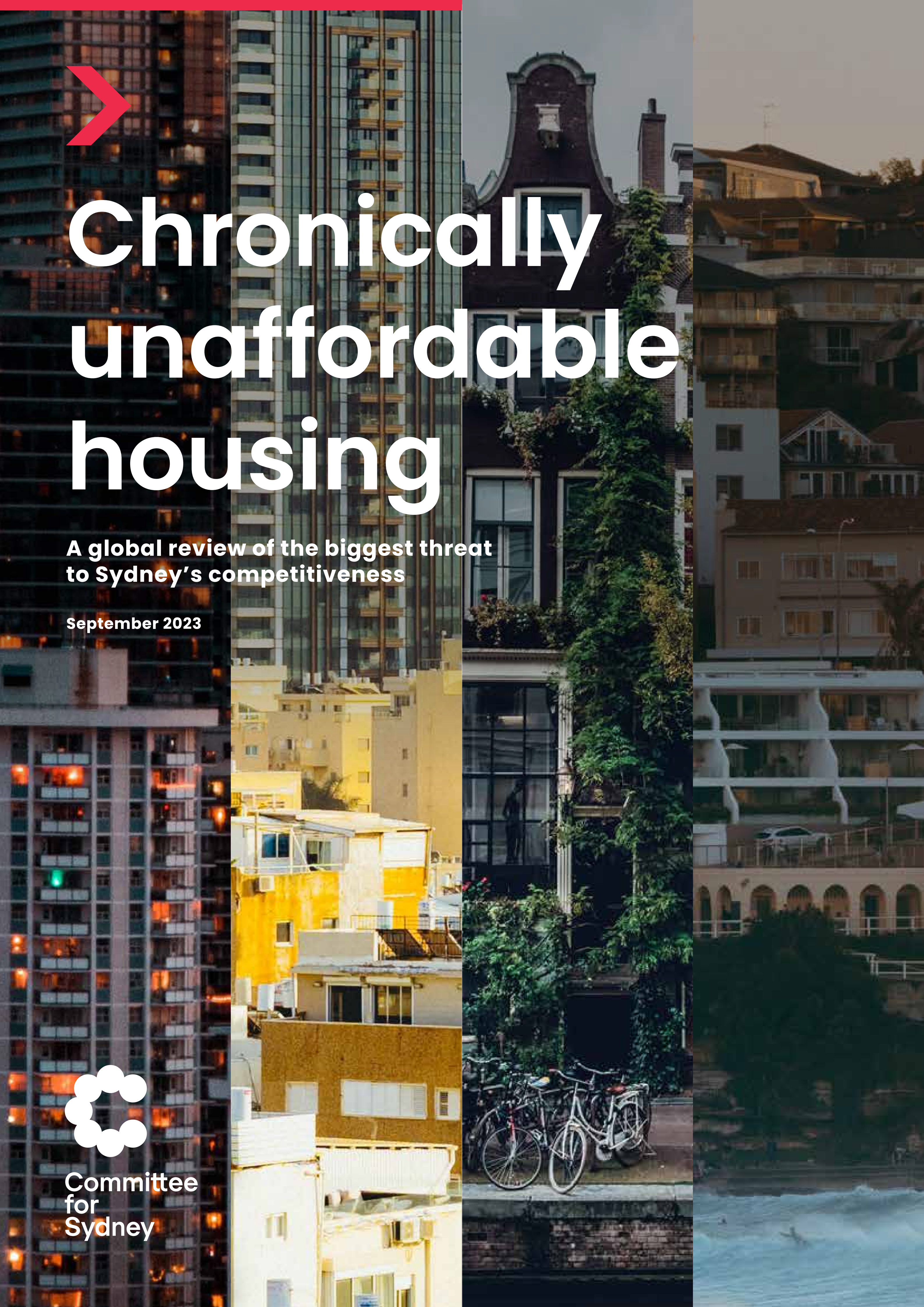

Chronically unaffordable housing

A global review of the biggest threat to Sydney's competitiveness

September 2023

Committee for Sydney

Acknowledgments

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The Business of Cities is an urban intelligence firm whose mission is to help organisations to make the most of the changing 21st century relationships between businesses and cities.

