housing target of 50,000 dwellings per annum.
  - The need to service growth arising from the non-residential and civil construction sectors.
- Chapter 6 reviews the findings of the Study and considers the implications of increased construction sector activity on the need for serviced industrial land in Greater Sydney.

  The chapter examines the state of play of industrial markets in Greater Sydney and the interventions needed to meet the Government's objectives of increasing housing supply and improving housing affordability.

1.3 Assumptions and Limitations

This Study relies on a number of key assumptions and is subject to the following limitations:

- **Volatility and cyclical nature of the construction sector:** The construction sector is currently subject to significant volatility due largely to rapidly rising costs/ higher interest rates and supply chain disruptions. Furthermore, the nature of the construction sector and demand for industrial land are cyclical and will vary considerably at the high and low points of the cycle.

  The aim of the Study is to consider the specific lands needed to deliver Housing Accord targets in the context of the current supply and demand dynamic.
- **Limitations of Input-Output multipliers:** Input-Output multipliers are subject to a number of key assumptions and associated limitations. To the extent possible, estimates of need are adjusted based on industry consultation, specifically the potential to expand production on the current industrial footprint.
- **Limited to the Greater Sydney catchment**: Impacts from outside of the Greater Syndey economy (e.g. industrial expansion elsewhere, increased housing demand in other regions which may be serviced by the Greater Sydney supply chain) are not incorporated into the demand modelling.
- **Changing nature of construction delivery:** Estimates of demand are based on the most recent transaction table relationships and projected future growth across sectors. Changing delivery practices and technologies such as 3D printing and on-site manufacturing may notably change the relationship between demand for industrial land and new housing delivery over time.

Despite the limitations, this Study aims to provide a robust understanding of the relationship between new housing delivery, industrial land and the supply needed to facilitate future housing delivery within Greater Sydney.

2. Industrial Activity and Residential Construction

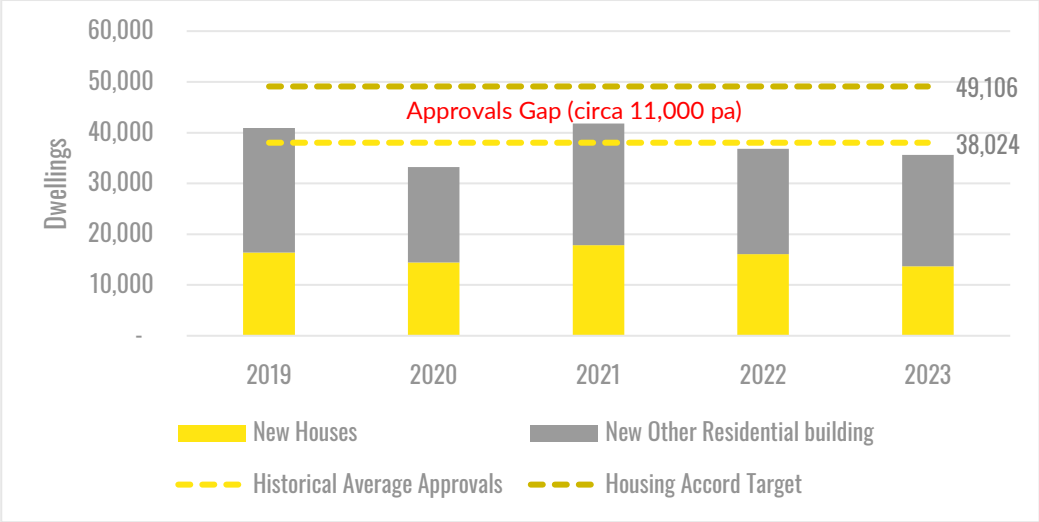
2.1 Housing Construction Activity

Greater Sydney has historically approved between 30,000, and 40,000 dwellings annually going back to 2019. Activity is volatile from year to year, with swings of -19% and +25% over the COVID-impacted years of 2020 and 2021.

Notably, there is no discernible growth trend within the five-year data, with industry cost pressures and higher interest rates leading to weaker activity (just under 36,000 dwelling approvals) over 2023 compared to the five-year average of 38,000. To meet the goals of the Housing Accord, Greater Sydney would need to sustain delivery approximately 50,000 dwellings annually over a five-year period.

The mix of dwellings approved is weighted toward higher density (circa 55% of total approvals) with detached houses still representing a significant share of total new housing delivery.

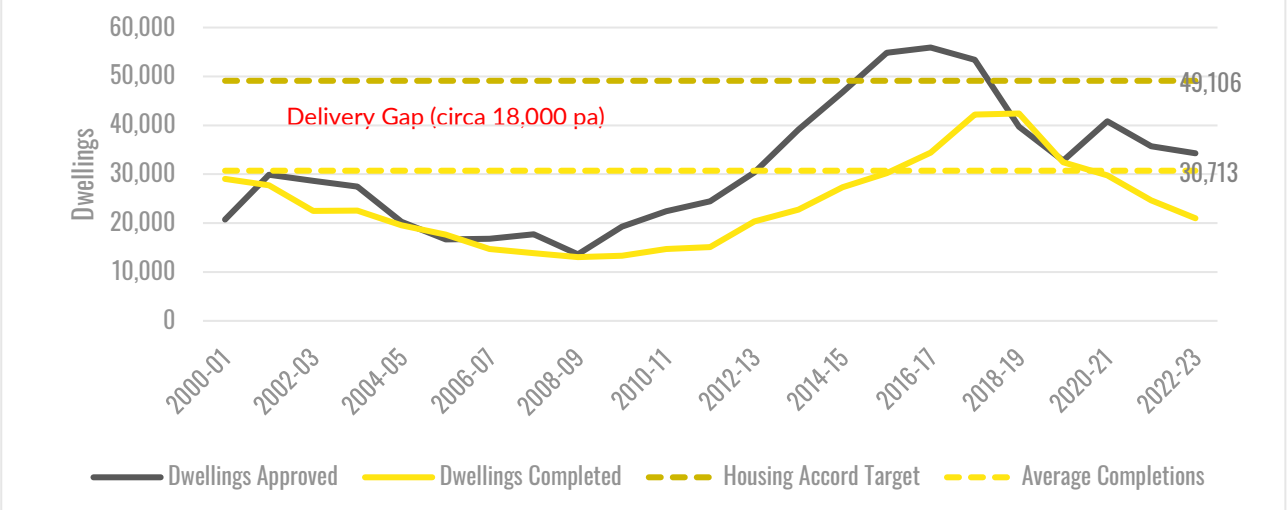
Figure 2-1: Historical Dwelling Approvals, Greater Sydney (2019-2023)



Source: ABS (2024a)

The actual completion of dwellings has increasingly lagged approvals (by up to 21,000 dwellings annually). In the most recent year of data, dwelling completions lagged approvals by 15,000 dwellings. Over the last two decades, Greater Sydney has averaged just 30,700 dwelling completions per year. Completions peaked in 2017/18 and 2018/19 at just over 42,000 dwellings per year. Historical completions are well below the Housing Accord target share of 50,000 dwellings per year.

Figure 2-2: Approvals v Dwelling Completions, Greater Sydney (FY2001 to FY2023)

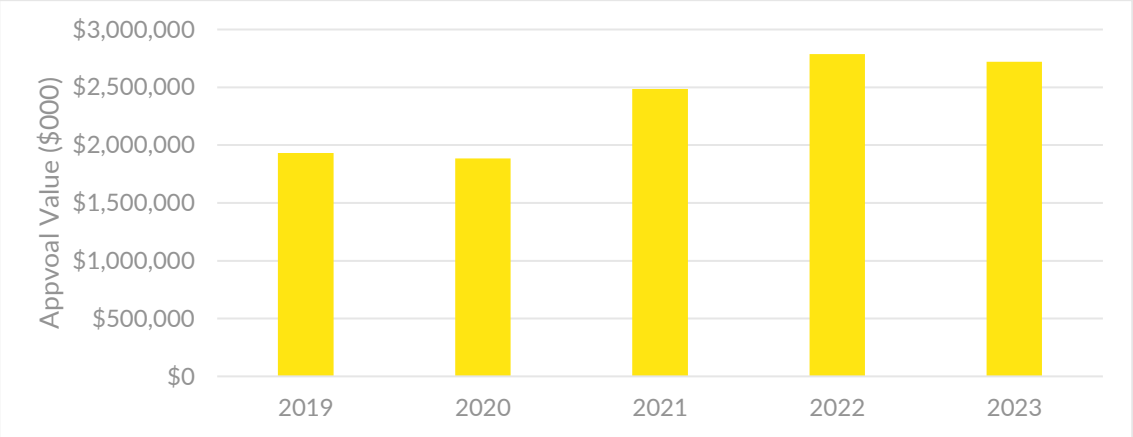


Source: ABS (2024a, DPHI, 2024)

The annual value of residential construction has averaged between $15 billion and $20 billion pa over the past five years, with the total value of approvals also volatile from year to year (see **Figure 2-3**).

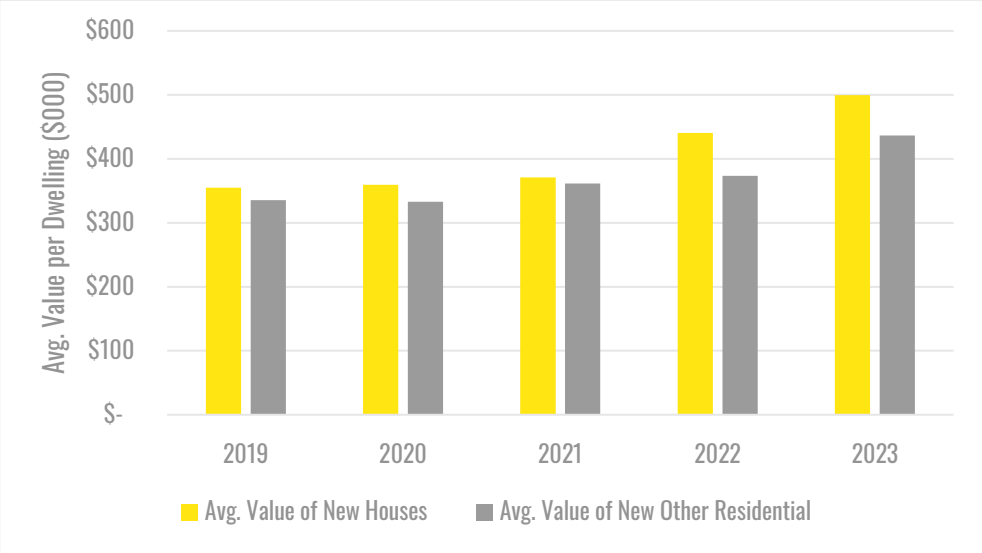
The average cost of new dwellings has risen rapidly from $355,000 to $499,000 for detached houses (+8.9% annual increase) and $335,000 to $436,000 for higher density dwellings (+6.8% annual increase) over the analysis period (see **Figure 2-4**).

Figure 2-3: Value of Residential Building Approvals, Greater Sydney (2019-2023)



Source: ABS (2024a)

Figure 2-4: Avg. Approval Value Per Dwelling, Greater Sydney (2019-2023)



Source: ABS (2024a)

Future Construction Activity

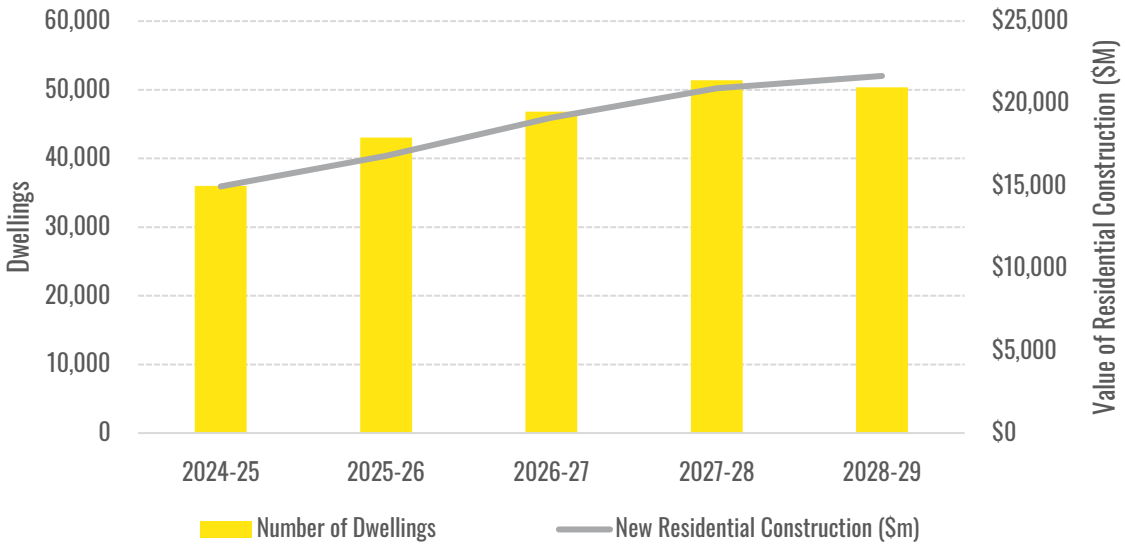
Master Builders Australia (**MBA**) is the only industry body representing the three sectors that comprise the building and construction industry - residential, non-residential and civil construction.

MBA recently released forecasts (April 2024) for NSW that demonstrate how the industry can meet the National Housing Accord annual target of 75,000 homes. The projections also provide a forecast for future building activity in the non-residential and civil construction sectors. These forecasts have been made at the State level.

To identify residential forecasts at the Greater Sydney regional level, a population weighting based on future population projections from the NSW Department of Planning Housing and Infrastructure (**DPHI**) has been used. Historical economic activity has been used to identify the Greater Sydney portion of the future forecasts.

Based on MBA forecasts, Greater Sydney will reach 50,000 new residential dwellings by 2027-28 at a value in excess of $20 billion. The forecasts represent a significant ramping-up of industry production, well above the historical average of 30,700 new dwellings per year.

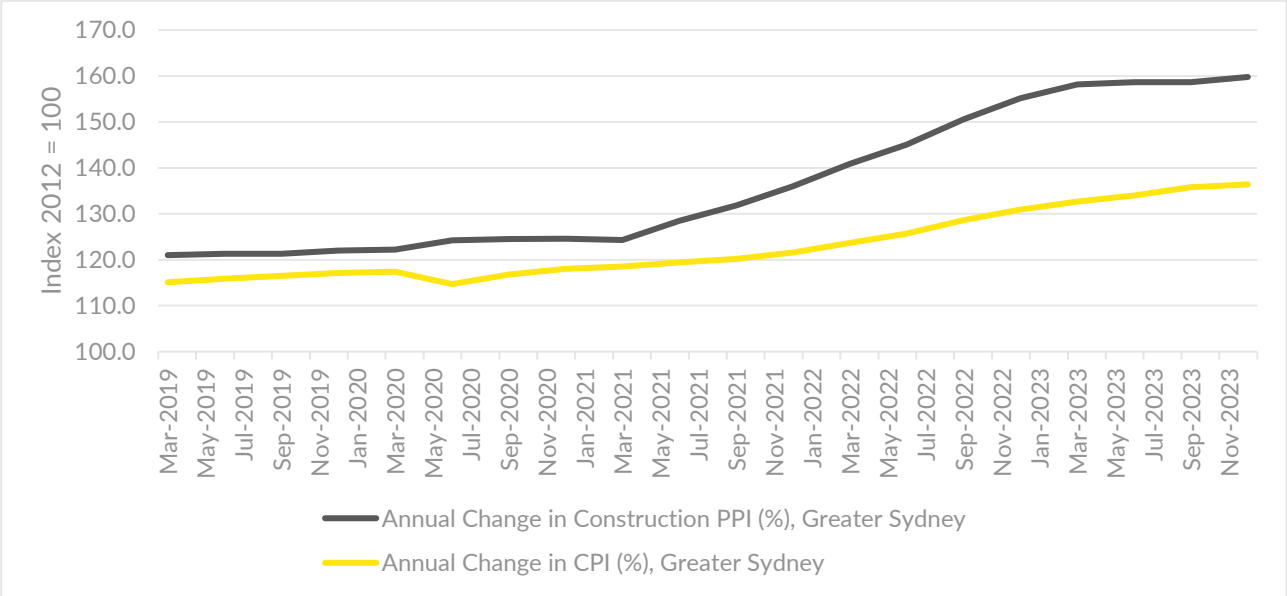
Figure 2-5: Residential Construction Forecast, Greater Sydney (FY2025 to FY2029)



Source: MBA (2024), Atlas

Construction costs for housing have escalated significantly in real terms, with key inputs including steel, lumber and labour all rising well ahead of inflation. Since 2019 the construction sector Producer Price Index (PPI) has outpaced the Consumer Price Index (CPI).

Figure 2-6: Consumer Price Index (CPI) v Construction Producer Price Index (PPI) Housing (2019-2023)



Source: ABS (2024)

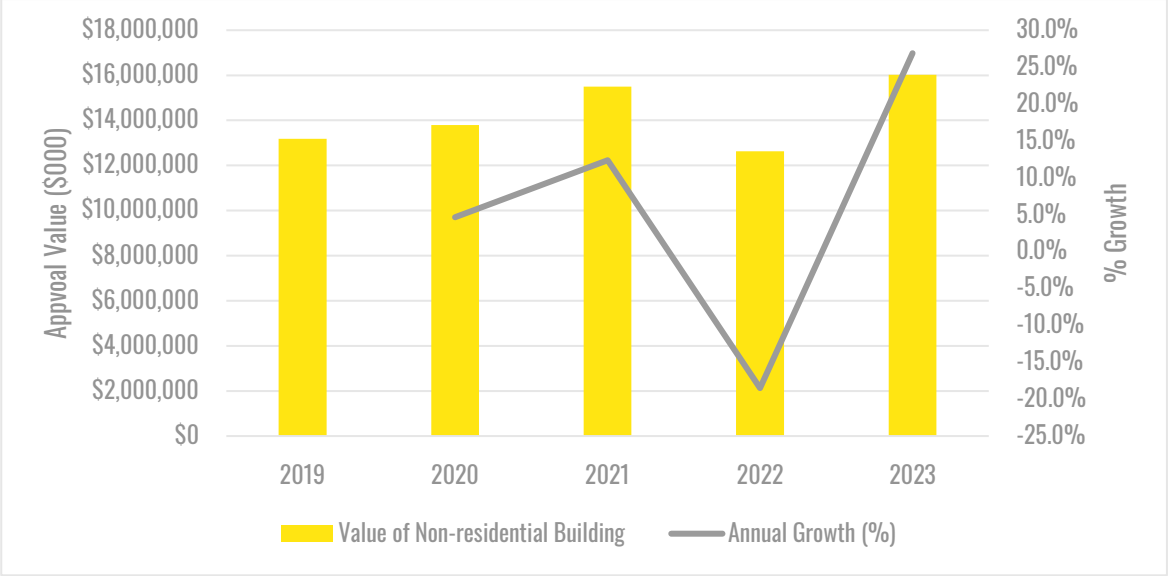
2.2 Other Construction Activity

Non-Residential Construction

Greater Sydney has historically approved between $12 billion and $16 billion in non-residential building construction (commercial, retail, industrial building) activity. Approvals recovered strongly (+26.9% growth) over 2023 after very weak performance in 2022.

Aside from the weakness in 2022 there is a discernible growth trend in non-residential activity, having averaged 5.0% pa since 2019.

Figure 2-7: Non-Residential Building Construction Approvals, Greater Sydney (2019-2023)

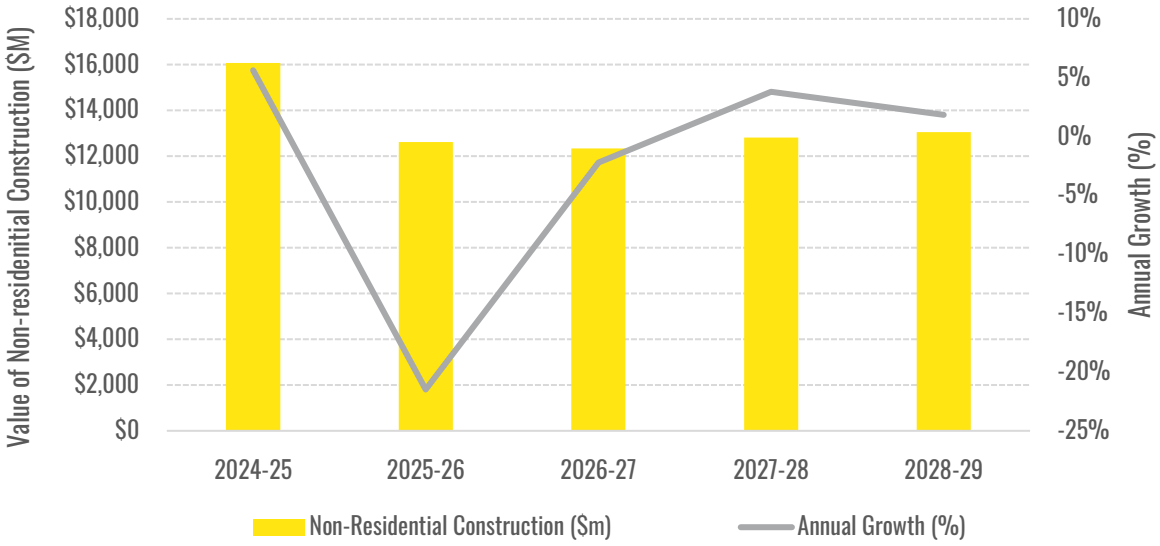


Source: ABS (2024a)

Using the forecasts by Master Builders Australia, non-residential construction is expected to peak in 2024/ 25 at just over $16 billion, a slight increase from the previous year. After this period, non-residential construction is expected to reduce to a more typical level between $12 billion and $14 billion.

The current high level of activity has been influenced by significant projects, such as the construction of the Western Sydney International Airport (Nancy-Bird Walton) which is expected to be completed in 2026.

Figure 2-8: Non-Residential Construction Forecast, Greater Sydney (FY2025 to FY2029)

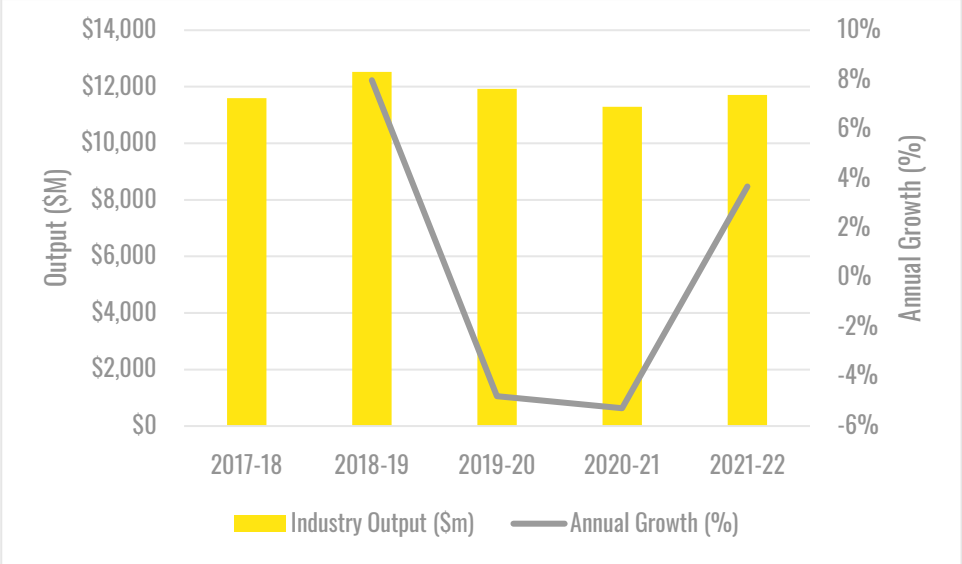


Source: Master Builders (2024)

Infrastructure Construction

The Greater Sydney heavy and civil engineering construction sector delivers circa $11 billion to $12 billion annually in output, with robust growth of 3.7% over the most recent year of available data (2021-22). Output and growth in the sector have generally been less volatile than the (residential and non-residential) building construction sectors.

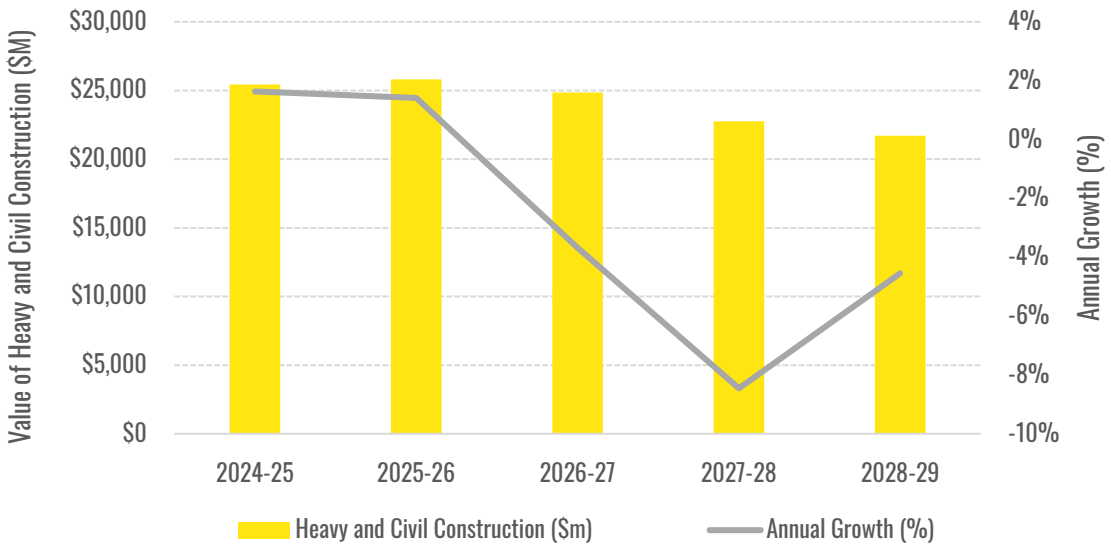
Figure 2-9: Heavy and Civil Engineering Construction Industry Output, Greater Sydney (FY2018 to FY2022)



Source: .id (2024)

The MBA forecasts show a very high level of infrastructure construction over the next two years - in excess of $25 billion in the Greater Sydney region. After this period, infrastructure construction is expected to decline, however, it will remain elevated relative to historical levels, which demonstrates the strong existing pipeline of major infrastructure works.

Figure 2-10: Heavy and Civil Engineering Construction Forecast, Greater Sydney (FY2025 to FY2029)



Source: MBA (2024), Atlas

NSW has a generational infrastructure pipeline, with Infrastructure Partnerships Australia (2024) identifying 169 projects in the pipeline with a total project value of >$160 billion. The NSW Budget 2024 allocated $85.6 billing general government funding over the four years to FY2027.

2.3 Construction Outlook

The construction industry has experienced significant headwinds in recent years with key factors including:

- **Supply chain disruption and acute labour shortages during and post the COVID-19 pandemic**, including:
    - Sudden temporary bans on most forms of construction, renovation and repair work in Greater Sydney in 2021.
    - Restrictions on international travel, removing access to a key pool of industry skilled labour.
- **Ongoing labour shortages:** Infrastructure Australia estimated a shortage of 229,000 full-time infrastructure workers (as at October 2023) with shortages expected in all occupational groups (Infrastructure Australia, 2023). A backlog of projects and fierce competition for labour means the industry shortfall is challenging to fill.

  Jobs and Skills Australia (2023) projects that national industry employment in the construction sector will grow by >120,000 positions (nearly 10%) by 2033, which highlights likely additional pressure on existing shortages.
- **Rapidly rising input costs:** Impacts from the pandemic, war in the Ukraine and ongoing disruption of key Chinese supply have all contributed to rapidly rising input costs for construction which have risen well ahead of inflation (shown in **Figure 2-6**). While broader supply chain impacts have eased, prices for a number of key inputs continue to rise. Escalating inflation, material costs and labour shortages have created a tense environment, exerting sustained pressure on fixed-price contracts and profit margin targets (BCI, 2024).
- **Greater regulatory burden:** changes to Building Code of Australia requirements, changes to environmental standards and more onerous development control requirements cumulative add to lead-times and compliance cost.
- **Higher and uncertain future borrowing costs:** 13 cash rate rises by the Reserve Bank of Australia (**RBA**) was met with interest rate rises which created uncertainty for borrowers. While inflation appears to have peaked (at nearly 8% pa in 2022), the future timing and scope for potential rate reduction remains highly uncertain.
- **A rise in project deferrals**: Due to the ongoing cost and macro uncertainty there has been a rise in project deferrals (BCI, 2024). While there is a noted trend in project deferrals, overall abandonment rates remain low and the outlook for activity over the coming 12 months remains strong.

While there are significant challenges in the construction industry, there remains a significant pipeline of construction work across Greater Sydney and indeed most Australian states. The commitment to the National Housing Accord will further drive demand for construction (on top of existing strong levels) and the need for associated industrial space across the supply chain.

2.4 Implications for Demand for Industrial Land

The implementation of the National Housing Accord will add significant demand for industrial lands within Greater Sydney.

Key factors include:

- Housing delivery will need to increase by >20,000 annually above historical averages (around a 67% increase). The target sits almost 8,000 dwellings above the all-time annual record of 42,414 dwellings delivered in 2018-19.
- The target has been committed to during a time of significant challenges for the construction sector and broader supply chain. Rising costs, labour shortages, greater regulatory burden and borrowing cost uncertainty are all contributing to an uncertain macro-economic environment which makes investment in expansion challenging. Many construction companies have experienced an insolvency event due to the current economic environment.
- Strong short-term growth in the non-residential and civil construction sectors is also forecast, which will further drive competition for industrial lands within greater Sydney and more broadly.

All of the available indicators point to increased demand for industrial lands within the short-term arising from the residential and broader construction sector supply chains.

3. Demand and Supply of Industrial Lands

3.1 Industrial Demand and Typologies

Economic Trends and Drivers

Demand for industrial floorspace is influenced by a broad set of macro-economic factors - at the global and domestic level. Population and economic growth, infrastructure investment, changing consumer patterns and technological advancements are some of the core drivers which guide businesses' floorspace requirements and how floorspace is utilised.

Sydney's industrial market had been growing for a number of years in the lead up to the initial outbreak of COVID-19 in March 2020. The outbreak of COVID-19 amplified these demand drivers with a convergence of tailwinds driving some of the strongest market conditions in the industrial sector on record. Looking forward, industrial market conditions in Sydney's industrial sector are expected to remain strong due to the following key drivers:

- Large scale transport infrastructure projects and residential development underway and in the pipeline stimulating industrial activity, particularly in Western Sydney.
- Continued development of manufacturing sectors particularly advanced manufacturing.
- Continued uptake of e-commerce platforms, driving significant demand for freight and logistics floorspace.
- Population growth driving demand in the food and beverage and urban services sector (e.g. waste recycling, automotive services, utilities, small scale manufacturing).
- Further growth in internet usage driving demand for data storage in large, purpose-built facilities (i.e. data centres).

These strong tailwinds have resulted in significant investment interest into industrial assets across Greater Sydney in recent years, in response to market demand. This investment focus is expected to continue and strengthen moving forward.

Demand for Different Typologies

The nature of industrial demand is not homogenous. There are different development typologies that respond to demand.

It is useful to consider industrial development typologies in three categories:

- Transport-based industrial (servicing the transport and logistics sector).
- General industrial (which could accommodate a range of activities including manufacturing and assembly, product servicing, wholesaling and storage, as well as functions such as marketing, administration, payroll, etc.); and
- Light industrial/ urban services.

While there would be exceptions to the above categories, they are a useful categorisation for types of industrial demand.

Large Format Warehousing (Transport and Logistics)

Transport-based industrial uses are commonly referred to as the 'transport and logistics' or 'freight and logistics' sector. These industrial uses typically occupy large format warehouse typologies - examples of these large format facilities can be observed at Eastern Creek, Erskine Park and other locations directly accessible off the orbital road network.

Direct road access off arterial roads and the ability to operate in a conflict-free environment are important site selection factors to these large industrial formats. Access for large, articulated vehicles (e.g. B-doubles, semi-trailers) is critical. These typologies also require the ability to operate 24/7 to ensure logistics fulfilment is time effective.

General Industrial

General industrial uses (e.g. food production, assembly and distribution of electrical parts) service regional catchments and require proximity and direct access to their customer base and suppliers. They occupy a range of building sizes (generally smaller than transport-based industrial uses) but still require adequate vehicle access for loading, storage and parking.

General industrial uses at present comprise the largest proportion of industrial activity, with the volume of industrial zoned land reflecting this. Some of these uses can be noisy, emit odours and be subject to frequent visits by large vehicles. They can often be regarded as non-conducive to residential living and therefore are at risk of land use conflicts if sufficient buffers with sensitive land uses are not in place.

General industrial areas comprise the highest proportion of industrial activity with precincts like Auburn, Lidcombe, Silverwater, South Penrith and St Marys North examples.

Light Industrial/ Urban Services

Demand for light industrial uses/ urban services (e.g. automotive servicing, household appliance repairs) is directly driven by population growth. Their relationship with population growth is comparable to other uses such as local retail services.

Similar to general industrial uses, light industrial uses also service local catchments and choose locations that allow them to be accessible by their customer base and suppliers. These industrial development typologies are generally smaller in scale and serviced by smaller vehicles (rigid trucks and vans).

Light industrial land in proximity to established centres, highways/ and arterial roads that have the potential for commercial uses can achieve higher sale rates. Light industrial areas comprise a smaller proportion of precincts and include precincts like Marrickville, Penrith and Artarmon.

The Study highlights that the development typologies accommodated within industrial precincts are not mutually exclusive. It is common for precincts to accommodate more than one development typology.

The Study is primarily concerned with the demand for large format warehousing and general industrial facilities.

3.2 Demand and Take-up of Industrial Land

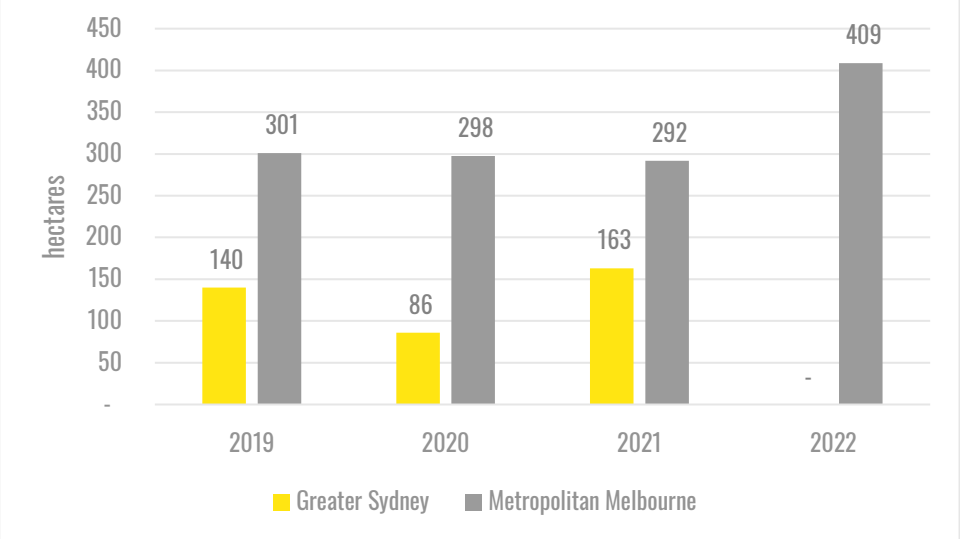
The take-up of land is a useful indicator of demand for land. 'Take-up' refers to the development of vacant industrial land.

Market Response to Demand

The strong tailwinds can be seen in the take-up of industrial land in Melbourne, where the annual take-up was sustained (at 300 hectares) in 2020/ 2021 despite the COVID-19 pandemic and thereafter reaching a record of 409 hectares in 2022.

In contrast, the annual take-up of land in Sydney (80ha-160ha) has generally been 30%-60% of Melbourne's.

Figure 3-1: Annual Take-up of Industrial Land, Sydney v Melbourne (2019-2022)



Source: DPHI (2022), DTP (2023), Atlas

Since 2019, Melbourne averaged annual take-up of 325 hectares, whereas Sydney only averaged 130 hectares. With a population base larger than Melbourne's and comparable port throughput volumes, the low annual take-up of industrial land in Sydney is symptomatic of a supply constrained market. The rest of the section explores this issue in greater detail.

Sydney v Melbourne v South East Queensland (SEQ)

Annual take-up of industrial land in Greater Sydney has averaged 130 hectares in the 2019-2021 period. In contrast, Southeast QLD (SEQ)'s averaged 195 hectares over the same period.

There is one additional year of data for Melbourne - its take-up of industrial land over the 2019-2022 period averaged 325 hectares. In 2022 the take-up of land in Melbourne reached a record of almost 410 hectares.

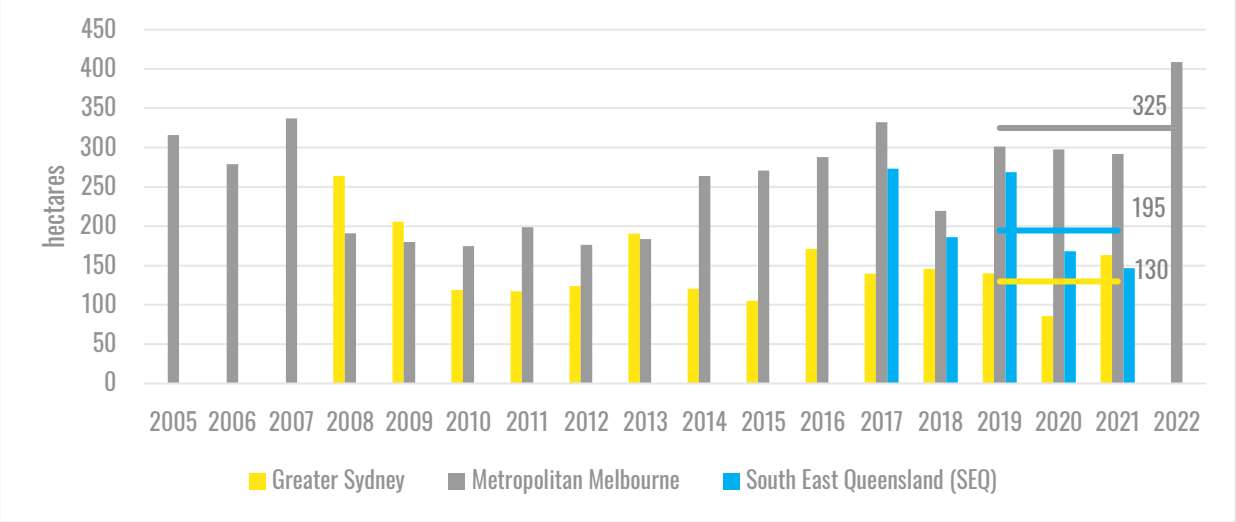
Table 3-1 and **Figure 3-2** compare the relative sizes of the capital city markets against their annual take-up of land.

Table 3-1: Annual Take-up of Industrial Land - Sydney, Melbourne, Brisbane and SEQ (2019-2021)

Region	Value of Industrial Sector (IVA)	Population (2021)	Annual Land Take-up (ha)				
			2019	2020	2021	2022	Avg. (2019-2021/22)
Greater Sydney	$70.0 billion	5.3 million	140	86	163		130
Metropolitan Melbourne	$62.7 billion	5.0 million	301	298	292	409	325
Southeast QLD (SEQ)		3.6 million	269	168	147		195

Source: DPHI (2022), DTP (2023), DSDMIP (2022), Atlas

Figure 3-2: Annual Take-up of Industrial Land (2005-2022)



Source: DPE (2022), DTP (2023), DSDMIP (2022), Atlas

Sydney has the largest population base (5.3 million residents) compared to Melbourne (5.0 million residents) and SEQ (3.6 million residents). Furthermore, container throughput in Sydney is similar to Melbourne and much greater than Brisbane. Despite these factors, Sydney's average annual take-up of 130 hectares has been significantly lower than Melbourne's 325 hectares per annum and SEQ's 195 hectares per annum (a region that is less than 70% the size of Sydney).

The analysis highlights that a lack of serviced land supply in Sydney has constrained its ability to respond to demand. Since 2010, Sydney has trailed Melbourne's market response to demand by a cumulative amount of approximately 1,700 hectares. The impact of this cumulative deficit on market indicators (rents and values) is examined in the next section.

The Study cautions that the above data is dated. Data for industrial land take-up for 2022 and 2023 is not available.

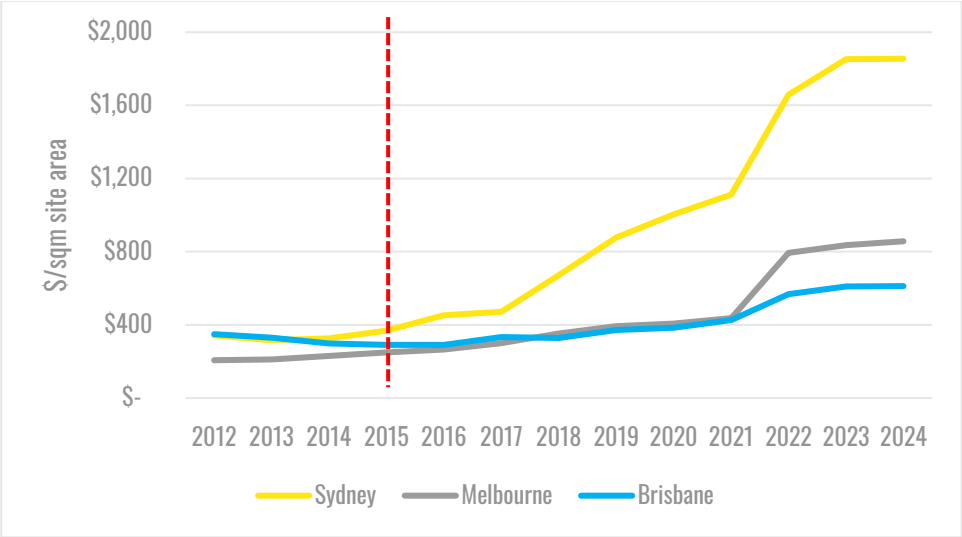
3.3 Rents and Values of Industrial Property

The sufficiency of land to meet demand can be observed through market signals. Market indicators such as rising prices, falling incentives, falling vacancy rates, etc. signal a market that is undersupplied.

Land Values and Building Capital Values

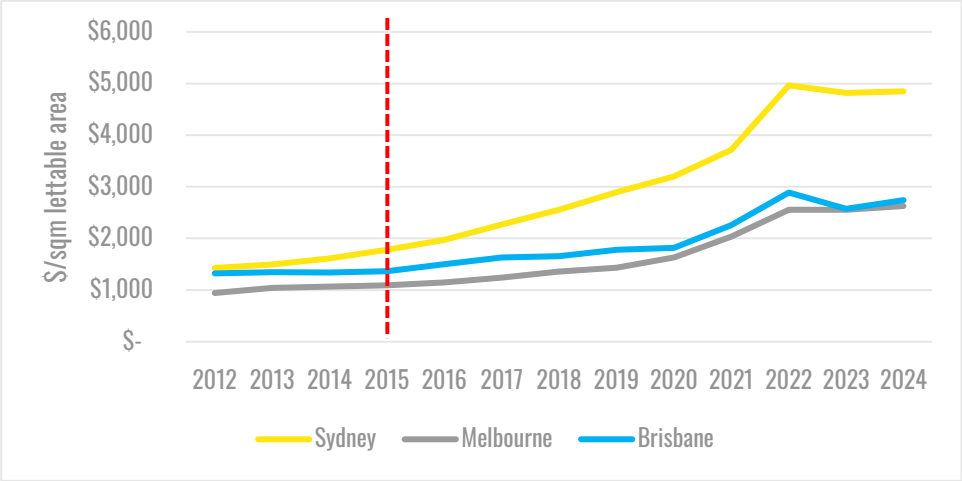
Figure 3-3 and **Figure 3-4** show that land values and building capital values in Sydney were already higher than peer capital cities Melbourne and Brisbane in 2012. From approximately 2015, land values and building capital values in Sydney dramatically outstripped those in Melbourne and Brisbane.

Figure 3-3: Land Value Movements - Sydney, Melbourne, Brisbane (2012-2024)



Source: Cushman and Wakefield (2024)

Figure 3-4: Building Capital Value Movements - Sydney, Melbourne, Brisbane (2012-2024)

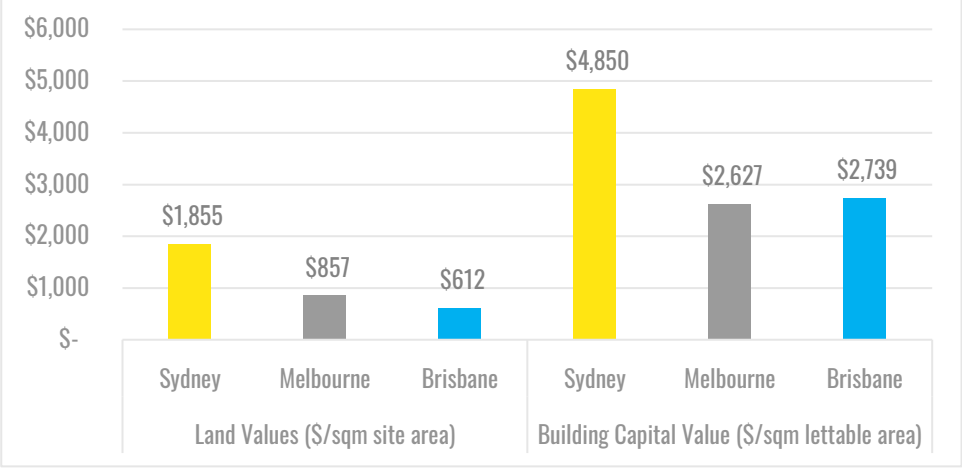


Source: Cushman and Wakefield (2024)

Figure 3-5 shows a comparison of land values and building capital values between Sydney, Melbourne and Brisbane (as at 2024). Industrial land values are 200% and 300% compared to Melbourne and Brisbane.

The significant gap between the prices of Sydney and peer capital cities highlights a supply and affordability crisis in Sydney.

Figure 3-5: Land Values and Building Capital Values - Sydney, Melbourne, Brisbane (2024)



Source: Cushman and Wakefield (2024)

Rents and Outgoings

This section illustrates the rent, outgoings and vacancy movements in Sydney compared to peer capital cities of Melbourne and Brisbane. In 2024, Sydney's gross rents ($322/sqm) are >80% higher than Melbourne's and >60% higher than Brisbane's. Sydney also has the lowest vacancy rates nationally.