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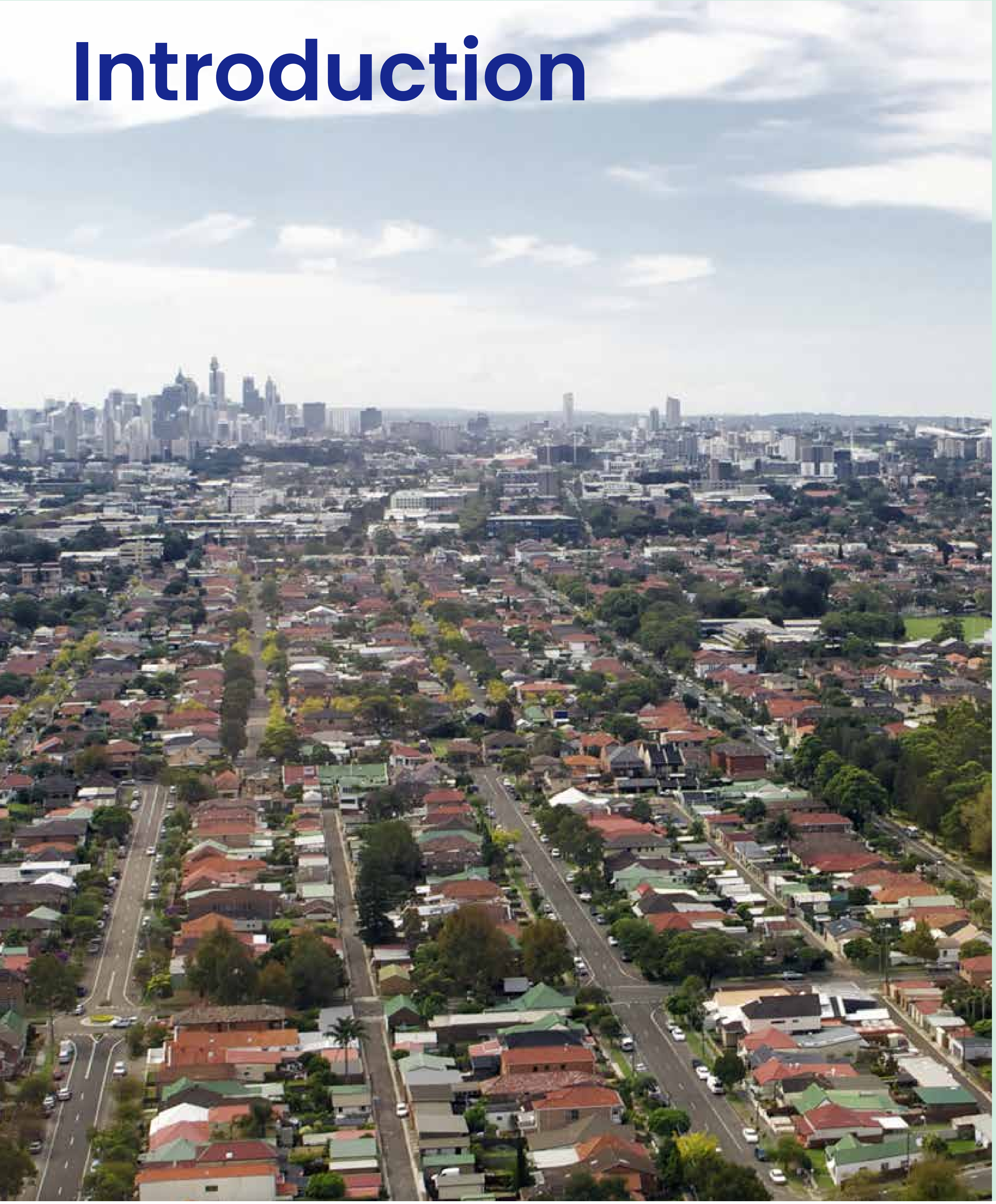

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Sydneysiders know the scale of the city's housing problem intimately. For some, this experience is deeply personal - spending weekends waiting in lines to inspect a rental property, or having given up on trying to save for a deposit. It's also being felt by business owners who can't attract and retain talented people, and by communities where art and cultural activity is being priced out. The current crisis is deeply impacting every single one of us.

On one level, expensive housing is a sign of success. When a city is attractive, many people want to move to, live in and put down roots in a city, and with increased demand, prices tend to rise. Sydney is not alone in this challenge. In many successful cities around the world it's becoming more unaffordable to own or rent a home.

Yet there is now a growing body of evidence that shows when housing becomes chronically unaffordable it gives rise to hidden, obscured and unaccounted costs.

This paper puts Sydney's housing challenge in an economic context by scanning current international evidence and case studies from other global cities experiencing the same challenge.

It then reviews the likely cost to Sydney from unaffordable housing for our productivity, talent, and innovation economy – finding that this is costing Sydney in excess of $10bn per year.

This paper is a conversation starter. Its main purpose is to frame the scale of Sydney's housing challenge and bring the costs of inaction to the fore.

Chronically unaffordable housing is not a problem that can be solved overnight. It's big, it's structural and endemic and requires equally big moves to bring it into remission.

The Issue

We intrinsically know that the unaffordability of housing harms the economies of many of the world's leading cities and their wider city-regions. In some notable instances, there has also been excellent detailed economic analysis of these costs.[1]

Yet for decades, the impact housing has on a city's wider economic performance hasn't been part of public policy decisions. There is little systematic recognition of these effects in public policy.

These effects are already impairing Sydney's competitiveness. In a survey of the Committee's C-suite members, all respondents said housing affordability was a somewhat or very important challenge, with more than half reporting that housing affordability was affecting their ability to attract or retain new employees.