Figure 3-6: Prime Net Rents - Sydney, Melbourne, Brisbane (2012-2024)

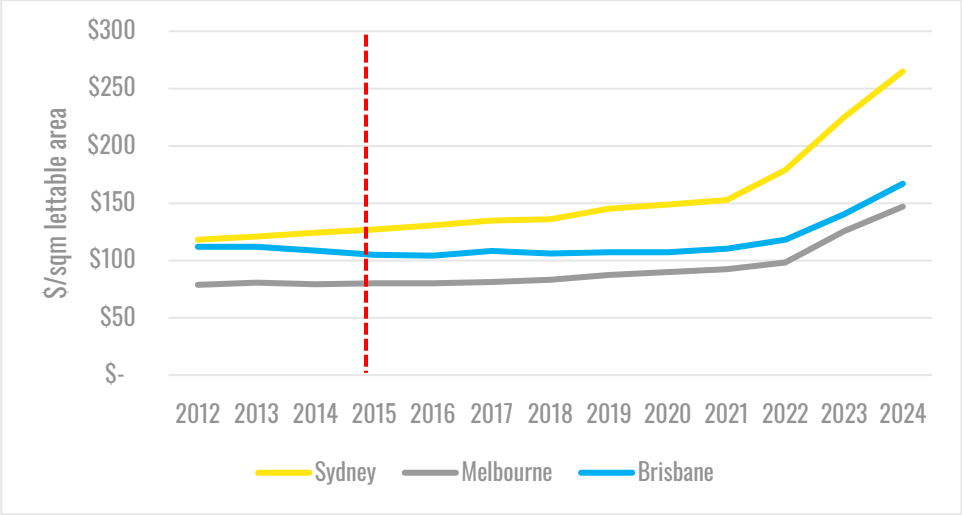


Figure 3-7: Prime Net Rents and Outgoings - Sydney, Melbourne, Brisbane (2024)

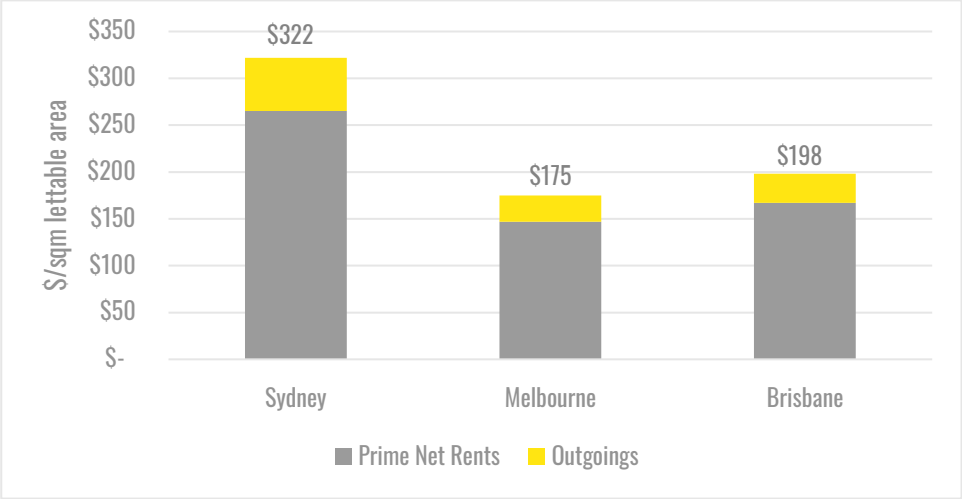
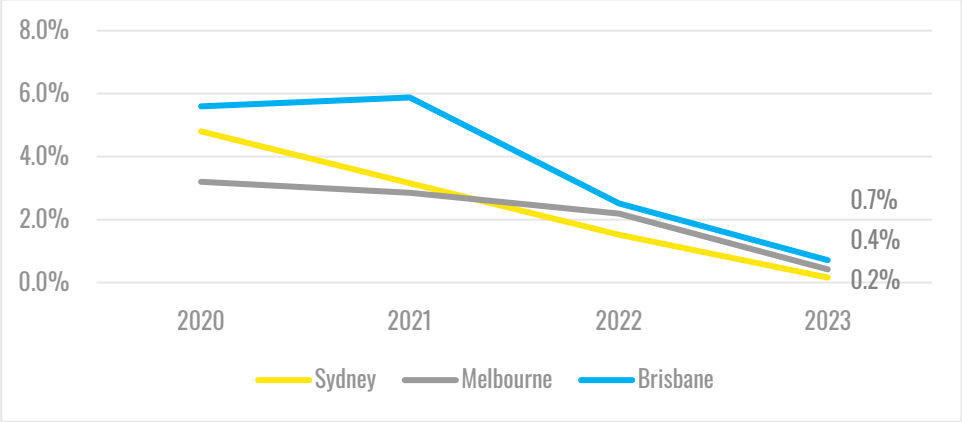


Figure 3-8: Vacancy Rates - Sydney, Melbourne, Brisbane (2020-2023)



Source: Cushman and Wakefield (2024)

All market indicators point to a severely undersupplied industrial market in Sydney - one that has insufficient supply of land *and* floorspace to respond to market demand. This poses a serious affordability and business certainty problem.

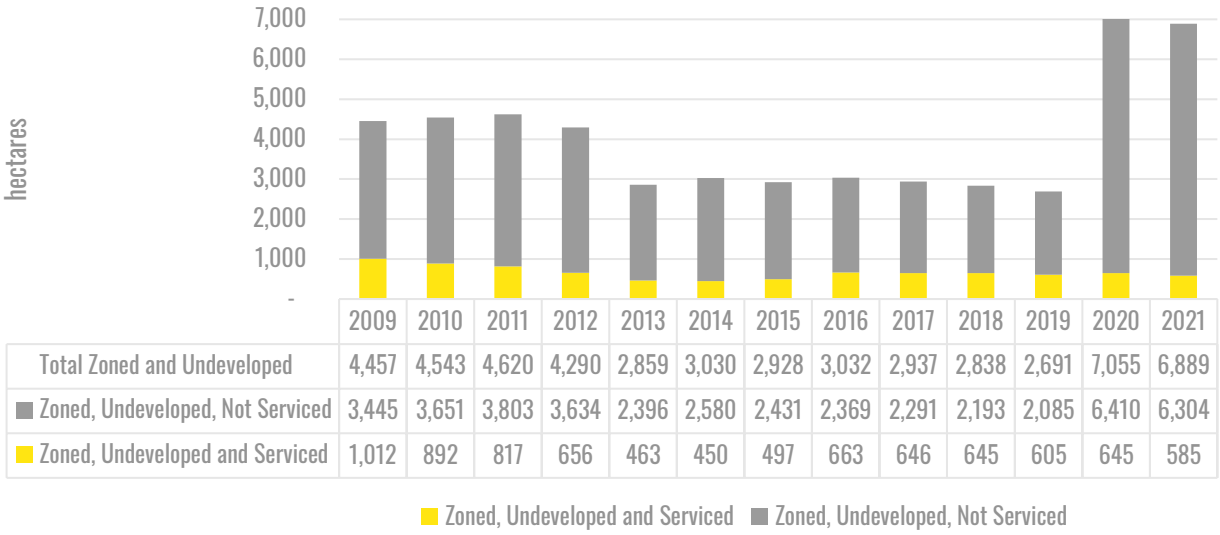
3.4 Remaining Supply of Industrial Lands

Theoretical Land Supply (Serviced)

As at January 2022, the DPHI's Employment Land Development Monitor (ELDM) showed the supply of undeveloped zoned and serviced land in Greater Sydney was 585 hectares (only 8% of total undeveloped zoned land).

Figure 3-9 illustrates the supply of undeveloped land in Greater Sydney (serviced and not serviced) as at January 2022. There is almost 7,000ha of undeveloped zoned land, but >90% is not serviced (having a lack of roads and utility services).

Figure 3-9: Undeveloped Zoned Land and Serviced Land, Greater Sydney (January 2022)



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total Zoned and Undeveloped	4,457	4,543	4,620	4,290	2,859	3,030	2,928	3,032	2,937	2,838	2,691	7,055	6,889
Zoned, Undeveloped, Not Serviced	3,445	3,651	3,803	3,634	2,396	2,580	2,431	2,369	2,291	2,193	2,085	6,410	6,304
Zoned, Undeveloped and Serviced	1,012	892	817	656	463	450	497	663	646	645	605	645	585

Source: DPHI (2022)

Research by Mecone (2024) identifies there could potentially be 879 hectares of zoned industrial land that is serviced - assuming land within precincts that are partially serviced is capable of being serviced.

However, environmental constraints (e.g. flood prone land, riparian land and watercourses) and land reserved for infrastructure restrict the development capacity of land. Mecone estimates that at best, there is around 597 hectares of land zoned, vacant and unconstrained land in serviced precincts suitable for large format industrial development. This is similar in quantum to the supply of undeveloped zoned and serviced land estimated by DPHI at January 2022.

Market Requirements

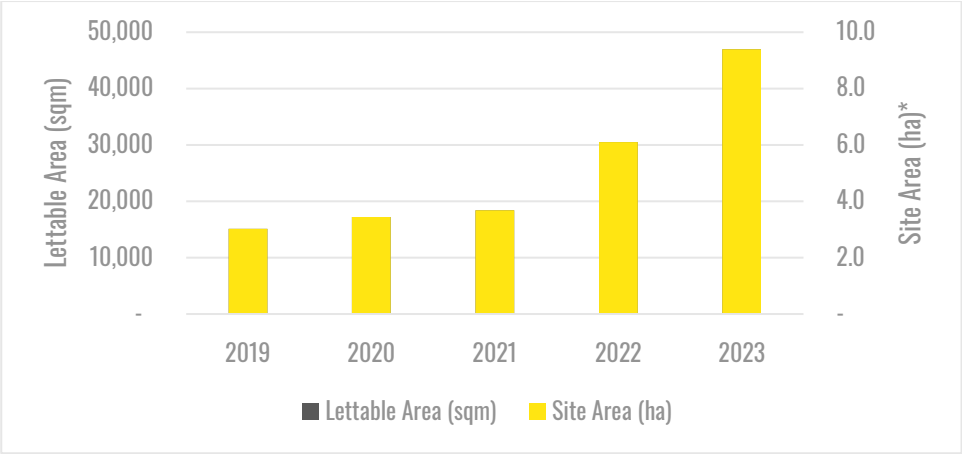
The simple land supply metrics do not provide the whole picture. To be viable from a market perspective, the land needs to be appropriately located with suitable size and site attributes. The following recent projects demonstrate size requirements:

- Techtronic Industries (75,000sqm).
- Toll (68,000sqm).
- Woolworths Distribution Centre (76,000sqm at Wetherill Park, 35,000 at Kemps Creek).
- Australia Post Distribution Centre (36,000sqm).
- Mainfreight Distribution Centre (55,800sqm).

National average pre-lease data shows size requirements have been increasing.

Figure 3-10 shows that in 2023, the average pre-lease tenancy size was 47,000sqm lettable area. At a site cover ratio of 50%, this implies a site of 9.4 hectares is required.

Figure 3-10: National Average Pre-lease Size (sqm) (2019-2023)



*Site area (ha) requirements estimated assuming site cover of 50%

Source: Cushman and Wakefield

Theoretical Capacity v Market Requirements

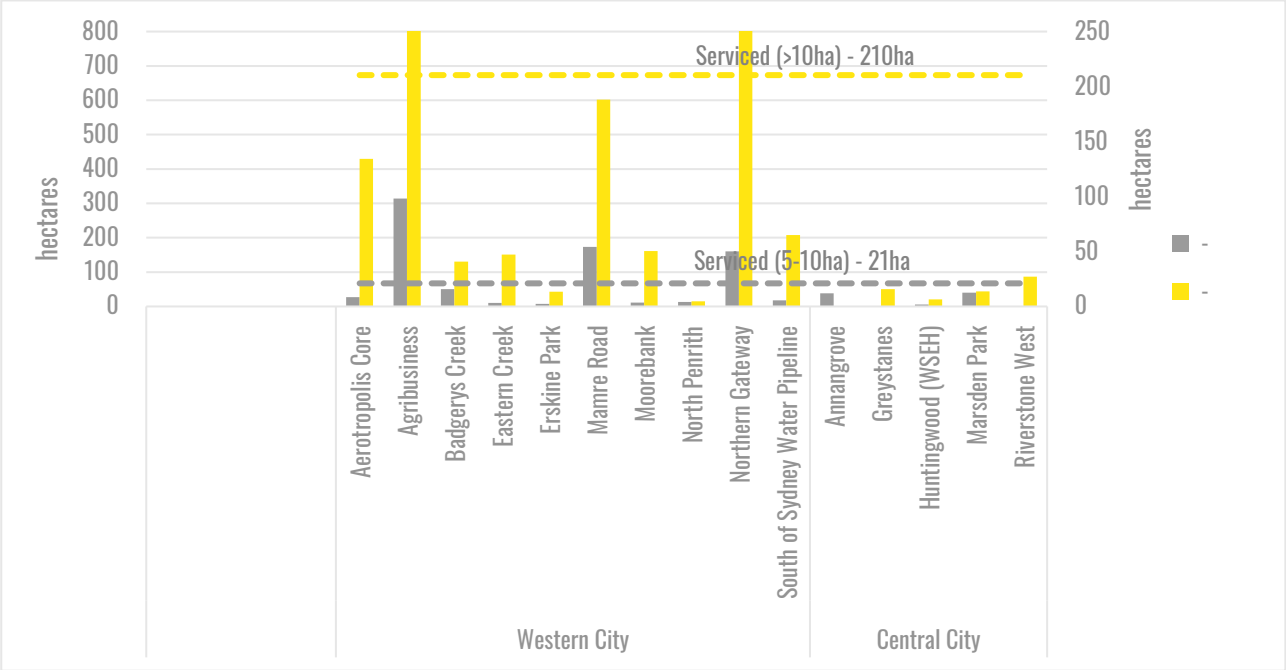
Land that is zoned (and serviced) may have the theoretical capacity for development, but only land that meets market requirements (in the right location and with suitable size and site attributes) will be developed.

This section identifies undeveloped zoned and serviced land that is greater than 5 hectares. The analysis shows that:

- Less than 40% of 585 hectares of serviced undeveloped zoned land is greater than 5 hectares in size (231 hectares out of 585 hectares).
- Of the 231 hectares of land larger than 5 hectares in size, more than 150 hectares is at Moorebank. Accommodation at the Moorebank Intermodal Terminal is generally only available to tenants who utilise the intermodal rail facilities.
- Less than 80ha of serviced undeveloped zoned land (> 5ha in size) is available to the general market.

The analysis shows that while there is theoretical capacity of 585 hectares, less than 80 hectares is larger than 5 hectares in size and available to the general market. At an annual take-up rate of 400 hectares (similar to recent demand levels in Melbourne), Sydney has at best, one year of industrial land supply remaining.

Figure 3-11: Undeveloped Zoned Land by Size, >5ha (January 2022)



Source: DPHI (2022)

The analysis shows a concentration of large lots (>5ha) within precincts that are not serviced. These precincts are the Mamre Road precinct (775ha) and the precincts of Northern Gateway (1,000ha), Agribusiness (870ha), Aerotropolis Core (465ha) and Badgerys Creek (180ha) which are located in the Western Sydney Aerotropolis (**WSA**).

The Mamre Road Precinct is the only precinct with large landholdings, institutional investment and committed tenant interest and with development planning that is well advanced.

Even if they were to be serviced, the WSA precincts are constrained in their ability to be developed (Mecone, 2024):

- The Agribusiness precinct is designed to support a specific and narrow type of activity, preventing more general large format industrial development from occurring.
- Large parts of the Badgerys Creek and Aerotropolis Core precincts are highly fragmented, creating challenges for site amalgamation and the development of large >10 ha sites.
- A range of environmental constraints (such as the blue-green grid) that limit site developability. The distribution of these constraints cut through lots, creating environmentally fragmented sites.

The cumulative impact of these constraints is that industrial land in the WSA risks being sterilised for decades.

Development Feasibility at Mamre Road Precinct

In 2023, Atlas undertook a feasibility analysis of the Mamre Road Precinct following release of Sydney Water DSP charges. The work found that when added to the other statutory fees and charges (local and state contributions), the entire Mamre Road Precinct was not feasible to develop.

The work found that there was provisional capacity to pay up to $287,000/ha NDA for DSP charges subject to a number of factors, including *inter alia*, if rents were increased by 5%, if there was no interim abortive costs or land sterilisation associated with meeting waterway health controls ahead of a regional scheme and if funding and delivery of the required road infrastructure was forthcoming in a timely manner.

Despite this, the DSP charges submitted by Sydney Water to IPART for finalisation are $800,000/ha NDA and the NSW Government requires interim waterway measures that would sterilise approximately 60% of site area.

The cumulative impact of the loss of developable area ***and*** additional cost associated with the interim solution results in development that is not feasible.

Sydney v Melbourne v South East Queensland (SEQ)

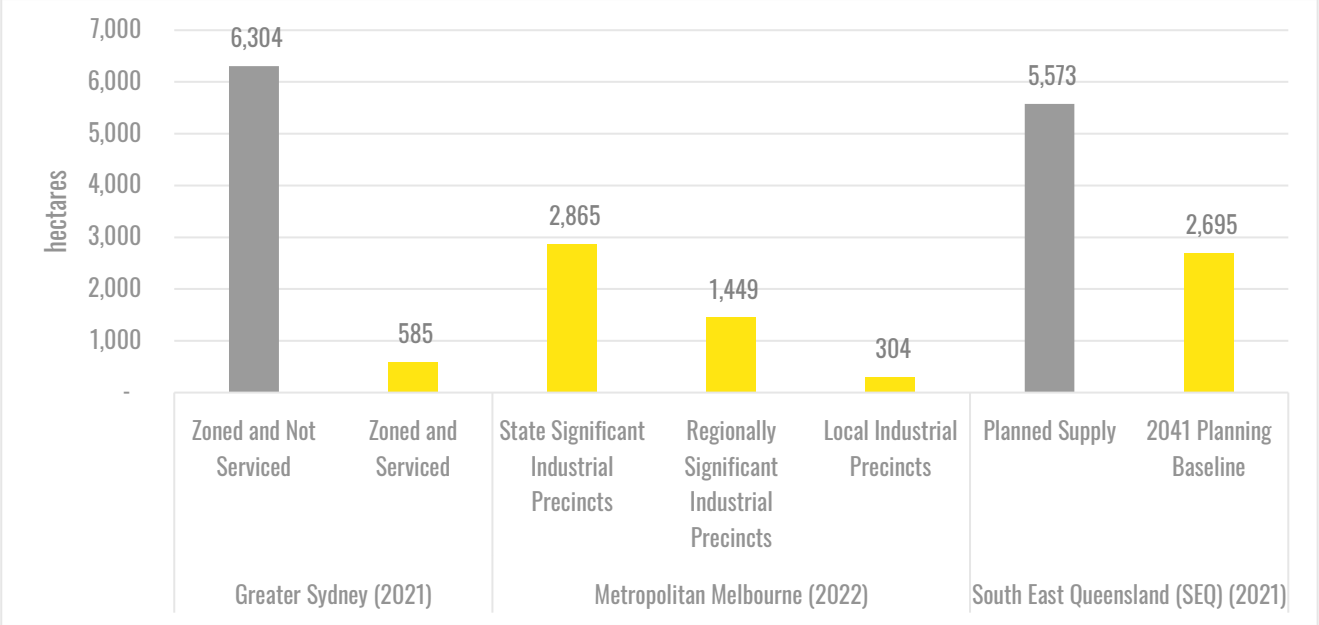
In Melbourne (as at 2022), there was 4,618 hectares of zoned and vacant industrial land, of which 2,900 hectares (>60%) is within State Significant Industrial Precincts (SSIPs). SSIPs are recognised to be critical to Melbourne's economy and are accorded 'special status' (Victoria Planning Provisions Clause 17.03-3S).

Victoria's precinct structure planning (PSP) process coordinates land rezoning and infrastructure servicing, wherein land is not rezoned unless it is capable of being serviced. At an annual absorption rate of 400 hectares, the land supply is equivalent to 11.5 years of theoretical supply.

In SEQ (as at 2021) there is an estimated 2,700 hectares available for what is referred to as "2041 Planning Baseline". At an annual absorption rate of 200 hectares, the serviced land supply is equivalent to 13.5 years of theoretical supply.

Figure 3-12 compares Sydney's zoned and serviced industrial land supply with Metropolitan Melbourne and the SEQ region.

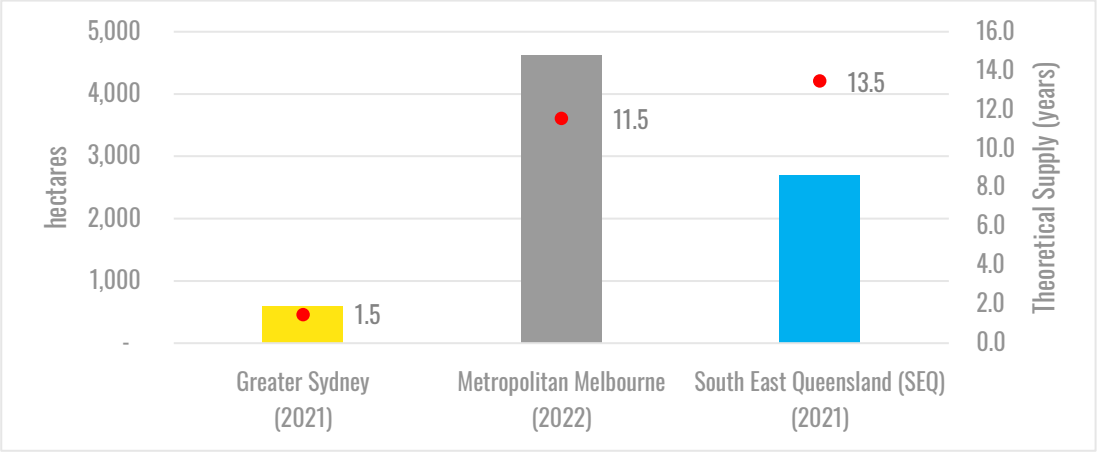
Figure 3-12: Industrial Land Supply - Sydney, Melbourne and South East Queensland (SEQ)



Source: DPE (2022), DTP (2023), DSDMIP (2022), Atlas

Figure 3-13 shows Sydney's remaining theoretical land supply compared to Melbourne and SEQ (with 11.5 years and 13.5 years respectively).

Figure 3-13: Years of Theoretical Industrial Land Supply - Sydney, Melbourne and South East Queensland (SEQ)



Source: Atlas

While Sydney has 1.5 years of ***theoretical*** supply remaining, the analysis in **Figure 3-11** shows much of that supply is either too small or not available to the general market. When taking into account size and site attributes, Greater Sydney has at best, about one year of remaining industrial land supply.

Both State Governments in Victoria and Queensland have strategic land supply policies that require 15 years of forward land supply. Atlas is not aware of a similar policy that exists in NSW.

3.5 Implications for Business Certainty, Affordability and Employment

The lack of serviced industrial land has evidently constrained Sydney's ability to respond to market demand. Over last three years (of available data), Sydney has averaged a take-up of 130 hectares per annum whereas Melbourne and SEQ have averaged 325 hectares and 195 hectares per annum respectively.

For the largest capital city in Australia with the largest population base and largest industrial sector, demand for land in Sydney would be expected to be at least on par with Melbourne's. The anaemic annual take-up of industrial land in Sydney is symptomatic of a supply constrained market. These constraints have evidently been in the making for more than a decade.

Furthermore, with vacancy rates the lowest nationally (and globally), there is also no floorspace availability for business to move between premises. Vacancy rates of 4%-6% are needed for a healthy and functioning market - it enables businesses to scale-up (when they grow) and relocate to other premises as their requirements change and evolve.

Leasing data from Cushman and Wakefield shows that in recent years, lease renewals has comprised >95% of leasing activity. This is driven by the near-zero vacancy levels which have not allowed businesses access to suitable premises. In previous years where vacancy rates were healthy and allowed occupier friction between premises, the ratio of lease renewals to new leases was observed to be closer to 70%.

Investment and Employment Elsewhere

The systemic supply shortfall of serviced industrial land (evident for more than a decade) is borne out in Sydney's employment numbers. ABS data shows that of industrial employment (2016-2021) was very much lower than peer capital cities of Melbourne and Brisbane:

- Greater Sydney averaged 0.5% per annum.
- Metropolitan Melbourne averaged 1.2% per annum.
- Greater Brisbane averaged 1.1% per annum.

The analysis affirms that a constrained land supply situation has 'held back' investment and growth of the industrial sector. With about one year of theoretical supply remaining (compared to 11.5 years in Melbourne and 13.5 years in SEQ), there is no room for business investment, business growth and further employment opportunities.

No Capacity for Business and Employment

The industrial sector is valuable. During 2020-21, the industrial sector contributed an estimated $70 billion (18%) to the Greater Sydney economy.

The shortage of serviced, industrial land in Sydney has reached a critical point. The record low vacancy rate and rapidly escalating prices demonstrate the severity of the issue as remaining serviced, industrial land stocks are almost exhausted.

The analysis shows that the industrial supply crisis has affected:

- Employment growth - ABS data shows that despite being the largest capital city, Sydney's industrial employment has been the lowest.
- Business certainty - leasing data shows businesses are staying in place despite their need for more space.
- Business cost and affordability - the cost of accommodation (rents) in Sydney is 85% more expensive than Melbourne and 65% more expensive than Brisbane. This has direct consequences for the cost of living in Sydney.
- Cost of land - with the supply of serviced land at critical lows in Sydney, land values are more than double Melbourne's and more than treble Brisbane's. This has direct consequences for the economic rents that must be charged for development to be feasible.
- Future development and new supply - higher economic rents must be charged for development to be feasible, putting further upward pressure on rents that are already significantly higher than the peer capital cities of Melbourne and Brisbane.

This chapter has demonstrated that industrial lands in Sydney are already severely constrained. There is little availability and businesses are forced to pay prices much higher than in Melbourne and Brisbane. The lack of supply opportunities is exacerbating the cost-of-living crisis and will undoubtedly shift investment out of Sydney.

Demand from residential construction to meet the Housing Accord targets will place further demands on industrial land that is constrained and result in even greater upward pressure on rents and prices.

The next chapter details business perspectives in the context of the acute industrial lands crisis.

4. Industry Engagement

This chapter summarises the industry engagement undertaken by Infosys Portland as part of this Study to help understand the need for industrial lands within Greater Sydney and the position of industry to deliver the housing accord in the region.

4.1 Engagement Process

Infosys Portland approached businesses who operate within, and supply to the construction sector. Most of businesses are ASX listed or on the Fortune 200 list. A selection of in-depth one-on-one interviews were undertaken with various senior executives from the businesses to discuss current market characteristics, supply chain and future potential growth.

Table 4-1 contains a general description of their business activity and the position held by the interviewed executive.

Table 4-1: Business and Personnel Interviewed

Business	Executive Interviewed	Nature of Business Activity
Business 1	General Manager, Supply Chain	Manufacturer of surface materials
Business 2	General Manager	Australian manufacturer of structural products
Business 3	Regional CEO	Global manufacturer and distributor
Business 4	General Manager, Supply Chain	Leading concrete supplier
Business 5	Property Executive	Global manufacturer of components for building and construction
Business 6	Supply Chain Executive	Timber supplier
Business 7	Head of Property	Building products manufacturer and distributor
Business 8	Supply Chain Executive	Bathroom and laundry products supplier

Source: InfoSys

Questions were posed to the businesses to understand:

- How well their construction supply chains are placed to increase productivity/ capacity/ velocity to meet Greater Sydney's growth demands.
- The factors affecting supply chains' capabilities to grow capacity to meet increased demand.
- The businesses' current approach to servicing the Greater Sydney market (including operating model, customer expectations, and key supply chain challenges) and how they are planning to meet growth expectations.

4.2 Engagement Feedback

The shortage and cost of industrial and logistics property is forcing construction sector suppliers to increasingly service the Greater Sydney market from locations outside Sydney.

- Suppliers are avoiding adding manufacturing and warehouse capacity in Greater Sydney.
- Additional supply chain costs from increased transport are passed on to the customer.
- Additional transport distances to service Graeter Sydney are resulting in increased emissions.
- There are expectations to move a greater JIT (just-in-time) delivery for construction sites and the major hardware retailers/ wholesalers are requesting shorter lead times.
- Opportunities for step-change in productivity/ throughput are limited. Any improvements will not be sufficient to avoid additional servicing from outside Sydney.

Most businesses are sceptical that the housing targets will be achieved in NSW.

Case Study

Business X is a leading manufacturer of structural components for the building/ construction industry. They are located at leased premises in Sydney's southwest. The landlord had developed a plan to redevelop the site which required Business X to evaluate options for relocation. The initial search in Sydney for alternate sites at a viable cost proved futile.

The company decided to relocate its manufacturing capability to Regional NSW with 2-3 hours travel time to markets in Greater Sydney. Despite proximity to market being an important part of the company's value proposition, with no viable alternative in Sydney, they elected to build a new manufacturing site in Regional NSW.

The increase in transport and logistics costs were passed on to their customers.

Table 4-2 summarises key themes that have emerged from the interviews.

Table 4-2: Feedback Themes

Question	
How well are your construction supply chains placed to increase productivity/ capacity/ velocity to meet Sydney's growth demands?	Businesses raised concerns about supply chain constraints other than industrial property in Greater Sydney which impact growth opportunities including: • Road congestion • Poor port access • Labour availability and costs • NSW Government's lack of capabilities in planning and infrastructure delivery. There is a general sentiment that SEQ and VIC are more attractive markets than NSW.
What factors impact your supply chain's capability to growth and meet forecast increased demand?	Businesses are exploring options such as increased automation to increase productivity and throughput to mitigate the need for expanded warehouse/ manufacturing capacity. The paybacks from increase automation are however often not attractive enough or are not feasible in 'legacy' facilities. Any improvements gained are likely insufficient to avoid servicing additional volumes from outside Sydney.
How are you servicing the Sydney market and how are you planning to meet growth expectations?	Most of the businesses interviewed are planning to avoid additional warehouse or manufacturing capacity in Sydney. They are planning to service Sydney market growth through one or a combination of the following: • increased use of existing regional NSW facilities. • Servicing more volumes from Melbourne or Brisbane facilities. • Building/ sourcing new capacity in regional NSW. Servicing Greater Sydney from facilities outside Sydney will result in additional transportation costs. The businesses plan to pass these costs on through freight recovery.

Source: Infosys

Table 4-3 highlights notable quotes from the interviews.

Table 4-3: Notable Quotes

Interviewee (Business Activity)	Quote
Head of Property (Large building products manufacturer and distributor)	We have put a line through Sydney as an option to expand manufacturing capacity.
	We have been evaluating new manufacturing capacity in Australia and cannot justify new manufacturing capacity in Sydney due to the property costs and the uncertainty.
	We looked at Regional NSW, we have a regional site already and Wollongong is land constrained. Other options we are looking at are Brisbane and Melbourne.

Interviewee (Business Activity)	Quote
Regional CEO (Global manufacturer and distributor)	The only thing that may change our view from servicing Sydney from Melbourne would be if there was an unusually large increase in transport costs which may be driven by a carbon tax or similar government intervention.
	We do not have plans to increase capacity in NSW. We see Melbourne has having significant advantages over Sydney for warehouse locations with better access to the port and lower costs. We will focus on leveraging our Victorian sites for any growth.
General Manager - Supply Chain (Manufacturer surface material)	Currently running two shifts in the NSW warehouse - could move to have a night shift however this would increase costs - about 30% additional labour cost.
Property Executive (Global manufacturer of components for building and construction)	We have been unable to expand due to the lack of industrial property available. We wanted a greenfield site but there were no suitable options and too expensive. We are at capacity and realistically we need at least 50% more capacity. This is constraining growth for our business.
General Manager (Australian manufacturer of structural products)	Our warehousing is operating at 85%-90%. Manufacturing is operating at about 100%. We would ideally like to stay where we are and use the existing network to meet demand in Sydney. We could move to comparable premises in Sydney to maintain our workforce but the problem is the property costs in Sydney do not make this feasible. We have been moving our capacity to our regional site. We have had to increase prices to offset the additional transport costs.

Source: Infosys

4.3 Implications for Greater Sydney's Capacity

There are common themes that have emerged, which are summarised as follows:

- Facilities within Greater Sydney are currently operating at near maximum capacity with most stakeholders reporting between 90% and 100% utilisation of their existing facilities in Greater Sydney.
- The shortage of serviced industrial lands in Greater Sydney is well acknowledged. A number of businesses are experiencing high demand and forecast future growth over the Housing Accord period. However, the lack of availability and high costs is prohibiting local activity and a number of processes are already underway, including:
    - Either an expansion of regional operations or servicing Greater Sydney from Melbourne or Brisbane are the preferred delivery options for stakeholders.
    - Typically customers are seen as more accepting of higher transport costs (e.g. to freight from Melbourne) being passed on rather than site development costs or industrial rents.
    - There are attractive back-loading rates into Greater Sydney.
    - There is ever increasing need on the speed/reliability of the supply chain which would favour development within Greater Sydney, however the cost and lack of suitable sites precludes expansion/development in many instances:
- There is general scepticism within industry regarding Greater Sydney's ability to meet the Housing Accord targets:
    - The capacity of the local industrial supply chain is a part of the issue, there is general consensus surplus demand would be delivered through regional centres (e.g. Newcastle) and interstate (Melbourne and Brisbane). This will further add to construction costs, which are already a major constraint to new housing delivery.

Broader issues including an acute industry labour shortage and macroeconomic uncertainty will further constrain industry's ability to deliver the Housing Accord targets.

5. Construction Supply Chain and Need for Land

The following sections estimate the associated demand for industrial land across the Greater Sydney supply chain to support achieving the National Housing Accord target within the context of broader construction industry, including:

- **Residential Housing: I**ndustrial lands required to meet National Housing Accord targets.
- **Non-Residential Building & Infrastructure Construction:** Industrial lands required to meet projected real growth.

5.1 Modelling Approach

Input-Output modelling has been used to develop future demand estimates for industrial land required to meet the National Housing Accord targets. A specific set of transaction tables were developed to reflect the structure of the Greater Sydney economy. Refer to SCHEDULE 1 for additional detail on the specific Input-Output modelling methodology applied.

Input-Output analysis produces four types of economic indicators (**Table 5-1**).

Table 5-1: Economic Activity Indicators

Indicator	Description
Output	The gross value of goods and services transacted, including the cost of goods and services used in the development and provision of the final product. Care should be taken when using output as an indicator of economic activity as it counts all goods and services used in one stage of production as an input to later stages of production, thus overstating economic activity.
Gross Value Added	The value of output after deducting the cost of goods and services inputs in the production process (less the impact of net taxes on final production). Gross Value Added (GVA) defines a net contribution to economic activity.
Incomes	The wages and salaries paid to employees as a result of the Project or Proposal either directly or indirectly.
Employment	Employment positions generated by the Project or Proposal (either full time or part time, directly or indirectly). Employment is reported in terms of Full-time Equivalent (FTE) positions or person-years.

Source: Atlas

Input-Output modelling considers direct economic impacts and indirect (flow-on) impacts. Indirect impacts are two types:

- **Production-induced impacts (Type I)** show the effects of industrial support effects of additional activities undertaken by supply chain industries increasing their production in response to direct and subsequent rounds of spending.
- **Consumption-induced impacts (Type II)** estimate the re-circulation of labour income earned as a result of the initial spending, through other industry impacts, and impacts from increased household consumption.

5.1.1 Construction Activity driving Demand for Land

The assessment uses the future anticipated value of construction as the key driver for future demand for industrial land. It considers the direct impact this future expenditure will have on the construction sector (and its demand for industrial land) as well as the supply chain that supports the construction sector including the industries of:

- Manufacturing.
- Wholesale Trade.
- Transport, Postal and Warehousing.
- Electricity, Gas, Water and Waste Services.

Only the Type 1 (production-induced) indirect impacts have been used and only the industries (highlighted above) that occupy industrial land have been included in the indirect activities for the demand assessment. Essentially, the modelling highlights the direct impact of future building activity on the construction industry, then includes the associated activity from the manufacturing, wholesale trade, transport, postal warehousing and utility sectors.

In other words, the modelling captures the direct activity of the construction sector (and its impact on demand for industrial land) as well as the associated supply chain (and subsequent impact on demand for industrial land).

The Input-Output analysis has been used to identify the future employment associated with meeting the National Housing Accord targets. The future employment is then used to determine the future amount of industrial land required, using DPHI data on employment land and ABS data on industrial employment for the Greater Sydney region.

In 2021 (most recent year of available data), there was approximately 11,455 hectares of zoned and developed (occupied) employment land in the Greater Sydney region. Employment data (NIEIER, 2023) shows industrial employment in the region at approximately 370,000 jobs, yielding an average density of 32 workers per hectare. This if all industrial jobs are located on industrial lands. In reality, some industrial jobs could be accommodated on commercial lands. Equally, some non-industrial jobs (e.g. professional, scientific & technical services, public administration & safety) could be located on industrial lands.

Historically, 20% of construction employment has required separate premises with the majority of construction workers based on a building site. The 20% benchmark helps measure businesses engaged directly in construction that would operate out of a central depot (and therefore require land/ floorspace) where machinery, equipment and supplies would be stored.

5.1.2 Modelling Drivers

This section lists the assumptions used to model demand for industrial land arising through the construction supply chain.

Residential Building Construction

Additional industrial capacity required to deliver residential construction has been modelled based on the MBA forecasts (earlier described in Chapter 2). Two scenarios have been considered:

- A Base Case that measures the impact of activity above the historical average production of 30,712 dwellings per year.
- A second scenario that assumes that industry has up to 15% existing capacity to absorb increased future demand, thereby raising its production capacity to 35,320 dwellings per year.

Consultation with industry (detailed in Chapter 4) has indicated that existing facilities in the Greater Sydney region are currently operating at a relatively high rate of utilisation, some operating at 100% capacity, however, a simplified industry-wide assumption of 15% available capacity has been used.

Estimated industry activity above the thresholds from FY2025 to FY2029 were used as direct industry turnover modelled through the residential building construction sector as per the assumptions in **Table 5-2**.

Table 5-2: Projected Housing Construction Activity, Greater Sydney

Input	2024-25	2025-26	2026-27	2027-28	2028-29
New Dwelling Starts	36,001	43,046	46,833	51,398	50,376
Value of Construction Activity ($2023/24 M)	$14,968.2	$16,830.0	$19,139.9	$20,924.2	$21,672.9
Base Scenario					
Dwelling Growth Above Historical Production (30,713 pa)	5,288	12,333	16,120	20,685	19,663
Value of Additional Building Work Modelled ($2023/24 M)	$2,198.7	$4,821.9	$6,588.0	$8,421.0	$8,459.5
Existing Capacity Scenario					
Dwelling Growth Above Existing 15% Capacity (35,320 pa)	681	7,726	11,513	16,078	15,056
Value of Additional Building Work Modelled ($2023/24 M)	$283.3	$3,020.7	$4,705.2	$6,545.5	$6,477.5

Source: Master Builders (2024), Atlas

Non-Residential Building Construction

Non-residential building requirements have been modelled based on the MBA forecasts for industry activity which is projected to peak in FY2025.

In NSW state-wide and across all sub-sectors (retail and commercial, industrial building, social/ cultural and recreational building) non-residential construction work is projected to increase by approximately $1.2 billion (5.6%) over FY2025.

Over the past 10 years Greater Sydney has consistently been responsible for approximately 75% of NSW non-residential building construction (ABS, 2024), with only moderate variation between 70% and 78%. As such future growth has been proportionally scaled by 25% to produce a Greater Sydney growth share estimate of approximately $860 million.

This growth was conservatively scaled down by 15% to allow for capacity within the current supply chain, with the remaining annual $728.6 million modelled through the non-residential building construction sector.

Modelling assumptions for growth in the non-residential building construction sector are summarised in **Table 5-3**.

Table 5-3: Non-Residential Building Construction Modelling Assumptions (Real $2023-24)

Factor	Input
NSW Industry Turnover FY 2024 ($M)	$21,901.3
NSW Projected Industry Turnover 2025 ($M)	$23,134.8
NSW Projected Growth FY2025 ($M)	$1,233.5
% of growth applied to Greater Sydney	75%
Greater Sydney Industry Growth FY2025 ($M)	$857.1
Assumed Capacity within the Current Supply Chain	15%
Direct Industry Turnover Modelled ($M)	$728.6

Source: Master Builders (2024), Atlas

Heavy and Civil Engineering Construction

Heavy and civil engineering construction requirements have also been modelled based on the MBA forecasts for industry activity, with significant growth projected over FY2025 and FY2026. In NSW state-wide and across all sub-sectors (transport, utilities, resources, and recreation & other engineering) heavy and civil engineering construction work is projected to increase by approximately $613 million (1.6% growth) during FY2025 and a further $541 million (1.4% growth) during FY2026 before easing back toward the end of the Housing Accord forecast period.

As of the 2021 census, Greater Sydney accommodated two-thirds of total NSW heavy and civil construction employment (by Place of Work), having increased from circa 60% in 2016[1]. As such, future growth has been scaled by one-third to produce a Greater Sydney growth estimate of $409 million over FY2025 (and a further $360.6 million over FY2026).

As per residential and non-residential construction, FY2025 growth was conservatively scaled down by 15% to allow for potential capacity within the current supply chain, with the remaining annual $347.6 million modelled through the heavy and civil engineering construction sector.

Modelling assumptions for growth in heavy and civil engineering construction are summarised in **Table 5-4**.

Table 5-4: Heavy and Civil Engineering Construction Modelling Assumptions

Factor	Input
NSW Industry Turnover FY 2024 ($M)	$37,543.9
NSW Projected Industry Turnover 2025 ($M)	$38,157.4
NSW Projected Growth FY2025 ($M)	$613.4
% of growth applied to Greater Sydney	66.6%
Greater Sydney Industry Growth FY2025 ($M)	$408.9
Assumed Capacity within the Current Supply Chain	15%
Direct Industry Turnover Modelled ($M)	$347.6

Source: Master Builders (2024), Atlas

Land and Floorspace Requirements

The lack of supply in Greater Sydney has resulted in businesses (out of necessity) utilising their premises more intensely, e.g. producing more output per square metre of floorspace and having more employees per square metre of floorspace.

A review of employment densities in a selection of industrial precincts shows that employment densities (workers per hectare) has been trending upwards over 2011-2021 period. The modelling assumes land utilisation at an average employment density of 40 workers per hectare.

[1] Excludes migratory workers and those with no fixed address.

5.2 Modelled Demand for Industrial Land

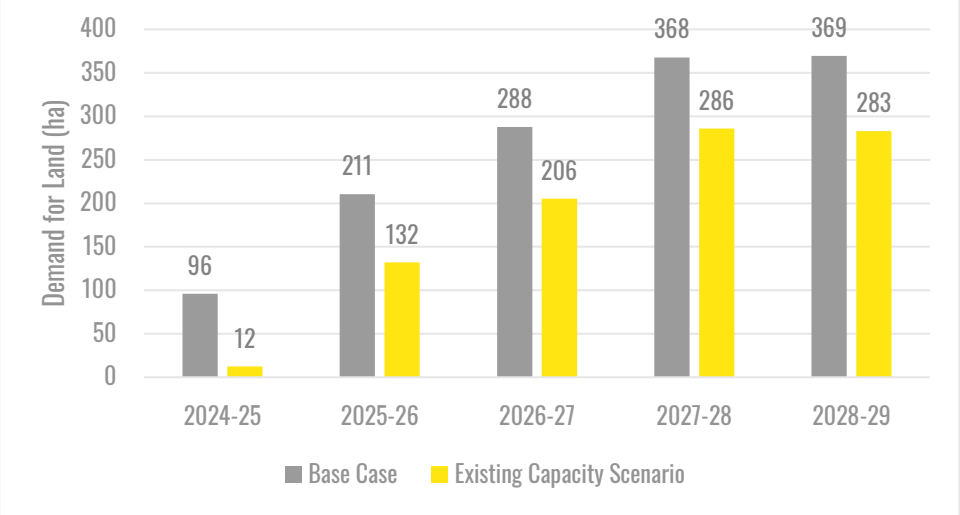
Modelling estimates the demand for additional industrial land for the (significant) growth in residential construction capacity. The modelling conservatively assumes inherent capacity of 15% before new facilities are needed. The modelling considers separately the demand for industrial land to support residential, non-residential and heavy & civil construction activity.

Residential Building Construction

To meet projected industry demand and Housing Accord targets, Greater Sydney is estimated to require up to 369 hectares of serviced industrial land by FY2028. If the industry had 15% existing capacity, the demand would be less - 283 hectares. The strong demand for land (in either scenario) is directly associated with the dramatic increase in dwelling production, moving from a historical average of 30,700 dwellings to around 50,000 dwellings per year (an increase of over 60%).

A simple demand metric can be extracted - 1 hectare land for every 50 additional dwellings of annual capacity. this assumes a mostly linear production function, perfect substitution and limited economies of scale between resources. This however, does not allow for land needed to alleviate the price pressure of the cumulative deficit that has been allowed to build.

Figure 5-1: Demand for Industrial Land, Residential Construction (FY2025 to 2029)



Source: Atlas

The Impact of Price and Market Dynamics

The modelling suggests 280-380 hectares of serviced industrial land is required to meet the housing targets. However, 280-380 hectares of serviced industrial land *alone* is not likely to enable the desired building and construction outcomes.

The construction sector accounts for a small fraction of total demand for industrial land (estimated at 5%-7%). For many years, the transport, logistics and distribution sectors have driven the majority of demand for industrial land, estimated to be close to 50% of total demand in 2023. Additionally, the retail industry, spurred on by the growth of e-commerce has also contributed significantly to the demand for industrial land, contributing 15% in 2023 (Cushman and Wakefield).

Given demand from other sectors, the chronic shortage of industrial land in Sydney means there would be significant competition for any increase in serviced industrial land. Further, the construction industry has a much lower gross profit margin (9%) compared to the transport industry (20%) (ABS, 2024c) - which means lower capacity to pay for facilities.

In reality, even if 280-380 hectares of serviced industrial land were to become available, high prices for land would likely remain, making procurement of new facilities not viable for the construction sector (and much of its supply chain). The land would be taken-up to support new industrial facilities for industries with the highest capacity to pay.

To re-set land values from current record highs, a much more significant increase in serviced industrial land is needed.

Since 2010, Sydney has lagged Melbourne's ability to respond to market demand, resulting in a cumulative deficit of 1,700 hectares. At a minimum, an increase of that order of magnitude is needed to act as a pressure valve release for demand that has not been satisfied - one that has resulted in runaway rents and prices.

The release of 2,000 hectares of serviced land would provide the headroom for broader industries, as well as 300 hectares to support residential construction (aligned to the Housing Accord targets). This level of a supply would provide for a re-setting of the current high prices and enable take-up by the construction sector (and others) at affordable prices.

Based on industry engagement, it appears that industry plans to service any increased demand in Sydney from locations outside Sydney including regional areas such as Newcastle as well as from interstate (i.e. Melbourne and Brisbane).

Businesses interviewed note that movements through the Melbourne and Brisbane ports was more efficient than through the Port of Botany. Additionally, stakeholders cited that customers were more agreeable to a cost increase to pay for increased transport, rather than cost increases to pay for local facility costs. As such, a greatly increased level of housing production in Greater Sydney without an increase in industrial land would be possible, however, it would be at a much higher cost and put additional upward pressure on inflation.

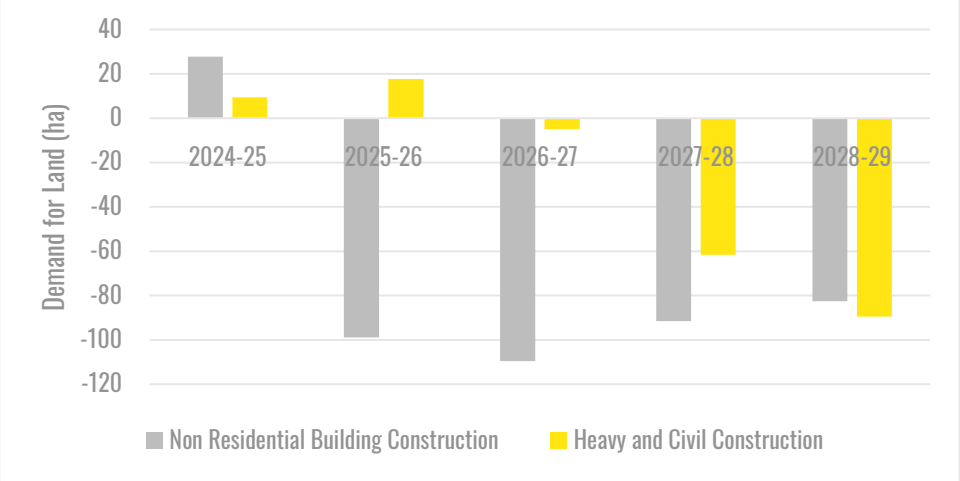
Perversely, this would make the cost of construction more than it would otherwise be. Given the other cost pressures in the residential building construction industry (i.e. labour, supplies, etc.), the cost increase associated with greater transport costs would be inflationary.

Non-Residential and Heavy & Civil Construction Supply Chains

Projected short-term growth within the non-residential and heavy & civil construction supply chains is estimated to add further demand for serviced industrial lands in Greater Sydney. The industry growth is projected to generate need (from indirect and flow-on demand) for 37 additional hectares over FY2025.

Demand arising from growth in these sectors is forecast to be short-term in nature, with activity easing towards the back end of the Housing Accord period.

Figure 5-2: Demand for Industrial Land, Non-Residential and Infrastructure Construction (FY2025 to 2029)



Source: Atlas

Based on the modelling, additional demand for industrial land from non-residential and infrastructure construction will be over the short-term, with the expected expenditure in these sectors to fall over the forecast period. At its peak in FY2025, there would be demand for a total of 37 hectares of industrial land to support these sectors.

Demand for Land from Non-residential and Infrastructure Construction Activity

The high level of demand from non-residential and infrastructure construction is expected to be short-term in nature. The Study expects that industry will make short-term adjustments to their supply chains, thereby negating the need for more industrial land that the market would otherwise require. This is consistent with feedback from businesses.

In fact, it is likely that these short-term adjustments (such as servicing Greater Sydney from other markets) have already been made. The measures to transport goods from markets outside of Greater Sydney has likely contributed to increasing the costs of major projects over the last three years.

5.3 Implications for Greater Sydney's Capacity

This chapter finds than an additional 280-380 hectares of land is needed to enable scaling-up of the construction sector to respond to the Housing Accord. Furthermore, the Study finds that at current pricing levels (land values more than double Melbourne's and more than treble Brisbane's), 280-380 hectares of land alone is insufficient to enable the construction sector (and its supply chain) to respond. A small release of 280-380 hectares will be taken-up at premium prices by businesses with the capacity to pay.

For development to be viable and economic rents to be at levels businesses can afford, much more land is needed to reverse runaway price movements that have prevailed for more than a decade.

The release of 2,000 hectares of serviced land would provide room for broader industries as well as 300 hectares to support residential construction (aligned to the National Housing Accord targets). This level of a supply would provide for a re-setting of the current high prices and enable take-up by the construction sector (and others) at affordable prices.

The re-setting of price levels is expected to occur over time. Business and investment decisions (e.g. those to regional sites or Victorian sites) will not be reversed overnight. The additional availability of serviced land will provide the headroom and opportunity for new decisions to be made.

Sydney's strategic location on the East Coast of Australia positions it well as a servicing base for the three most populous states of NSW, Victoria and Queensland. The availability of land that is developable and affordable has ramifications not just for the Housing Accord targets but has broader consequences for Sydney's economic prosperity.

6. Study Findings and Interventions Needed

6.1 Step Change in Residential Construction Activity

The housing crisis in Greater Sydney is acute. Delivering the Housing Accord targets will require a significant and sustained commitment from both government and industry. Ongoing population growth and the existing housing shortfall both point to greatly expanded supply as the only realistic option to alleviate the housing crisis.

For Greater Sydney, this means delivery of almost 50,000 dwellings annually, representing a circa 60% increase in capacity above the historical average of 30,700 completions per annum.

Consultation with businesses indicates that the industry and supply chain are already operating at high rates of utilisation and capacity, and that any significant increase above current throughput would require more industrial space.

The Current State of Play

The shortage of serviced, industrial land in Sydney has reached a critical point. The record low vacancy rate and rapidly escalating prices demonstrate the severity of the issue as remaining serviced, industrial land stocks are almost exhausted.

The Study has shown that the industrial supply crisis has affected:

- **Business risk of 'homelessness'** - leasing data shows businesses are mitigating the risk of being displaced by remaining in place even though they may need more space or the premises are no longer suitable.
- **Businesses' willingness to invest** - many of the businesses consulted do not consider Sydney as a candidate for increasing capacity, choosing to focus on their Victorian sites and regional sites instead. This is due to affordability (Sydney's costs are not viable) and availability (land or facilities are simply not available).
- **Business cost** - with rents in Sydney 85% more expensive than Melbourne and 65% more expensive than Brisbane, businesses have passed the cost on to their customers. Additional transport costs (from Melbourne and regional NSW) are also passed on to the customer. This has direct consequences for the cost of living in Sydney.
- **Cost of land and development feasibility** - with the supply of serviced land at critical lows in Sydney, land values are more than double Melbourne's and more than treble Brisbane's. This means even higher economic rents must be charged for development to be feasible.
- **New charges and future development** - with developer contributions and rents already significantly higher than Melbourne and Brisbane, even higher rents will exacerbate the cost-of-living crisis and shift investment out of Sydney.

Industrial lands in Sydney are severely constrained and already under significant pressure from demand that is struggling to be met. There is little availability of space and businesses are forced to pay prices much higher than in Melbourne and Brisbane. The higher cost of doing businesses is being passed to the consumer, exacerbating the cost-of-living crisis. Higher emissions are generated from businesses trucking to and from regional and Victorian sites.

Meeting the Housing Targets

Demand from residential construction to meet the Housing Accord targets will place additional demands on industrial land that is already constrained and result in even greater upward pressure on rents and prices.

The supply chain modelling undertaken indicates that increased housing production would lead to additional demand for 280-380 hectares of industrial land by FY2028. This is even before accounting for the acute unmet need from industry growth for more than 10 years. The lack of serviced industrial land has led to a lack of viable sites for expansion and pushed rents and land values to unaffordable and uncompetitive levels.

Even if 280-380 hectares of serviced industrial land were available today, there would still be upward pressure on prices/ rents because the demand for industrial land (from all sectors) has overwhelmingly not been met for more than a decade.

In reality, the need for serviced industrial land supply is closer to 2,000 hectares to ensure an appropriately functioning market into the medium-term (five-year Housing Accord forecast period). This is necessary to comprehensively re-set land values and rents to levels that are affordable and viable for businesses to take space.

The construction industry has already began making adjustments because there is no land in Sydney and development has become cost-prohibitive. Developing in regional markets as well as servicing Sydney from Melbourne and Brisbane are seen as more viable options. Servicing from outside the region will not only lead to increased transport costs and higher construction costs but also to environmental impacts (increased carbon emissions).

Under a scenario where the construction industry services the construction activity from outside of Greater Sydney (to meet the housing targets), it will be done at a significant price premium. The cost to construct a dwelling will be higher given the additional transport costs and logistics time-to-market involved, which will flow through to overall build costs. In turn, these cost impacts will keep upward pressure on inflation and interest rates.

For Greater Sydney to realistically meet the Housing Accord targets and alleviate its critical housing shortage, a key step will be to significantly unlock the availability of serviced industrial land in Sydney to support the expansion of the housing construction supply chain. This is concurrently needed to alleviate the cost-of-living pressures that arise from elevated business costs due to a lack of serviced industrial land.

6.2 Business Affordability and Housing Affordability

There is an urgent need for NSW Government to enable industrial land already rezoned to be serviced for development. The Study has demonstrated that a lack of serviced industrial land has led to unaffordable rents and land values, and in turn:

- Businesses no longer consider Sydney for additional manufacturing or warehousing capacity.
- Businesses service Sydney from regional NSW and Victoria, resulting in higher carbon emissions and transport costs.
- Higher business costs which are passed on to the customer, resulting in higher price of goods and services.

The current circumstances do not enable the construction sector to ramp-up to much needed capacity to meet the Housing Accord housing targets. Delivery of 50,000 dwellings (avg. 2 bedroom) requires 50,000 kitchens, 100,000 toilets, 150,000 sinks and taps, etc. per annum. Building materials such as timber, steel, bricks, tiles and sanitary ware will be procured from a mix of offshore and local sources, requiring the supply chain to expand its capacity to source, store and distribute.

Currently, there is simply no supply of serviced industrial land. Existing serviced stocks in Sydney are all but exhausted. In contrast, Melbourne and SEQ can both draw on their stocks of industrial land (11.5 and 13.5 years supply respectively).

Even if the construction supply chain expanded its capacity (through regional and Victorian sites), it would lead to higher cost, longer lead-times and thwart the Government's objective of increasing housing supply to improve housing affordability.

Zoned Land Not Serviced

Chapter 3 showed that much of Sydney's supply of serviced industrial land is either too small or not available to the general market. When taking into account size and site attributes, Sydney has at best, one year of remaining industrial land supply.

The analysis also showed a concentration of large lots (>5ha) in precincts that are zoned, but not serviced. These are Mamre Road (775ha), Northern Gateway (1,000ha), Agribusiness (870ha), Aerotropolis Core (465ha) and Badgerys Creek (180ha).

The Mamre Road Precinct was rezoned in 2020. It is the only zoned precinct that has significant institutional investment and tenant interest with development planning already advanced. The Mamre Road Precinct is therefore an important part of the solution to easing Sydney's chronic capacity issue.

In 2019 when the Mamre Road Precinct was prepared for rezoning, DPHI identified 4-5 years of land remaining (DPHI, 2019). Since then, there has been no large-scale servicing of land and structural changes following the COVID-19 pandemic have turbo-charged land demand. The low stock levels have now been depleted. This has been met with near zero vacancy and skyrocketing rents. This has severely affected Sydney's national competitiveness and added to the cost of living.

Development in Mamre Road Precinct has not proceeded due to:

- Limited funding or timeframe for the delivery of critical infrastructure (roads, sewer, electrical).
- Development that is no longer feasible following the imposition of Sydney Water DSP charges.
- Land that must be sterilised for interim waterway measures until the Regional Stormwater Scheme is developed.
- Lack of flexibility in the implementation of planning controls and a backlog of planning applications.

The recently introduced DSP charges are to deliver water targets that represent a step-change in planning requirements. The capacity of the market to bear these charges at the Mamre Road Precinct had not been tested prior to their imposition.

6.3 Recommended Interventions

Immediate Steps

There are immediate interventions that can be made to unlock the developability of lands in the Mamre Road Precinct. Focusing on this precinct makes sense due to the advanced nature of development planning and the weight of investment capital and tenant interest already in play.

- **Administrative amendment of SIC allocation to biodiversity (currently 72%)** - this would enable SIC payments from first mover developers to deliver enabling infrastructure. Once the enabling infrastructure is delivered, the allocation from future SIC payments to biodiversity conservation can be re-adjusted as needed. At present, only 28% from SIC contributions can be offset against works-in-kind (e.g. delivery of roads), with 72% to be paid in cash for biodiversity.
- **Fast track delivery of critical roads Mamre Road and Southern Link Road** - funding accompanied by fast-track delivery. This is additional to the recent commitment by the Federal Government to fund the upgrades of Mamre Road at Kemps Creek ($50 million) and priority sections of Elizabeth Drive ($400 million).
- **Economic evaluation of new (step-change) water targets** - consider DSP charges in an economic appraisal (including a cost benefit analysis). Atlas is not aware of any cost benefit analysis (**CBA**) completed to weigh up the costs and benefits of the desired stormwater target outcomes. If there is an economic case (i.e. the benefits exceed the costs), the CBA must also consider the distributional impacts of the benefits and the costs.

  A feasibility analysis (by Atlas which was peer reviewed by DPHI) confirms the disproportionate cost burden of the DSP charges and the loss of developable land (60% of site area). The adverse impact on the feasibility of development was found to be severe, not capable of remedy even when construction cost escalations 'settle'.

  The implementation of public policy must have regard to how cost and benefit is distributed. In the case of the desired stormwater targets, the issue is 'who should pay for the targeted benefits?'

  If development cannot afford to bear the cost and if broader societal net benefits are targeted, it would be appropriate for that cost to be borne by Government. If Government does not have the capacity or appetite to bear the cost, alternate stormwater targets should be developed - targets that are affordable, and which are capable of being delivered.
- Unlock the backlog of planning applications with greater resource allocation.
- Allow greater flexibility in planning controls and agency response.
- Provide an urgent, immediate coordination role to streamline infrastructure delivery and development. Greater coordination between agencies is critically needed.

Once implemented, the above interventions would set the scene for delivery of lands in Western Sydney Aerotropolis.

Integration of Land Use and Infrastructure Planning

It is imperative for Sydney that land use planning is integrated with infrastructure planning. There is little point in rezoning land if that land has no reasonable prospect of being serviced by road and utility infrastructure.

The Victorian PSP (precinct structure plan) process recognises this - it embeds a collaborative process between key stakeholders (developers, referral authorities and decision makers) to resolve key planning challenges early. The Victorian Planning Authority (VPA) leads the preparation of the PSP in close partnership with the associated council and relevant agencies. Land is not rezoned unless it is developable and infrastructure funding arrangements are in place (VPA, 2020).

The effectiveness of the integration of land use and infrastructure planning and the Victorian PSP process can be observed in the relative pricing of dwellings in greenfield areas. In Sydney, a typical house and land package in a greenfield area is $1,000,000 while in Melbourne, a typical house and land package in a similar greenfield area is $650,000.

The coordinated and orderly release of land in Victoria has meant that land value movements have been more tempered. In contrast, Sydney land value movements have risen at exponential proportions.

Strategic Land Supply Policy

Victoria and Queensland both have strategic land supply policies that are given statutory weight. Both state planning frameworks require 15 years of land supply that is zoned and serviced, or capable of being serviced.

Victoria Planning Provisions

In Victoria, the Victoria Planning Provisions (**VPP**) are the standard provisions that form the framework for all of Victoria's planning schemes.

- Clause 11.02-1S of the VPP notes an objective of ensuring sufficient supply of land is available for residential, commercial, retail, industrial, recreational, institutional and other community uses.

  It further notes a strategy "*plan to accommodate projected population growth over at least a 15-year period and provide clear direction on locations where growth should occur…*" It notes that planning for urban growth should *inter alia*, consider "*service limitations and the costs of providing infrastructure*".

  It requires development trends and land supply and demand for housing and industry to be monitored and access to an adequate supply of well-located land for energy generation, infrastructure and industry is maintained.

- Clause 17.03-1S was recently introduced with the objective of ensuring availability of land for industry.

  It requires provision of an "*adequate supply of industry land in appropriate locations including sufficient stocks of large sites for strategic investment*".

- Clause 17.03-3S protects industrial land of state significance. It ensures sufficient availability of strategically located land for major industrial development, particularly for industries and storage facilities that required significant threshold distances from sensitive or incompatible uses.

The VPP embeds *Melbourne Industrial and Commercial Land Use Plan* as a relevant policy document (DTP, 2020).

In Queensland, Shaping SEQ Regional Plan 2023 (QLD Government, 2023) is the statutory spatial growth strategy for SEQ prepared by the Queensland Government under the Planning Act 2016. It provides a regional framework to manage growth, change, land use and development and sets targets for residential capacity and policies for industrial land provision.

Shaping SEQ - 15 years Land Supply (Zoned and Able to be Serviced)

Shaping SEQ makes provision for the delivery of adequate housing supply to 2046 to meet the full spectrum of housing demand. It notes maintaining a minimum of 4 years of approved supply and a minimum of 15 years of supply of land that has been appropriately zoned and planned to be serviced. The minimum performance metric of 15 years applies to each land use type in each LGA.

Shaping SEQ forecasts an industrial land supply shortfall in Brisbane (as soon as 10-15 years, expected to be felt within 5-10 years) which would lead to increased land prices, new businesses choosing to locate outside Brisbane and existing lower-value, land- expansive industrial uses seeking to locate outside of Brisbane. It recognises that a regional approach to industrial land is needed to position SEQ to realise opportunities of national significance.

Shaping SEQ identifies that well-positioned, well-serviced and timely supply of industrial land is needed, along with the safeguarding of regionally significant industrial locations to ensure ongoing supply over the next 25 years. It requires a need for development in and around these areas to be compatible with their role and function so as not to jeopardise the future development and operation of critical industrial land uses within SEQ.

Shaping SEQ describes extensive monitoring activities by region to ensure industrial land supply is sufficient and viable.

NSW would benefit from implementing a strategic land supply policy for all land uses (residential and employment). This would ensure a healthy and viable supply of land. This is essential to temper land value movements - which have occurred at runaway proportions in Sydney over the last decade.

6.4 The Cost of Doing Nothing

Sydney has no capacity to respond to the Housing Accord in a timely or cost-effective manner. Without the large-scale unlocking of serviced industrial land, the twin objectives of housing supply and housing affordability will not be met.

Immediate interventions are needed at the Mamre Road Precinct to urgently unlock zoned land as longer-term strategies are also pursued but that take time to bear result.

If allowed to continue, the industrial lands crisis in Sydney will continue to:

- Stymie employment growth in the industrial sector.
- Drive up land values and rents, and cumulatively impact the cost of doing business and cost-of-living.
- Stymie business growth and shift investment away from Sydney.
- Increase the environmental cost through greater trucking movements from regional and interstate locations.

The construction supply chain will be serviced from outside Sydney and the costs of construction will be higher. These costs will be passed on to the consumer and the cost of housing will be less, not more affordable.

Flow-on Implications

The Study has identified serious ramifications for Sydney if business-as-usual is allowed to continue.

Its direct consequences are evidenced through data observations.

- Industrial employment growth has stalled.
- Land values and rents have risen sharply - to double and treble peer capital cities of Melbourne and Brisbane.
- All businesses consulted have dismissed any growth prospects for Sydney, focusing instead on Melbourne, Brisbane and regional sites.
- Despite the NSW Government's recent planning reforms, additional capacity for the 'big housing build' can only be found outside Sydney. This would lead to higher construction cost and higher environmental cost.

Without the large-scale unlocking of serviced industrial land, the construction supply chain will be serviced from outside Sydney and the costs of construction will be less, not more affordable.

The Study continues to investigate:

- The additional cost of housing if sourced from outside of Sydney.
- The additional time required to deliver housing if sourced from outside Sydney.
- The carbon emissions generated from greater trucking movements from regional and interstate locations.
- The cost on the intrastate and interstate road network.
- The construction supply chain risks associated with material sourced from outside Sydney (e.g. industrial action and strikes, natural disasters).

The outcomes of these additional lines of investigation will be published in due course.

References

ABS (2022). *Census of Population and Housing, 2021*. ABS, Canberra.

ABS (2023). *Australian National Accounts: Input-Output Tables, 2019-20*. Cat. No. 5209.0.55.001. ABS, Canberra.

ABS (2024a). *Building Approvals*, Australia. Available from: https://www.abs.gov.au/statistics/industry/building-and-construction/building-approvals-australia/jan-2024#data-downloads

ABS (2024b). *Consumer Price Index, Australia*. Cat. No. 6401.0. ABS, Canberra.

ABS (2024c). *Business Indicators, Australia*. Cat. No. 5676.0. ABS, Canberra.

ASIC (2023). *Annual Corporate Insolvency Statistics*. 20 December 2023. Available from: https://asic.gov.au/regulatory-resources/find-a-document/statistics/insolvency-statistics/insolvency-statistics-current/

BCI (2024). *The Top Five Risks Influencing the Australian Construction Industry in 2024*. Available from: https://www.bcicentral.com/blog/five-key-risks-shaping-the-australian-construction-industry-in-2024/#escalating-cost

Cushman and Wakefield (2024). *Sydney, Melbourne and Brisbane Marketbeats*. Available from: https://www.cushmanwakefield.com/en/australia/insights

DPHI (2019). *Mamre Road Precinct Rezoning Exhibition Discussion Paper*. November 2019. Available from: https://shared-drupal-s3fs.s3-ap-southeast-2.amazonaws.com/master-test/fapub_pdf/Exhibition+attachments+/Mamre+Road/Mamre+Road+Precinct+Rezoning+Discussion+Paper.pdf

DPHI (2022). *Employment Lands Development Program*. January 2022. Available from: https://www.planning.nsw.gov.au/research-and-demography/employment-lands/employment-lands-development-monitor

DTP (2020). *Melbourne Industrial and Commercial Land Use Plan*. 2020. Available from: https://www.planning.vic.gov.au/guides-and-resources/strategies-and-initiatives/melbourne-industrial-and-commercial-land-use-plan

DTP (2023). *Urban Development Program - Metropolitan Melbourne Industrial Land*. December 2023. Available from: https://www.planning.vic.gov.au/guides-and-resources/data-and-insights/urban-development-program/urban-development-program-2022-metropolitan-melbourne/industrial-land

DSDMIP (2022). *Land Supply and Development Monitoring Report*. 2021. Available from: https://www.planning.nsw.gov.au/research-and-demography/employment-lands

Infrastructure Australia (2023). *Infrastructure Market Capacity 2023 Report*. December 2023. Available from: https://www.infrastructureaustralia.gov.au/sites/default/files/2023-12/IA23_Market%20Capacity%20Report.pdf

Kronenberg, T. (2009). *Construction of Regional Input-Output Tables Using Nonsurvey Methods: The Role of Cross-Hauling*. International Regional Science Review, 32(1), 40–64.

MBA (2024). *Building & Construction Industry Forecasts NSW*. Master Builders Australia. Available from: https://masterbuilders.com.au/product/nsw-forecast-april-2024/.

Mecone (2024). *Industrial Land Supply in Western Sydney*. June 2024. unpublished.

NIEIR (2023). *Full-time Equivalent Employment by Industry Sector*. 2021/2022. Available from: https://nieir.com.au/

Norbert, S. (2015). *Methods for Regionalising Input-Output Tables*. Regional Statistics, 5(1), 44-65.

Queensland Government (2023). *Shaping SEQ South East Queensland Regional Plan 2023*. Available from: https://planning.statedevelopment.qld.gov.au/__data/assets/pdf_file/0024/86145/shapingseq-2023-Low.pdf

VPA (2020). *Precinct Structure Planning Guidelines - New Communities in Victoria*. October 2021. Available from: https://vpa.vic.gov.au/project/psp-guidelines/

Schedules

SCHEDULE 1

Input-Output Modelling Methodology

Input-Output models are a method to describe and analyse forward and backward economic linkages between industries based on a matrix of monetary transactions. The model estimates how products sold (outputs) from one industry are purchased (inputs) in the production process by other industries.

The analysis of these industry linkages enables estimation of the overall economic impact within a catchment area due to a change in demand levels within a specific sector or sectors.

Impacts are traced through the economy via:

- Direct impacts, which are the first round of effects from direct operational expenditure on goods and services.
- Flow-on impacts, which comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales. Flow-on impacts can be disaggregated to:
    - Industry Support Effects (Type I) derived from open Input-Output models. Type I impacts represent the production induced support activity as a result of additional expenditure by the industry experiencing the stimulus on goods and services, and subsequent round effects of increased purchases by suppliers in response to increased sales.
    - Household Consumption Effects (Type II) derived from closed Input-Output Models. Type II impacts represent the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries being paid within the catchment economy.

Economic analysis considers the following four types of impacts.

Table S1-1: Economic Activity Indicators

Indicator	Description
Output	The gross value of goods and services transacted, including the cost of goods and services used in the development and provision of the final product. Care should be taken when using output as an indicator of economic activity as it counts all goods and services used in one stage of production as an input to later stages of production, thus overstating economic activity.
Gross Product	The value of output after deducting the cost of goods and services inputs in the production process. Gross product (e.g. Gross Regional Product (GRP)) defines a net contribution to economic activity.
Incomes	The wages and salaries paid to employees as a result of the Project or Proposal either directly or indirectly.
Employment	Employment positions generated by the Project or Proposal (either full time or part time, directly or indirectly). Employment is reported in terms of Full-time Equivalent (FTE) positions or person-years.

Source: Atlas

Regional Model Development

Multipliers used in this assessment have been created using a regionalised Input-Output model derived from the 2020-2021 Australian transaction table (ABS, 2023a).

Estimates of gross industry production in the catchment area were developed based on the share of employment (by place of work) of the catchment area within the Australian economy (ABS, 2022) using the Flegg Location Quotient and Cross Hauling Adjusted Regionalisation Method (CHARM). See Norbert (2015) and Kronenberg (2009) for further details. Where required, values were indexed to current dollar values using CPI (ABS, 2023b).

Modelling Limitations and Assumptions

Input-Output modelling is subject to a number of key assumptions and limitations (ABS, 2023a):

- **Lack of supply–side constraints:** The most significant limitation of economic impact analysis using multipliers is the implicit assumption that the economy has no supply–side constraints. That is, it is assumed that extra output can be produced in one area without taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or near capacity.
- **Fixed prices:** Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. Prices are assumed to be unaffected by policy and any crowding out effects are not captured.
- **Fixed ratios for intermediate inputs and production:** Economic impact analysis using multipliers implicitly assumes that there is a fixed input structure in each industry and fixed ratios for production. As such, impact analysis using multipliers can be seen to describe average effects, not marginal effects. For example, increased demand for a product is assumed to imply an equal increase in production for that product. In reality, however, it may be more efficient to increase imports or divert some exports to local consumption rather than increasing local production by the full amount.
- **No allowance for purchasers' marginal responses to change:** Economic impact analysis using multipliers assumes that households consume goods and services in exact proportions to their initial budget shares. For example, the household budget share of some goods might increase as household income increases. This equally applies to industrial consumption of intermediate inputs and factors of production.
- **Absence of budget constraints:** Assessments of economic impacts using multipliers that consider consumption induced effects (type two multipliers) implicitly assume that household and government consumption is not subject to budget constraints.

Despite these notable limitations, Input-Output techniques provide a solid approach for assessing the direct and flow on economic impacts of a project or policy that does not result in a significant change in the overall economic structure.

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BARINGS

Appendix C
SGS Economics Peer Review

Draft Mamre Road Precinct Capacity to Pay Analysis

NSW Department of Planning and Environment

28 | 08 | 2023

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1.1 Background

SGS has been commissioned by the Department of Planning and Environment (DPE) to undertake a capacity to pay analysis of potential stormwater charges within the Mamre Road Precinct.

The Mamre Road Precinct is a peri-urban, greenfield industrial area, which was previously zoned and used as agricultural land, and which was rezoned to accommodate industrial uses in June 2020 under the *State Environmental Planning Policy (Western Sydney Employment Area) 2009* (WSEA SEPP).

Since the rezoning, there has been significant activity in the precinct in terms of market transactions, and development applications, indicating high levels of demand in the area.

Required supporting infrastructure for the precinct is being provided through the following state and local contributions plans:

- The Western Sydney Aerotropolis Special Infrastructure Contribution (drafted 2020, implemented 2022)
- The Penrith City Council Mamre Road Precinct Development Contributions Plan (drafted 2020, implemented 2022)

Sydney Water is proposing a Stormwater and Recycled Water Development Servicing Plan (DSP) for the Mamre Road Precinct. A DSP is a plan which considers the future requirements and costs of water infrastructure in a given catchment, in order to reflect the relative cost of the required infrastructure for that area. The proposed contribution for the Stormwater and Recycled Water DSP is $1,300,000 per hectare of net developable area (NDA). This is henceforth referred to as the proposed *stormwater charge* and is the primary subject of the capacity to pay analysis.

Separately, Sydney Water is currently consulting on wider DSPs and associated contributions for potable (drinking) and wastewater infrastructure across its service area[1]. These are referred to as proposed *DSP contributions*.

Key dates for the Mamre Road Precinct

A timeline of key dates in the strategic identification and rezoning of the Mamre Road Precinct from rural to industrial land is provided in Table 1 below.

TABLE 1: KEY DATES FOR THE MAMRE ROAD PRECINCT

Date/s	Milestone / decision / event
August - September 2014	Draft SEPP amendment released providing for the expansion of the Western Sydney Employment Area, including Mamre Road Precinct for the first time
August 2018	Draft Western Sydney Aerotropolis Plan placed on public exhibition (including Mamre Road Precinct)
18 November - 20 December 2019	Public exhibition of draft rezoning package
11 June 2020	Rezoning package finalised. Land rezoned

[1] Sydney Water 2023, Infrastructure Contributions, via https://www.sydneywatertalk.com.au/infrastructure-contributions

September 2020	Western Sydney Aerotropolis Plan finalised
10 November - 17 December 2020	Mamre Road Precinct Draft Development Control Plan (DCP) on exhibition
26 February 2021	Draft Aerotropolis Special Infrastructure Contributions Plan (SIC) on exhibition
19 November 2021	Mamre Road Precinct Development Control Plan (DCP) finalised
9 December 2021 – 27 January 2022	Draft Mamre Road Precinct Development Contributions Plan (LIC / s.94) exhibited by Penrith City Council
9 March 2022	Aerotropolis SIC comes into effect – Determination signed by Minister for Planning
25 March 2022	NSW Government announced the appointment of Sydney Water as the trunk drainage authority for stormwater in the Western Sydney Aerotropolis, including the Mamre Road Precinct.
28 March 2022	Mamre Road Precinct Development Contributions Plan adopted by Penrith City Council
4 April 2022	Mamre Road Precinct Development Contributions Plan comes into effect
7 June 2022 – 31 July 2022	Draft Stormwater Scheme Plan exhibited by Sydney Water
21 December 2022	Stormwater Scheme Plan finalised by Sydney Water

Source: DPE 2023

Review of materials and documents

This section summarises the materials that served as quantitative and qualitative context to SGS's development of one component of key factors, inputs, and assumptions in the technical capacity-to-pay analysis.

Given the multiplicity of stakeholders and organisational involvement related to development and infrastructure provision in the Mamre Road Precinct, SGS was tasked with reviewing materials and documents to:

- Identify relevant key factors, inputs and assumptions that should be considered in establishing key factors, inputs, and assumptions in SGS's technical methodology.
- Identify any departures from the inputs and assumptions used in previously-completed capacity-to-pay analyses, such as that which was undertaken for the Aerotropolis SIC
- Qualitatively acknowledge strategic considerations related to the development of the proposed Sydney Water Stormwater Charge
- Identify any limitations to the incorporation of key factors, inputs, assumptions or the suggestion of economic or community benefit articulated in background studies and documents
- Provide a high-level review of the landowners' group response and analysis of the proposed stormwater charge

SGS was provided with the following background documents and materials to be reviewed for purposes described above. These documents were shared in confidence.

Western Sydney Aerotropolis Special Infrastructure Contributions Analysis (October 2020)

The SIC feasibility study covered the entire Aerotropolis precinct, but did not include specific outputs identifying a tolerable level of SIC for the Mamre Road Precinct. It concluded that the "capacity for development to pay a SIC would be adversely affected" if both the then-proposed s7.11 of $700,000 per hectare of Net Developable Area (NDA) and the SIC were implemented together.

The study also identified that, given the fact that landowners had been engaged in market transactions which included VPA negotiations around $200,000 per hectare of net developable area, that this would be a tolerable level for the SIC. The study utilised the following parameters for feasibility thresholds: a range of 16-18% (where less than 16% was not feasible, and greater than 18% feasible) for industrial development. It also identified similar (but slightly higher) hurdle rates for commercial and residential land use developments. It was not clear, however, how the development margins and IRR thresholds were estimated.

Since the SIC feasibility work was completed, the SIC was implemented in March 2022 at a rate of $200,000 per hectare of NDA. The Penrith City Council Mamre Road Precinct Development Contributions Plan was also implemented in April 2022 with a rate of $599,225 per hectare of NDA. Both charges are subject to indexation.

Landowners' Group Feasibility Analysis (Atlas Economics, June 2023)

SGS was provided the outputs of Atlas Economics report to the landowners group for review. SGS has summarised key inputs and assumptions of that analysis (as represented by the June 2023 report) in the following Table 2. This summary illustrates where and to what extent many of the key inputs and assumptions differ or are similar. It should be noted that, among the material differences, Atlas analysed a prototype on a 10 hectare site. Whereas SGS tested prototypes on a 5- and 15-hectare site given the possibility that acquired land (lot acquisitions were generally approximately 10 hectares each) within the precinct could be assembled under different ownership structures and developed in a wider variety of different formats of scale.

TABLE 2: COMPARISON OF FEASIBILITY ASSUMPTIONS

Input or assumption	Atlas assumption	SGS assumption	Impact
Net developable area of site	85%	90.5% (large format) 98% (small format)	Lower NDA increases land costs relative to realisable values
FSR (of NDA)	0.575:1	0.54:1	Higher FSR increases realisable value as larger buildings can be realised
Construction time	22 months	28 months (large format) 18 months (small format)	Longer construction times increase costs of finance
Net face rent per sqm	$185	$190	Higher face rents increase realisable value
Capitalisation rate	4.75%	5.15%	Lower capitalisation rates increase realisable value
Marketing and legal costs	0.25% of gross realisable value (each)	Marketing at 1.5% of GRV Legal at 0.5% of hard costs	
Sales commission	1.5% of GRV	2.0% of GRV	
Cost of land (per sqm gross site area)	$575	$450 (large site) $550 (small site)	
Legal and due diligence fees	0.5% of land cost	N/A	
Construction costs	$1,150 per sqm of GFA	$994 per sqm of GFA	
Estate servicing	$200 per sqm of gross site area	$85 per sqm of gross site area for servicing $76 per sqm for demolition and site preparation	
Professional fees	8.5% of hard costs	10% of hard costs (including project management)	
Contingency	5% of hard costs	10% of hard costs	
Holding costs	Land tax, council, and water rates	N/A	
DSP charges	$50,000/ha NDA	$376,771/ha NDA (large format) $373,871/ha NDA (small format)	
7.11 charges	$668,893/ ha NDA, 20% offset against WIK	$599,010 (unindexed, no offsets)	
Finance costs	Land purchased with equity, 5.5% interest	LTV of 60%, 8% interest	
Hurdle rates	16% to 18%	18.25% to 18.50%	Higher hurdle rates effectively act as a higher 'cost' of development.

Source: SGS Economics and Planning 2023 using Atlas Economics 2023

Table 3 provides a closer comparison of the two sets of assumptions used in the estimation of development costs and realisable value. As such, this highlights that while assumptions used in both analyses are similar, there are some variations between a few key variables:

- Atlas applied a higher land cost, particularly by comparison to SGS's large format prototype
- SGS's hard construction costs are lower, but SGS's soft costs are higher
- Atlas's analysis assumed higher net realisable values due to lower yields, while SGS's analysis assumed slightly higher net face rents with higher yields

Further differences emerge when comparing the tested array of charges by scenario. For the analysis overleaf, the included fees and charges were the 7.11 contributions, the SIC, and the DSP charges. That is, the proposed stormwater charges were excluded from analysis of the overall development costs. However, it should also be noted that SGS's methodology for estimating the proposed DSP charges was informed by Sydney Water's methodology for calculating per-equivalent tenements (discussed in Table 10 on page 11).

- Total development costs per square metre of land and per square metre of gross floor area were very similar between the Atlas' analysis, and the SGS analysis for the large format site. Within the SGS analysis, total development costs per square metre of GFA were approximately 12% lower for the small site when compared with the large site.
- Net realisable value per square metre of gross floor area was higher under Atlas assumptions, generally driven by the lower capitalisation rate adopted.

TABLE 3: COMPARISON OF REALISABLE VALUE AND DEVELOPMENT COST ASSUMPTIONS

	Atlas assumptions (per sqm)	SGS assumptions (per sqm, large format)	SGS assumptions (per sqm, small format)
Realisable Values			
Net face rent per square metre of GFA	$185	$190	$190
Capitalisation rate	4.75%	5.15%	5.15%
Net realisable value per square metre of GFA (net of vacancy and sales commission)	$3,892	$3,543	$3,543
Development Costs			
Total development costs per square metre of GFA	$2,136	$2,131	$1,886
Total development costs per square metre of site	$1,044	$1,041	$998

Source: SGS Economics and Planning 2023 using Atlas Economics 2023

Review and identification of relevant infrastructure charges

Sydney Water is proposing to implement three types of infrastructure contributions for new development to pay for new infrastructure required to support growth. These are:

- **Potable water DSP** – $5,311 per equivalent tenement
- **Wastewater DSP** – $21,276 per equivalent tenement
- **Stormwater charge** – This proposed fee is the subject of this analysis and is proposed at $1,300,000 per net developable hectare

The first two of these charges have been calculated and are currently on exhibition. Based on review of the background information provided to SGS, it is understood they are intended to be introduced from 1 July 2024 at 25% of the total contributions, 50% from 1 July 2025, and 100% from 1 July 2026[2]. The applicable Development Servicing Plans (DSP) for the Mamre Road Precinct are, for the potable water charges and wastewater charges respectively, the Greater Sydney Drinking Water Plan and the Nepean River Wastewater Plan.

1.2 Technical approach, inputs and assumptions

SGS applies a standard residual land value (RLV) feasibility modelling approach. Along with land acquisition costs, development costs, related fees and charges, as well as an appropriate risk-adjusted return, a supportable stormwater charge is estimated by referencing a benchmark risk-adjusted development margin (calibrated as discussed with **Table 12** on page 12) against each prototype's estimated development margin. Where an excess development margin exists, a supportable stormwater charge is calculated on the basis of each square metre of NDA of site.

Inputs and assumptions

This section summarises SGS inputs and assumptions used in the capacity-to-pay analysis. The methodology as described above requires identification of the following components:

- **Site characteristics** – built form outcomes of proposed development typologies and potential required works to support the site.
- **Development costs** – including hard costs (e.g., building), soft costs (e.g., professional fees, legal, financing, contingency, etc.), planning fees and charges (e.g., stamp duty, GST, SSDA fees), infrastructure contribution charges (e.g., Section 7.11/7.12, SIC, Sydney Water potable water and wastewater DSP charges, and the proposed Sydney Water stormwater charge.
- **Realisable values** – a method to derive the end value of the proposed development, considering rental and a suitable capitalisation rate.
- **Development margin and risk** – an estimate of the minimum margin a developer would seek in developing such a project that is adjusted for the various risks associated with such development (e.g., timing, land cost, construction cost, market, environment, etc.).

[2] Sydney Water 2023, Infrastructure Contributions, via https://www.sydneywatertalk.com.au/infrastructure-contributions

Development prototypes and site characteristics

The Mamre Road Precinct has approximately 100 large lots making up close to 1,000ha (including areas with environmental conservation zoning and flood affectations). The median size of lots was 10ha in 2020. The Precinct was rezoned to industrial uses in June 2020. The FSR for warehouse typologies which have been approved in the Precinct or are currently on exhibition is generally around 0.5:1.

Two theoretical sites have been modelled for this analysis: a small site (5ha) and a large site (15ha). The small site is intended to theoretically provide for one warehouse of approximately 25,000 square metres, and the large site is intended to model a more significant master planned precinct.

These two prototypes were selected following analysis of State Significant Development Applications (SSDAs) which have been submitted within the Mamre Road Precinct and which, in aggregate, were considered indicative of development in the precinct, considering the existing planning controls for the area. This analysis accordingly sought to understand an approximate proportion of net developable area (NDA) of proposals in the area, as well as the built form outcomes being proposed for development in the area. This revealed the following trends within the master plans for the precinct:

TABLE 4: DEVELOPMENT TRENDS IN THE MAMRE ROAD PRECINCT

Parameter	Upper range	Lower range
Lot size	72ha	32ha
Total road reserves	9%	6%
Total stormwater and environmental reserves	9%	3%
Net developable area	90%	81%
Net developable area excl. environmental and stormwater reserves	94%	91%
Size of individual warehouse	77,880 sqm	14,500 sqm
FSR of individual warehouse site	0.68	0.42

Source: SGS Economics & Planning, 2023, various sources.

The trends found within Table 4 informed the development of the two prototypes for capacity to pay testing as shown in Table 5. For both prototypes, the existing state of the site is assumed to be a greenfield, agricultural typology.

TABLE 5: DEVELOPMENT PROTOTYPE CHARACTERISTICS

Parameter	Large format	Small format
Lot size	15ha (150,000 sqm)	5ha (50,000 sqm)
Net developable area	90.5%	98.0%
FSR	0.54	0.54
Gross floor area	73,305 sqm	26,460

Source: SGS Economics & Planning, 2023

Development costs

Development costs were estimated for each prototype. Construction costing information and assumptions from Rawlinsons Construction Cost Guide (2023) and benchmarked rates from other projects within the Mamre Road Precinct (specifically, QS reports on other SSDAs). Soft costs used are industry standard costs, calibrated to the particular project typology and assumed site characteristics. All costs were reviewed by M3 Property.

Development charges and infrastructure contributions were sourced from Council and the State Government.

Hard costs

The first category of development costs identified are referred to as hard costs. As noted previously, SGS utilised the Rawlinsons Construction Cost Guide (2023) and inputs and assumptions developed through analysis of Quantity Surveyor (QS) reports submitted for SSDAs within the Mamre Road Precinct. A summary of these hard costs inferred from Rawlinsons and QS information is provided in Table 6 below.

The QS reports covered the period of 2020 and 2021. They were used to understand the costs for works specific to the Mamre Road Precinct. These costs related to the specific features of the site, such as the required cut and fill for the existing topography, as well as the cost of infrastructure installation and reticulation. Infrastructure installation is closely linked to the specific site conditions (influencing the cost of installation) and local requirements (determining what sort of infrastructure is required, for instance in the key area of stormwater provision). These reports accordingly have been cross referenced, where possible, to the construction cost estimates provided by Rawlinsons, which by their nature are not site-specific. A key challenge of using these costs in tandem is in the divergence of definitions and costs which is evident in this review.

TABLE 6: HARD COSTS REVIEWED IN MODELLING

Cost		Per	Source
Demolition and site preparation	$76	m^2 of site	QS analysis
Warehouse construction	$927	m^2 of warehouse GFA	Rawlinsons
External pavements	$94	m^2 (assumed at half of warehouse sites not occupied by warehouse)	Rawlinsons
External landscaping	$40	m^2 (assumed at half of warehouse sites not occupied by warehouse)	QS analysis
Site costs comprising infrastructure reticulation	$85	m^2 of site	QS analysis
Site costs comprising road construction	$17	m^2 of site	QS analysis
Cost of stormwater infrastructure	$10	m^2 of site	QS analysis – note this was a small sample size

Source: SGS Economics & Planning Rawlinsons Construction Cost Guide, and various sources, 2023

A discussion of how costs were apportioned to sites is provided in Table 7 below.

TABLE 7: HARD COST APPORTIONMENT BY PROTOTYPE

Cost	Large format	Small format	Notes
Demolition and site preparation	100%	100%	Demolition, earthworks, and construction are assumed to be consistent for all sites.
Building works, including external costs	100%	100%	
Site costs comprising infrastructure reticulation	100%	25%	Infrastructure reticulation along internal roads is not required for smaller sites. The assumption is made that only one average-sized warehouse will be developed on the site, and that driveway access will be available directly from a suitable road. 25% of these anticipated costs are, however, still assumed for small sites, to provide for connections to trunk services.
Site costs comprising road construction	25%	0%	Road construction costs are not considered to be relevant for small sites, as they are assumed to have an existing frontage with road access. For large sites, circulation is broadly assumed to be provided for within the 7.11 plan. However, for the large format prototype, there are portions of internal roads which are only for the use of the development – this is conservatively assumed at 25%.

Source: SGS Economics & Planning, 2023

Soft costs

The second category of development costs identified are referred to as soft costs. Inputs for such estimated costs are summarised in Table 8 and represent industry standard assumptions (and reviewed by M3 Property) regarding professional fees, project management, general contractors, marketing, legal, financing, contingency, etc.

TABLE 8: DEVELOPMENT SOFT COSTS

Soft Cost	Model Input
Professional Fees	8.5% of hard costs
Project Management	1.5% of hard costs
Marketing & Advertising	1.5% of gross realisable value
Legal Fees	0.5% of hard costs
Financing	Estimated via formula related to current conventional debt borrowing costs, and estimated construction period (months). Conventional debt is currently estimated at a rate of 8.00% at an LTV of 60%, with a construction period of 28 months for the large format site, and 18 months for the small format site.
Contingency	10.0% of hard costs and selected other costs
Land Acquisition Fee	0.5% of residual land value
Sales Commission	2.0% of gross realisable value

Source: SGS Economics & Planning, 2023

Statutory Planning Fees and Charges

The third category of development costs in the modelling includes planning fees and charges, as described below in Table 9. In addition to the fees and charges identified in the table, the **Stormwater contribution of $1,300,000 per net developable hectare** was the variable being tested for this analysis.

TABLE 9: STATUTORY FEES AND CHARGES

Fee or charge	Assumption used, source
Stamp duty	From NSW Revenue
Application fees	SSDA application fees as per Schedule 4, Part 5 of the Environmental Planning and Assessment Regulation 2021
7.11 Contribution	$599,225 per Net Developable area Penrith City Council
Special Infrastructure Contribution	$210,733 per Net Developable area DPE
Sydney Water Nepean River Wastewater Plan (DSP)	$21,276 per equivalent tenement
Sydney Water Greater Sydney Drinking Water Plan (DSP)	$5,311 per equivalent tenement

Source: SGS Economics & Planning, 2023

Table 10 below indicates the total DSP charges per net developable area (NDA) on a per-hectare basis for each prototype. SGS worked with Sydney Water to understand and replicate the calculation of per-equivalent tenement. As such, the use of potable water and wastewater for each site was calculated according to the relevant Development Servicing Plan using assumptions for light or general industrial usage where applicable.

TABLE 10: DSP CHARGES PER HECTARE OF NET DEVELOPABLE AREA

Prototype	Potable Water DSP charge (per hectare)	Wastewater DSP charge (per hectare)
Large format (15 hectare)	$37,896	$338,875
Small format (5 hectare)	$34,996	$338,875

Source: SGS Economics & Planning, 2023

Realisable Values

Industry development sales evidence was compiled to determine core inputs regarding realisable values for each prototype. The compilation of such sales evidence included industrial sales and rental evidence for the Mamre Road Precinct, the surrounding area, and the Aerotropolis. Nearby industrial areas of Erskine Park, Kemps Creek, and Eastern Creek demonstrate recent industrial development which can be understood to inform future realisable values.

The data gathered provided SGS and M3 Property with sufficient evidence to identify a range of realisable value inputs appropriate for the two prototypes, including net face rents per square metre and yield rates, as shown in Table 11. A vacancy rate assumption was also made to reach a realisable value for future development. Sources for this sales evidence included: Corelogic, realcommercial.com, commercialrealestate.com, and industry reports.

TABLE 11: REALISABLE VALUE INPUTS

	Large format	Small format
Net face rent (per m^2)	$190	$190
Vacancy rate	2%	2%
Cap rate	5.15%	5.15%
Realisable value (per m^2)	$3,615.53	$3,615.53

Source: SGS Economics & Planning, M3 Property, 2023.

Margin and hurdle rate

To understand the development's capacity to pay in the subject area, SGS has determined the likely hurdle rate required. In development feasibility, a *hurdle rate* is the minimum acceptable level of profitability that a development must achieve to be considered feasible. It is used as a benchmark that will enable the analysis to answer the key objectives of this study. A rate of return is a percentage value that expresses the net profit from an investment over a given period of time.

Hurdle rates consider a variety of factors, including the cost of capital and risks to the project. The hurdle rate is calculated by subtracting the Consumer Prince Index (CPI) from the Standard Business Rate of Return to understand the return over and above inflation. This value is then added to all other possible risks, expressed as percentages. This combined hurdle rate is accordingly calibrated to the current development market and the Mamre Road Precinct.

TABLE 12: RISK-ADJUSTED RETURN (HURDLE RATE) ESTIMATE

	Component	Value	Estimation Technique	Source
A	Inflation (CPI)	4.00%		ABS [Note 1]
B	Riskless Rate of Return	3.70%		RBA [Note 2]
C	Standard Business Rate of Return	10.00%		ASX [Note 3,4]
D	Risk Premium - Timing	1.20%	Increased construction period	in model
E	Risk Premium - Land cost	2.62% – 3.11%	Increase to EUV	in model
F	Risk Premium - Construction cost	1.91% - 2.27%	Increase to construction costs	in model
G	Risk Premium – Market	3.94% - 7.93%	Decrease to GRV factor	in model
H	Risk Premium - Environmental	1.00%		qualitative
I	Risk Premium - Approvals	1.00%		qualitative
J	**Hurdle Rate (above inflation)**	**18.25% - 18.50%**		

[Note 1] https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/consumer-price-index-australia/mar-quarter-2023
[Note 2] https://www.rba.gov.au/chart-pack/interest-rates.html
[Note 3] https://www.marketindex.com.au/statistics
[Note 4] https://topforeignstocks.com/2017/06/14/the-historical-average-annual-returns-of-australian-stock-market-since-1900/

Source: SGS Economics & Planning, M3 Property, 2023.

Existing Use Values

Existing use values applied to the analysis are provided in Table 13 and were estimated on a per square metre basis, considering sales evidence gathered by M3 property in the study area. For the purposes of this analysis, it is assumed that the whole site is usable and not affected by water courses or easements.

It is assumed that the price of acquisition is higher for the small format site, and lower for the small format site, considering macro trends seen in the sales evidence. The values used in the modelling were reviewed with M3 Property as modelling progressed.

TABLE 13: EXISTING USE VALUE INPUTS

Prototype		Land Value (per sqm)
Small format prototype	High estimation	$550
Large format prototype	Low estimation	$450

Source: SGS Economics & Planning, M3 Property, 2023.

Scenarios

SGS understands that some of the fees and charges associated with development the Mamre Road Precinct are proposed to change over time. To understand the aggregate impact of these charges, scenario testing was carried out by varying the scale of charges to understand the incremental impact that certain extent of charges is likely to have on the development margin pre- and post-effective date of the proposed Sydney Water stormwater charge. As such, the scenarios are defined by variations in the following key variables:

- GRV escalation – representing a core scenario (representative of a point in time when slightly higher supportable net face rents are possible)
- Sydney Water DSP charges – representing the two DSP charges related to potable water and wastewater
- SIC – representing the current Aerotropolis Special Infrastructure Contribution

There has been no escalation of costs associated with the analysis for scenarios which represent future states of fees – only the identified changes in fees. Across all of the following scenarios summarised in Table 14, SGS provides a supportable stormwater charge, only if the excess development margin is greater than zero (when the estimated margin exceeds the hurdle rate).

- Scenario A – this scenario represents the SIC at 50% of the full proposed charge and the proposed DSP charges at 25%.
- Scenario B – this scenario represents the SIC at 100%, and the proposed DSP charges at 100%. As such, the results of A and B may be contrasted to identify the impact of the potable and wastewater charges, as well as the SIC at 100%, to the development margin.
- Scenario C – this scenario represents the same DSP and SIC charge assumptions as Scenario B, but increases the potential GRV by 5% to reflect the potential for escalated net effective rents above those factored in the base cases (Scenarios A and B).

TABLE 14: SCENARIOS USED IN MODELLING

Scenario	A	B	C
Description	BAU GRV, **25% DSPs**, 50% SIC	BAU GRV, **100% DSPs**, 100% SIC	**Esc'd GRV**, **100% DSPs**, 100% SIC
GRV escalation	0%	0%	5%
Sydney Water DSPs (potable & wastewater)	25%	100%	100%
SIC	50%	100%	100%

Source: SGS Economics & Planning, 2023

1.3 Findings and considerations

The following section details the findings of the capacity-to-pay feasibility modelling. The discussion outlines the findings related to the two evaluated prototypes from Scenario A through Scenario C:

- Large format site (15 hectares)
- Small format site (5 hectares)

Each table accompanying the findings of the large and small format prototypes outlines key characteristics and outputs, including:

- Net revenues
- Total development costs (TDC)
- Margin (estimated net revenues less TDC less EUV)
- Hurdle rate (as established by the risk-adjusted premiums methodology)
- Excess margin (the difference between the margin and the hurdle rate, if positive)
- Supportable stormwater charge

Furthermore, the findings also provide an estimation of the supportable stormwater charge on the basis of the following two critical development margin inputs:

- Target hurdle rate, as estimated by SGS to be 18.25% to 18.50%. This hurdle rate is considered the business-as-usual hurdle rate, reflecting anticipated risks related to construction cost, market, timing, and land and holding costs. From this perspective, the findings yield a lower-bound supportable stormwater charge.
- Baseline hurdle rate, identified also by Atlas as a minimum threshold for risk-adjusted return at 16%. This hurdle rate is considered the borderline between infeasible and feasible, which, by contrast to the target hurdle rate, could be described as a condition in which some of the above-mentioned risks (construction cost, market, timing, land holding costs) might be mitigated and thus reduced. From this perspective, the findings yield an upper-bound supportable stormwater charge.

Large format prototype

This section provides the capacity-to-pay outputs for the large format development prototype, illustrated in Table 15. The findings of the analysis demonstrate the following across the scenarios:

- Scenario A – with a hurdle rate at 18.25%, the development margin with the 25% DSP charges is estimated at approximately 15.6% leaving no excess margin to support a stormwater charge. The impact of the 25% DSP charges is approximately 0.5% on the margin.
- Scenario B – with a hurdle rate at 18.50%, the development margin with the 100% DSP charges is estimated at approximately 13.6% leaving no excess margin to support a stormwater charge. The impact of the 100% DSP charges is approximately 2.0% on the margin.
- Scenario C – with a hurdle rate at 18.50%, the development margin with 5% escalated GRV assumptions and 100% DSP charges is estimated at approximately 17.4% leaving no excess margin to support a stormwater charge. The impact of the 100% DSP charges is approximately 1.9%.

TABLE 15: DEVELOPMENT OUTCOMES WITHOUT PROPOSED STORMWATER CHARGE – CALCULATED HURDLE (LARGE FORMAT)

Scenario	A	B	C
Description	BAU GRV, **25% DSPs**, 50% SIC	BAU GRV, **100% DSPs**, 100% SIC	**Esc'd GRV**, **100% DSPs**, 100% SIC
Net Revenues	$259,735,984	$259,735,984	$272,722,783
TDC	$151,636,797	$156,903,150	$157,849,066
Margin	$40,599,187	$35,332,834	$47,373,717
Margin as % of Net Revenues	15.63%	13.60%	17.37%
Hurdle Rate	18.25%	18.50%	18.50%
Margin (at hurdle)	$47,401,817	$48,051,157	$50,453,715
Excess Margin (if ≥ Hurdle)	n/a	n/a	n/a
NDA	135,750 sqm	135,750 sqm	135,750 sqm
Supportable Charge (per ha NDA)	n/a	n/a	n/a

Source: SGS Economics & Planning, 2023

Shown in Table 16, with a minimum hurdle rate threshold of 16%, a supportable stormwater charge of approximately $275,000 per hectare of NDA is estimated for Scenario C, in which GRV is escalated by 5%.

TABLE 16: DEVELOPMENT OUTCOMES WITHOUT PROPOSED STORMWATER CHARGE – 16% HURDLE (LARGE FORMAT)

Scenario	A	B	C
Description	BAU GRV, **25% DSPs**, 50% SIC	BAU GRV, **100% DSPs**, 100% SIC	**Esc'd GRV**, **100% DSPs**, 100% SIC
Net Revenues	$259,735,984	$259,735,984	$272,722,783
TDC	$151,636,797	$156,903,150	$157,849,066
Margin	$40,599,187	$35,332,834	$47,373,717
Margin as % of Net Revenues	15.63%	13.60%	17.37%
Hurdle Rate	16.00%	16.00%	16.00%
Margin (at hurdle)	$41,557,757	$41,557,757	$43,635,645
Excess Margin (if ≥ Hurdle)	n/a	n/a	$3,738,072
NDA	135,750 sqm	135,750 sqm	135,750 sqm
Supportable Charge (per ha NDA)	n/a	n/a	$275,364

Source: SGS Economics & Planning, 2023

Small format prototype

This section provides the capacity-to-pay outputs for the large format development prototype, illustrated in Table 17. The findings of the analysis demonstrate the following across the scenarios:

- Scenario A – with a hurdle rate at 18.25%, the development margin with the 25% DSP charges is estimated at approximately 19.4% leaving an excess margin of approximately $1.0 million or approximately $218,000 per hectare. The impact on the margin compared to Scenario A is approximately 0.5%.
- Scenario B – with a hurdle rate at 18.50%, the development margin with the 100% DSP charges is estimated at approximately 17.4% leaving no excess margin to support a stormwater charge. The impact of the 100% DSP charges is approximately 2.0% on the margin.
- Scenario C – with a hurdle rate at 18.50%, the development margin with 5% escalated GRV assumptions and 100% DSP charges is estimated at approximately 21.0% leaving an excess margin of approximately $2.5 million and a supportable stormwater charge of approximately $514,000 per hectare. The impact of the 100% DSP charges is approximately 1.9%.

TABLE 17: DEVELOPMENT OUTCOMES WITHOUT PROPOSED STORMWATER CHARGE – CALCULATED HURDLE (SMALL FORMAT)

Scenario	A	B	C
Description	BAU GRV, **25% DSPs**, 50% SIC	BAU GRV, **100% DSPs**, 100% SIC	**Esc'd GRV**, **100% DSPs**, 100% SIC
Net Revenues	$93,753,689	$93,753,689	$98,441,373

TDC	$48,073,426	$49,963,698	$50,211,380
Margin	$18,180,262	$16,289,990	$20,729,993
Margin as % of Net Revenues	19.39%	17.38%	21.06%
Hurdle Rate	18.25%	18.50%	18.50%
Margin (at hurdle)	$17,110,048	$17,344,432	$18,211,654
Excess Margin (if ≥ Hurdle)	$1,070,214	n/a	$2,518,339
NDA	49,000 sqm	49,000 sqm	49,000 sqm
Supportable Charge (per ha NDA)	$218,411	n/a	$513,947

Source: SGS Economics & Planning, 2023

Shown in Table 18, with a minimum hurdle rate threshold of 16%, a supportable stormwater charge of ranging between approximately $263,000 (Scenario B) and slightly more than $1,000,000 per hectare of NDA (Scenario C).

TABLE 18: DEVELOPMENT OUTCOMES WITHOUT PROPOSED STORMWATER CHARGE – 16% HURDLE (SMALL FORMAT)

Scenario	A	B	C
Description	BAU GRV, **25% DSPs**, 50% SIC	BAU GRV, **100% DSPs**, 100% SIC	**Esc'd GRV**, **100% DSPs**, 100% SIC
Net Revenues	$93,753,689	$93,753,689	$98,441,373
TDC	$48,073,426	$49,963,698	$50,211,380
Margin	$18,180,262	$16,289,990	$20,729,993
Margin as % of Net Revenues	19.39%	17.38%	22.92%
Hurdle Rate	16.00%	16.00%	16.00%
Margin (at hurdle)	$15,000,590	$15,000,590	$15,750,620
Excess Margin (if ≥ Hurdle)	$3,179,672	$1,289,400	$4,979,373
NDA	49,000 sqm	49,000 sqm	49,000 sqm
Supportable Charge (per ha NDA)	$648,913	$263,143	$1,016,199

Source: SGS Economics & Planning, 2023

Direct estimation of stormwater charge impact

The following Table 19 and Table 20 summarise the findings of the capacity-to-pay modelling outputs when incorporating 100% of the proposed stormwater charge into each scenario and prototype.

- There is no scenario modelled producing a sufficient development margin.
- The 5% escalation of the GRV assumption in Scenario C has a positive impact on the margin, but not by a sufficient amount to achieve the established hurdle rate.

TABLE 19: DEVELOPMENT OUTCOMES WITH PROPOSED STORMWATER CHARGE (LARGE FORMAT)

Scenario	A	B	C
Net Revenues	$259,735,984	$259,735,984	$272,722,783
TDC	$169,284,297	$174,550,650	$170,381,896
Margin	$22,951,687	$17,685,334	$34,840,887
Margin as % of Net Revenues	8.84%	6.81%	12.78%
Hurdle Rate	18.25%	18.50%	18.50%
Impact on margin	6.79%	6.79%	6.47%

Source: SGS Economics & Planning, 2023

TABLE 20: DEVELOPMENT OUTCOMES WITH PROPOSED STORMWATER CHARGE (SMALL FORMAT)

Scenario	A	B	C
Net Revenues	$93,753,689	$93,753,689	$98,441,373
TDC	$54,443,426	$56,333,698	$56,581,380
Margin	$11,810,262	$9,919,990	$14,359,993
Margin as % of Net Revenues	12.60%	10.58%	14.59%
Hurdle Rate	18.25%	18.50%	18.50%
Impact on margin	6.79%	6.79%	6.47%

Source: SGS Economics & Planning, 2023

Analytical assumptions and limitations

There are a variety of limitations to development feasibility modelling. The Reserve Bank of Australia and other central banks around the world continue adjusting their target cash rates in response to macroeconomic conditions including high rates of inflation.

For the assessment of development costs, not only can inflationary pressures on construction materials and labour costs impact feasibility, but the cost of conventional debt for commercial loans, such as those used in financing development projects, can also be impacted by higher commercial lending rates. For the assessment of realisable values, as well, the impact of the higher cash rate can increase yield and capitalisation rates, as investors demand higher returns from investment.

These considerations imply downside risks associated with both construction costs and realisable values. And while this assessment has modelled the impact of potential downside risks (in establishing a benchmark hurdle rate), there is still a risk that conditions change to a greater extent than were contemplated in the modelling.

There are, however, a variety of factors and conditions in which development feasibility and the supportability of the proposed stormwater charge could be **improved** under the following conditions:

- Actual NDA is higher than modelled.
- EUV assumptions are lower than modelled.
- Construction costs are lower than modelled.
- Supportable net face rents are higher than those modelled.

Feasibility and the supportability of the proposed stormwater charge could be **negatively impacted** under any one or combination of the following conditions:

- Actual NDA is lower than modelled.
- EUV assumptions are higher than modelled.
- Construction costs are higher than modelled.
- Supportable net face rents are lower than those modelled.

Disclaimer: The modelling in this study has been undertaken to test the capacity to pay for a proposed stormwater charge.

Inputs and assumptions relevant to development costs and realisable values for each prototype, such as site dimensions, GFA, site work, hard and soft costs, financing, as well as supportable net face rents, vacancy, and yield have been informed and reviewed by a Certified Valuation Firm (M3 Property) with an understanding of the redevelopment potentials for each site identified.

To the extent that redevelopment was proceeding, actual costings from individual contractors and professionals would need to be obtained to provide further refinement of these costs and realisable value potentials. In such an event, inputs and assumptions may materially differ from those modelled in this study.

BARINGS

Appendix D
PCA Industrial Lands Ongoing Crisis

NO MORE LAND
NO ROOM FOR INVESTMENT
NO ROOM FOR BUSINESS

WITH ESTHER CHEONG, DIRECTOR, ATLAS ECONOMICS

Atlas ECONOMICS
ANALYSIS. INSIGHTS. OUTCOMES.

PROPERTY COUNCIL of Australia

IMAGINE

IN 2023…..

SYDNEY RENTS WERE 80% HIGHER THAN MELBOURNE
& 70% HIGHER THAN BRISBANE.

LACK OF SERVICING FOR ZONED LAND WITH HUGE UNCERTAINTY MEANS SYDNEY IS NO LONGER ATTRACTIVE FOR INVESTMENT.

WE ARE FACING AN ALL-OUT CRISIS …..

ONE THAT IS COSTING $4.3BN PER ANNUM IN GDP.
ALONG WITH 19,000 JOBS PER ANNUM.

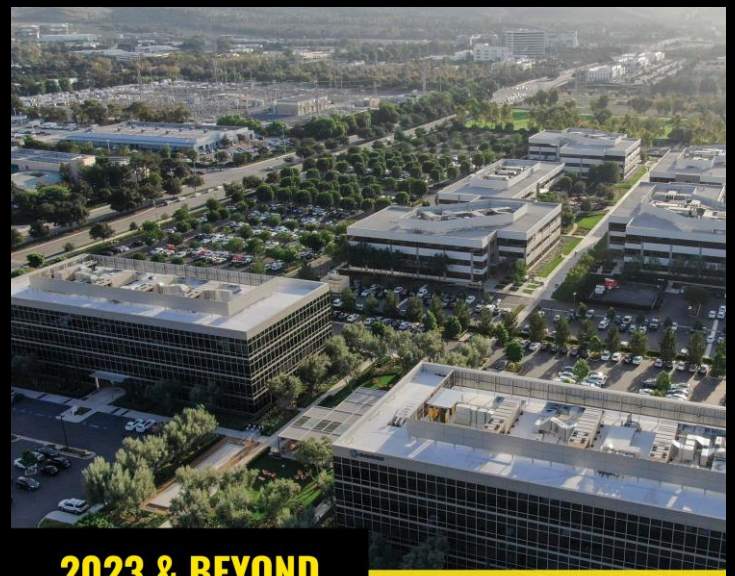
BACK TO THE FUTURE

BACK TO 1984

Sydney's Industrial Story

2013 - 2023

The Tide Turns



2023 & BEYOND

The Case for Change

Sydney's Industrial Story

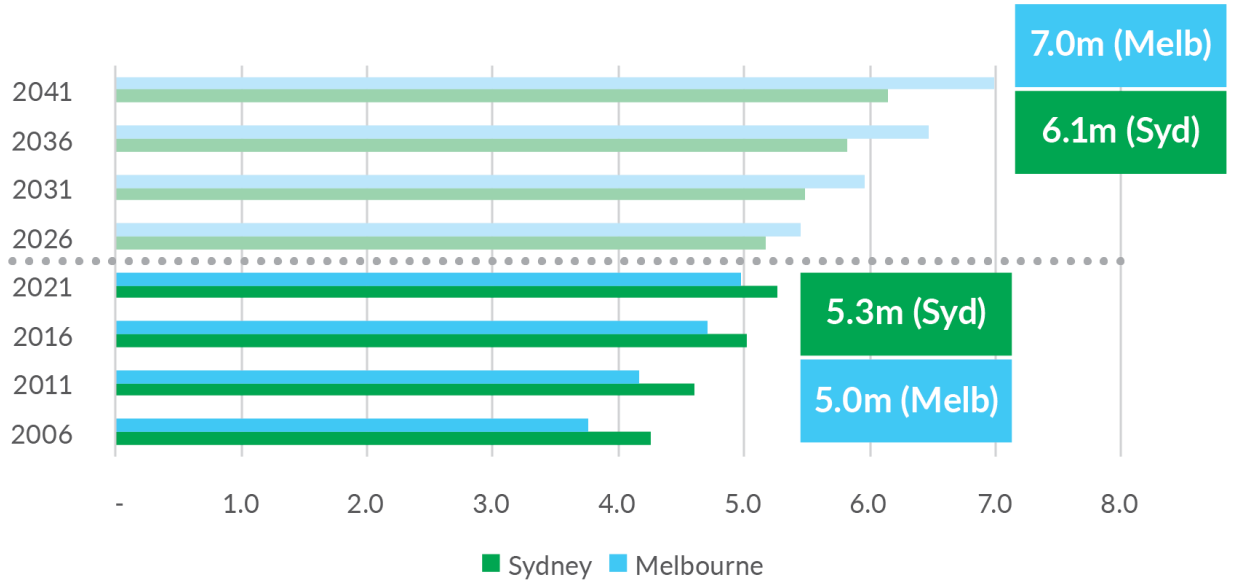
The Industrial Sector is Valuable

- 15% of Sydney's jobs
- 18% contribution to economy
- 30% of Sydney (and NSW)'s exports

Source: ABS, NIEIR (2022)

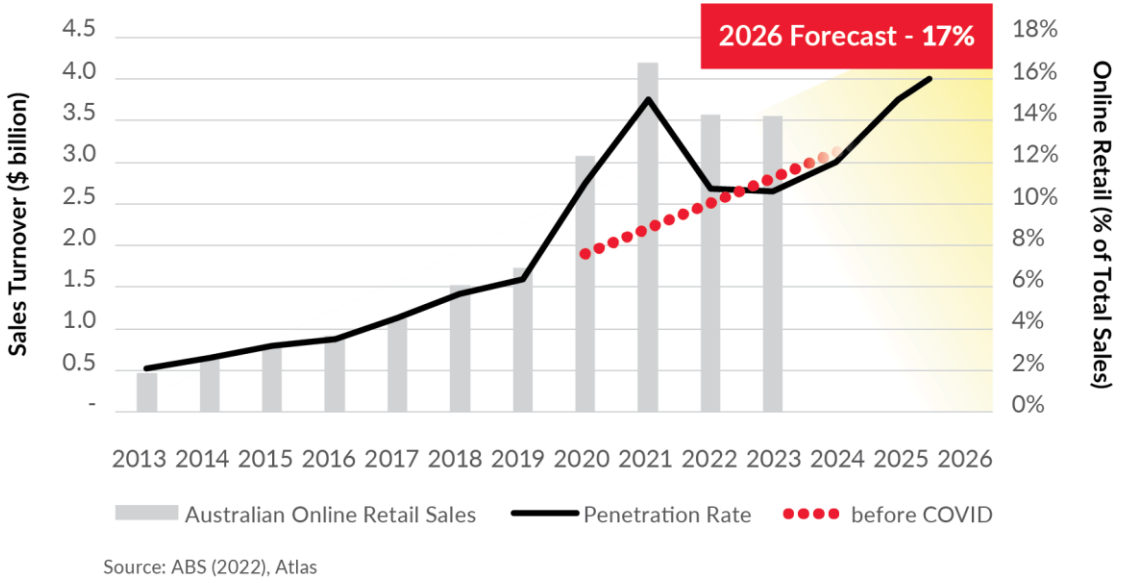
Population Growth

- Key driver of demand for goods, housing and infrastructure
- Growth 1.3% in 2023
- 6.1 million residents by 2041
- Growth projected to fall
- Melbourne - 7.0 million by 2041

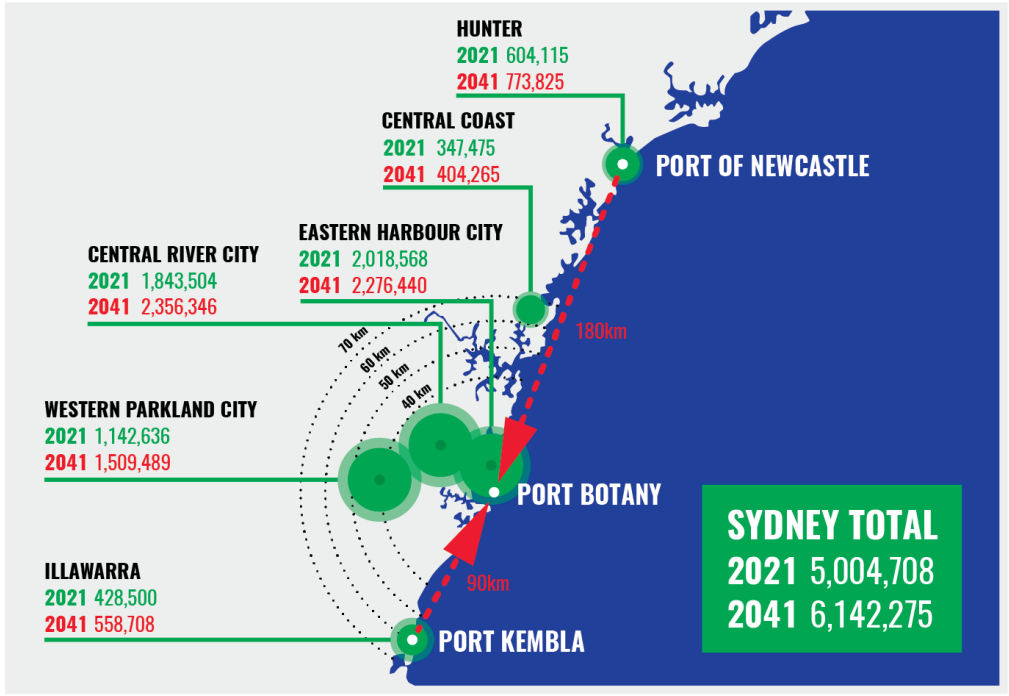


Source: ABS (2022), DPE (2022), DTP (2023)

Online Retail



Source: ABS (2022), Atlas

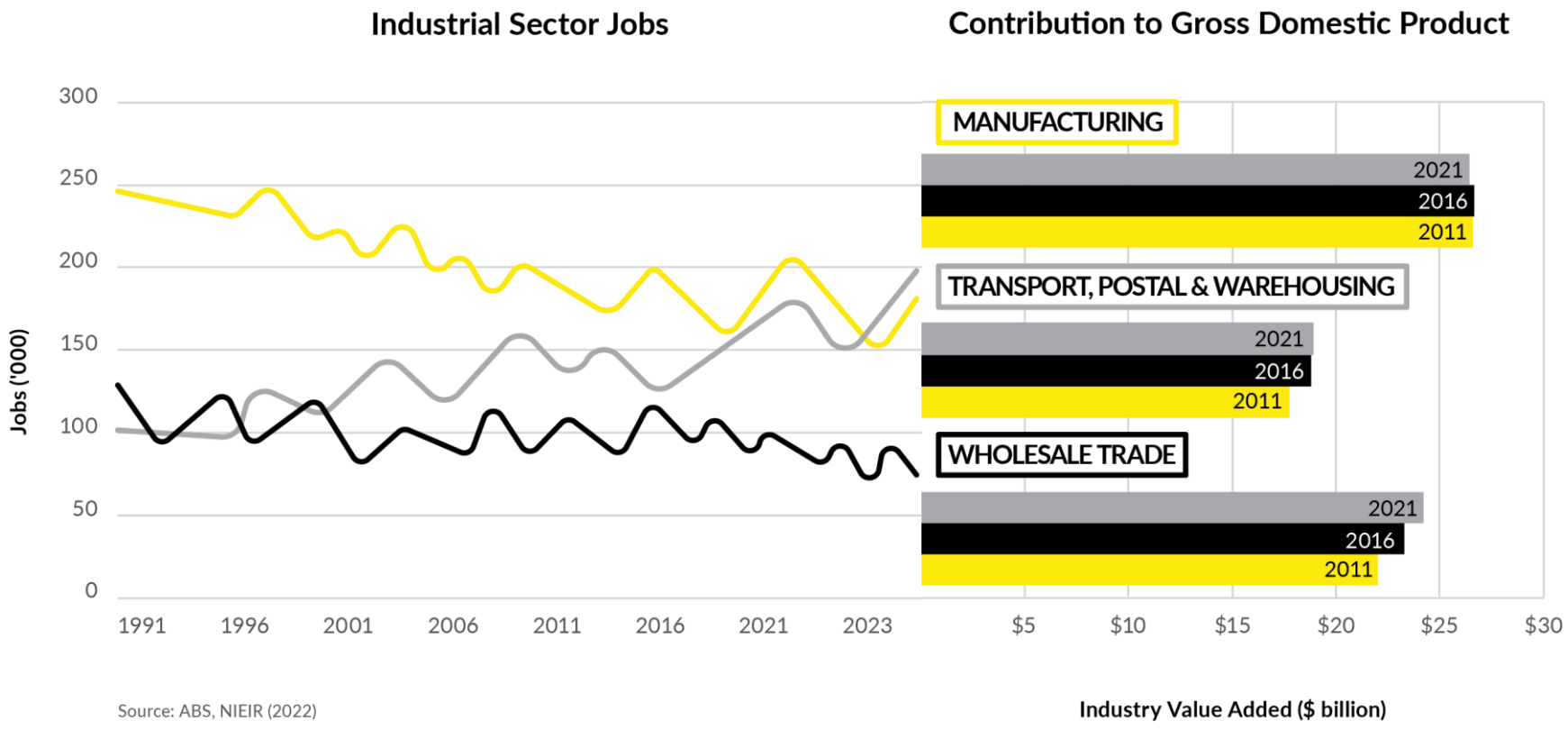


Source: NSW Ports

- Less shopfront/ retail space but 3x more warehouse space
- ‘Just in Time’ to ‘Just in Case’

- Consumption economy
- Location Location Location

An Industry in Transition



Source: ABS, NIEIR (2022)

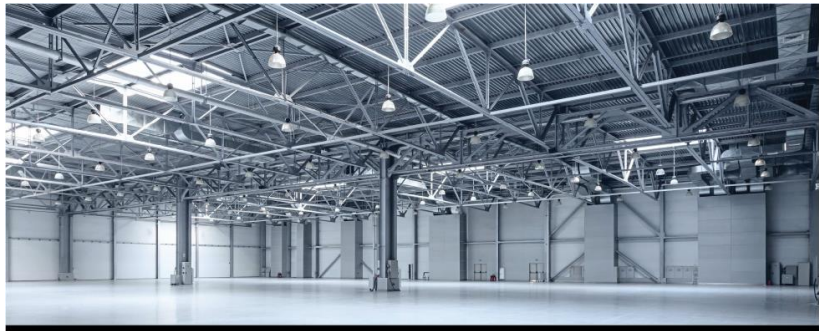
Evolution of the Industrial Sector

High value/ niche manufacturing

Logistics, storage automation

Data centres and technology needs

Recycling and renewables



National Average Pre-lease Sizes

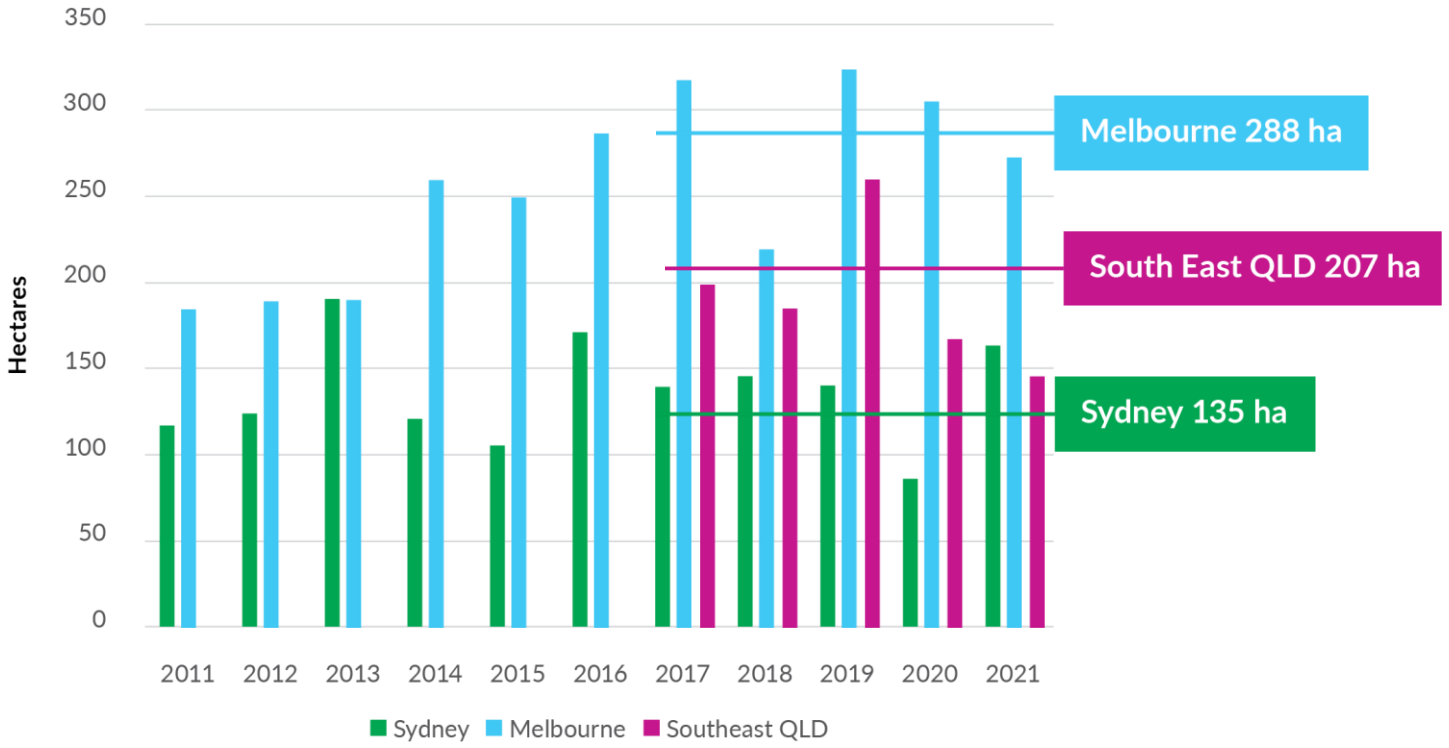
Year	Lettable Area	Site Area
2019	15,100 sqm	3.0 ha
2020	17,200 sqm	3.4 ha
2021	18,400 sqm	3.7 ha
2022	30,500 sqm	6.1 ha
2023	47,000 sqm	9.4 ha

Source: Cushman & Wakefield

The Tide Turns

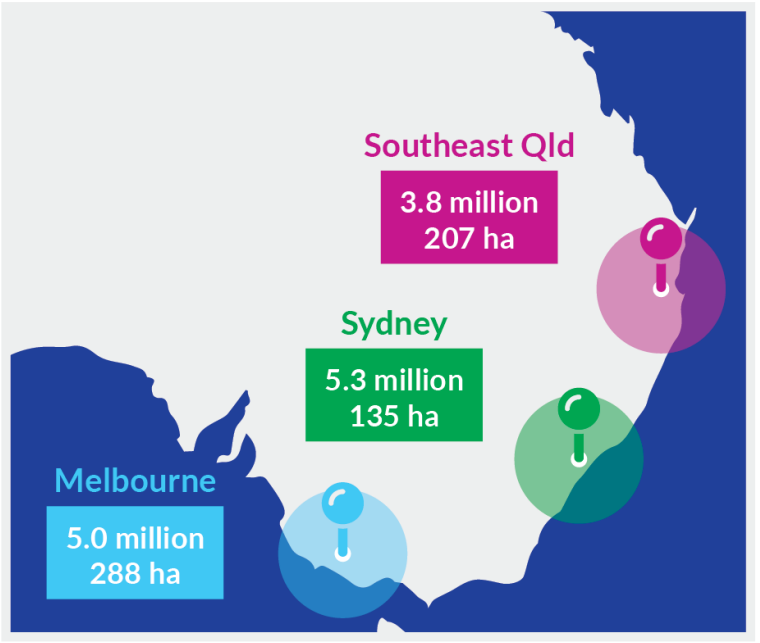
Industrial Take-up

Land Take-up



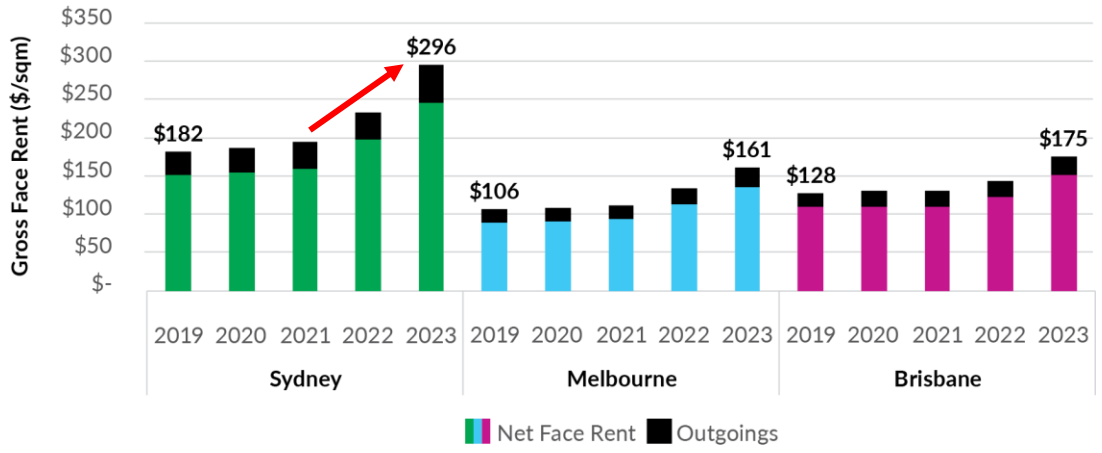
Source: DPE (2022), DTP (2022), DSDILGP (2021)

Population and Average Take-up



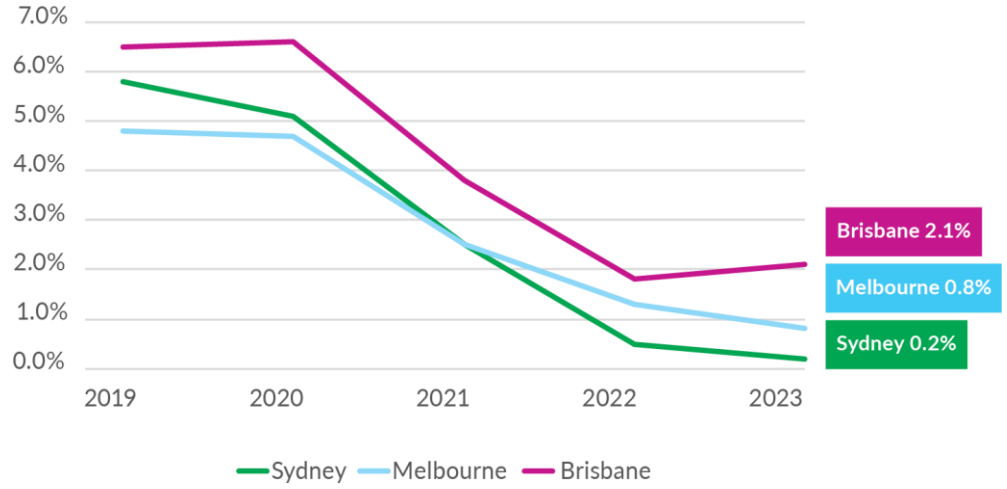
Cost and Availability

Gross Face Rents



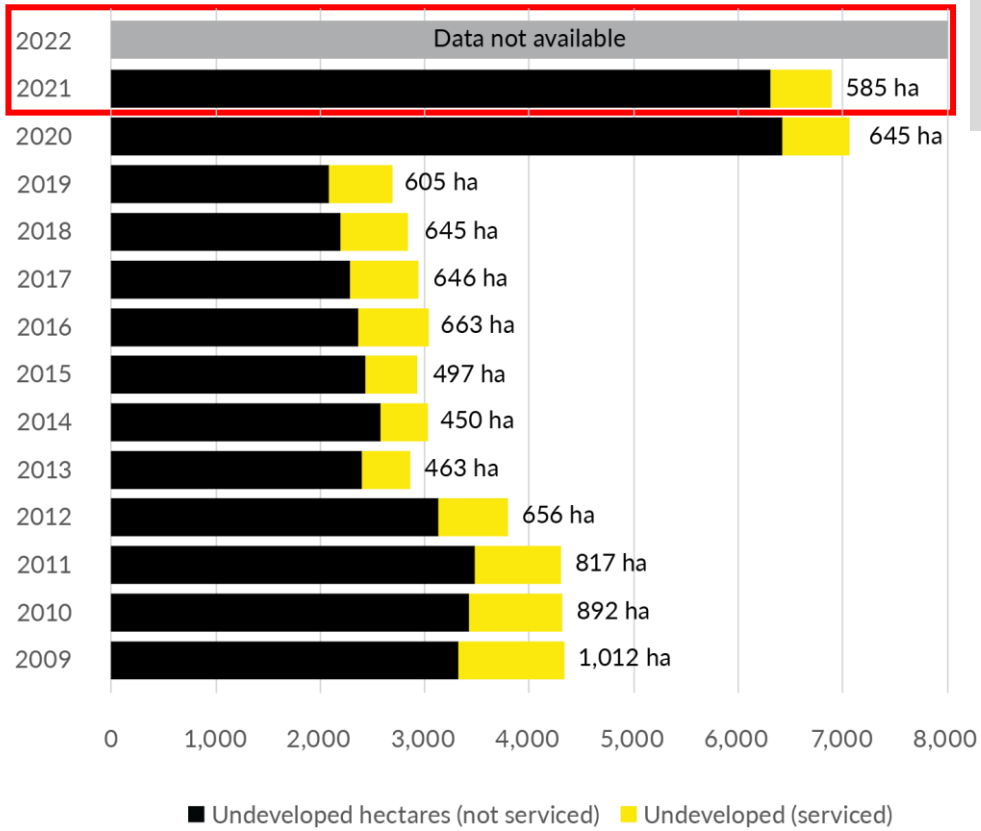
Source: Cushman & Wakefield

Industrial Vacancy Rates



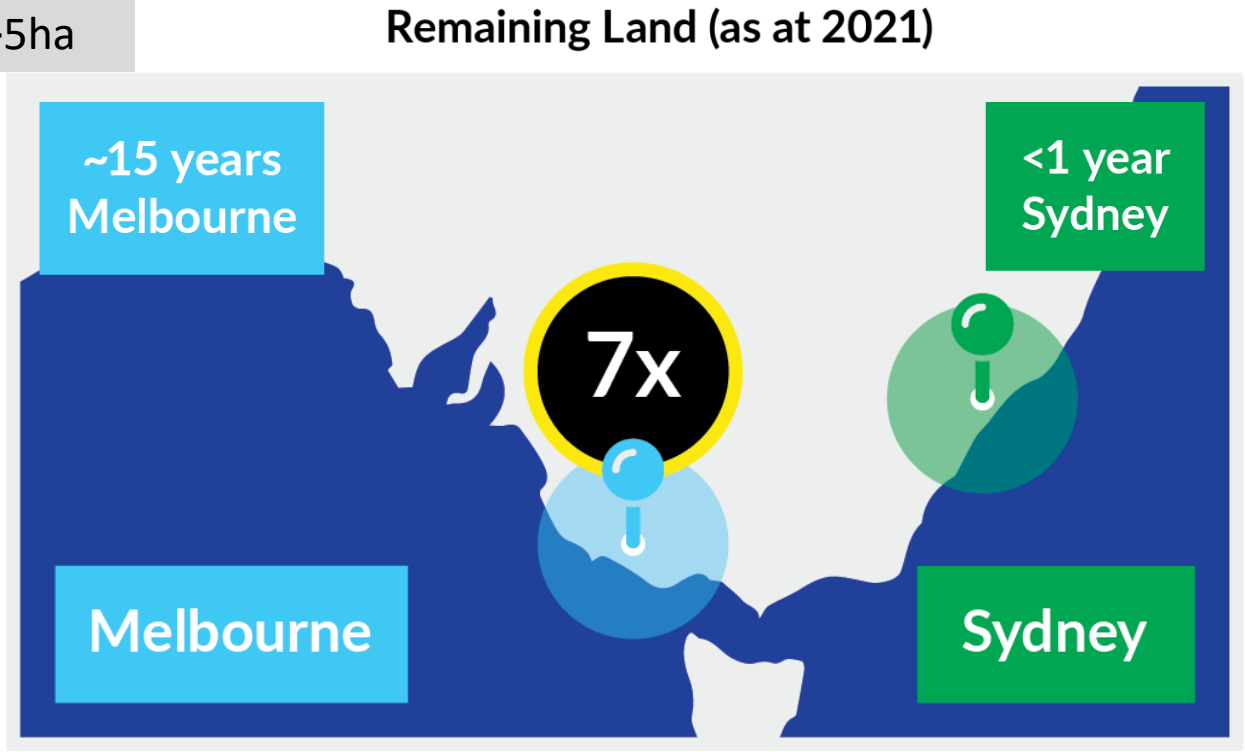
Source: Cushman & Wakefield

Remaining Serviced Land Supply



Source: DPE (2022)

50% <1ha
8% >5ha



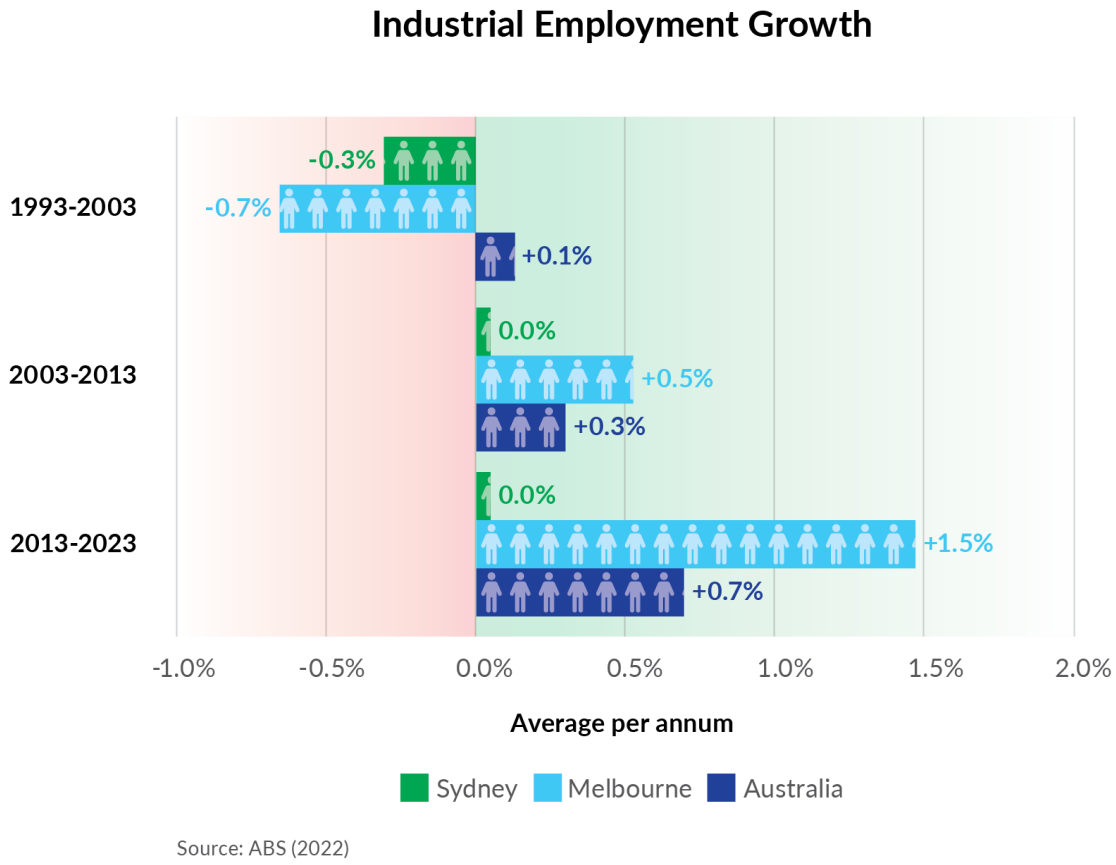
Source: DPE (2022), DTP (2022)

- At 300ha pa, there is <1 year land left
- >95% zoned land ***not*** serviced

- Melbourne's SSIPs - 10 to 14 years land left
- Melbourne's total - 16 to 22 years land left

The Tide has Turned for Sydney

- Rents 80% higher than Melbourne
- Rents 70% higher than Brisbane
- Zero vacancy
- Undeveloped serviced land is exhausted
- Industrial employment stalls



Source: ABS (2022)

No Room for Investment

MELBOURNE AND BRISBANE

Land is available AND more affordable

Fees and charges (contributions) are lower

Cost of housing is lower ($950k v $650k)
Skills are comparable and labour is available

NET LOSS TO SYDNEY

Stay put - lost opportunity to expand

Expand operations elsewhere

Bypass Sydney for new operations

Economic Impacts

- Industrial sector contributed $70 billion to Sydney's economy (2020-21)
- Development uncertainty
- Business uncertainty
- Lost investment
- Shift elsewhere (increased carbon emissions in road usage)
- Lost Competitiveness

JOBS

19,000 jobs per annum in Sydney region

ECONOMIC OUTPUT

$9.0 billion per annum

GDP

$4.3 billion per annum

COST PRESSURE

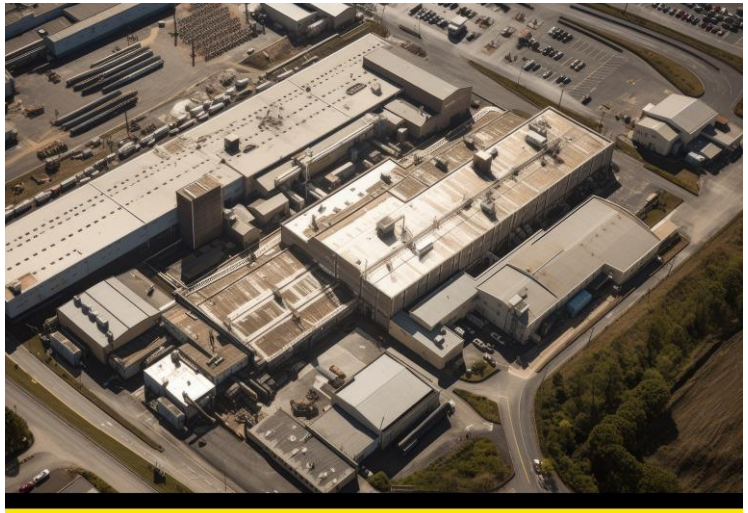
Businesses and ultimately households

SUPPLY CHAIN

Risk to construction pipeline for housing and infrastructure

A Crisis of Businesses and Households

- Higher value manufacturing and exports
- Population consumption and imports
- Demand for more industrial and logistics space



- No more serviced land
- Cost of premises significantly higher
- No availability
- Employment growth stalled
- Melbourne has 7x more land

- No room for business
- Uncertainty for investment
- Cost pressure with no relief in sight
- Lost investment and jobs
- Lose-lose for Sydney

The Case for Change

Three-fold Strategy to Save Sydney

Atlas ECONOMICS

2023

Enable vertical developments

Prioritise servicing of zoned land

Integrate land use and infrastructure planning

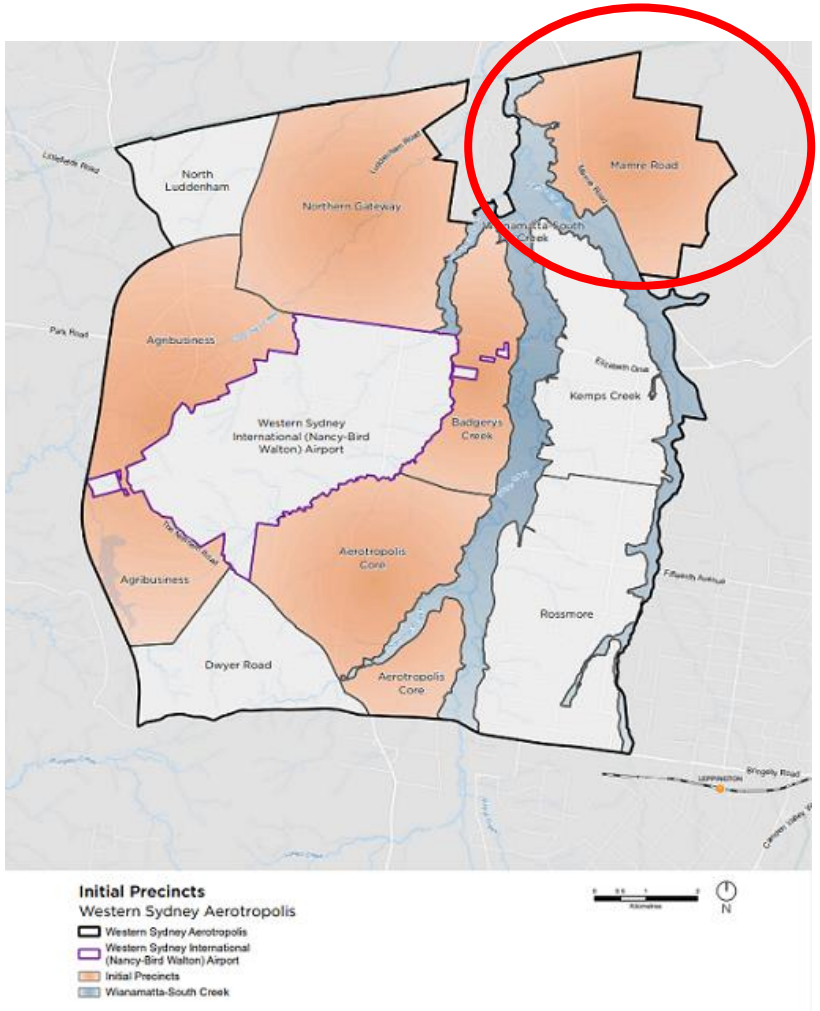
Commit to land supply buffer policy

Vertical Warehouses - Part of Solution

Courtesy of Logos

Courtesy of Hale

Servicing Zoned Land - Key Part of Solution



Central (whole) Government Leadership

Prioritise Servicing of Zoned Land

- Infrastructure coordination
- Implement solutions for delivering infrastructure:
  - Affordable
  - Could be forward funded by industry
  - Reimbursed from contributions collected
- Further delay is not an option
- Sydney has literally run out of land

Integration of Infrastructure Planning & Land Supply Buffer Policy

- Integrate infrastructure with planning
- Ensure rolling supply of developable land
- VIC and QLD - policy of 15-year supply
- Allows for reality of:
  - Unwilling landowners
  - Lands with other viable uses
- Keeps a lid on runaway land values
- Ensures Sydney does not run out of land

IMAGINE

NOT COMPETITIVE. NOT PRODUCTIVE.

WE ARE FACING AN ALL-OUT CRISIS.
BUT IT IS SOLVEABLE IF WE CHOOSE TO BE ALL IN.

WE NEED TO ACT NOW

Atlas ECONOMICS
ANALYSIS. INSIGHTS. OUTCOMES.

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