A clear majority of experts now observe that Australian governments must pay greater regard to housing system effects on productivity and growth. For instance, 86% of recently surveyed experts see expensive housing for lower income people as having a negative effect on productivity,[2] and more than 66% of experts stating a view see it as impeding innovation and entrepreneurship.[3]

What we mean by chronically unaffordable housing:

When the cost of owning or renting a home in the city is persistently high, and curtails the living and working choices for a significant portion of a city's current and prospective residents.

Benchmarked internationally, this may include cities:

- Where the median property price is more than **8 times greater** than the median household income for more than **5 consecutive years** (ie. median multiple > 8)[3]
- Where more than **33% of renter households** are in what is commonly viewed as **housing stress** (paying more than 30% of their monthly income on housing costs)
- Where benchmarks place the city in the world's **20 most unaffordable cities** for housing.

Sydney currently fulfils all these criteria.

The Effects: what the evidence points to

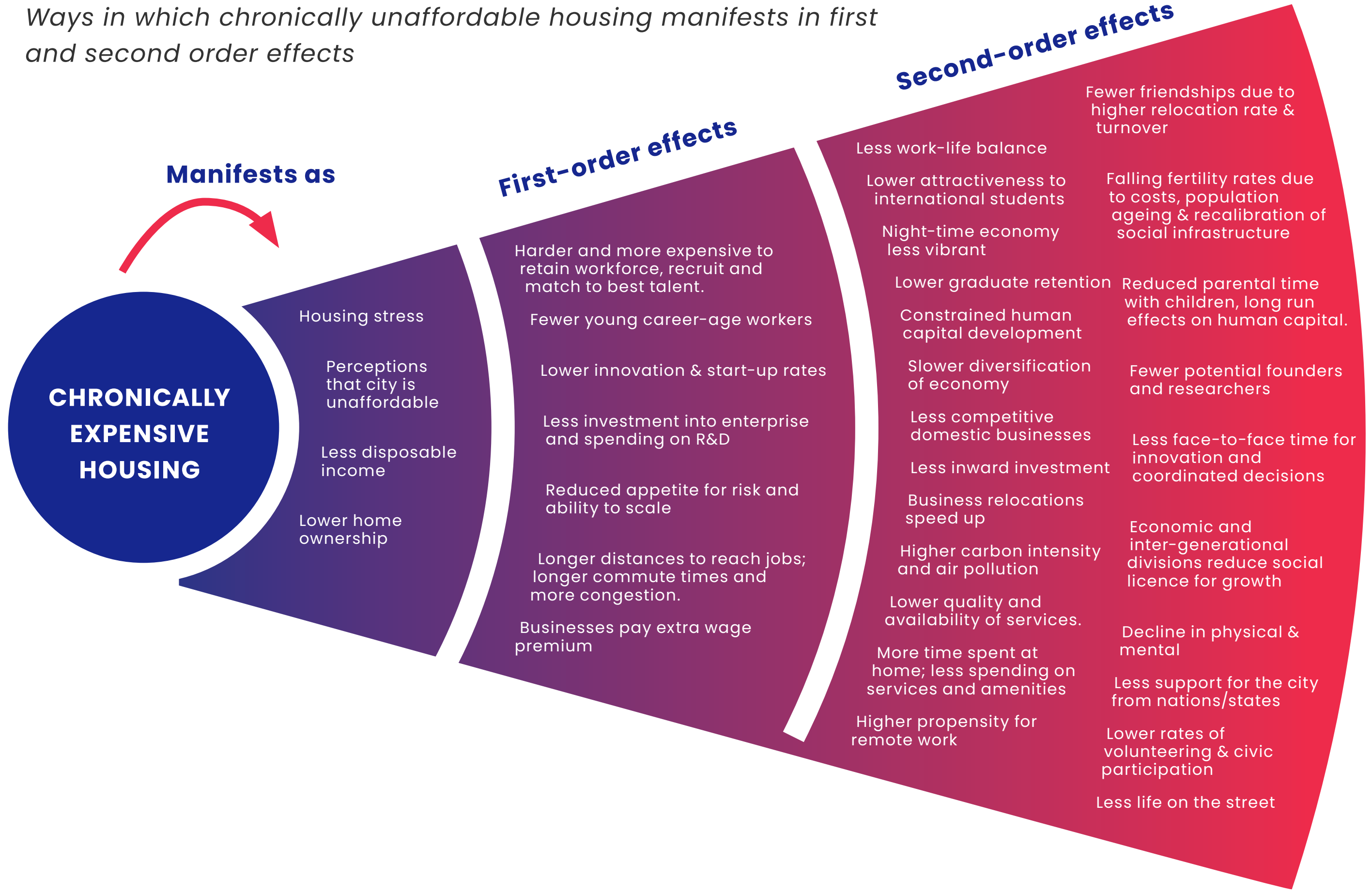
When the number of people living in a city grows, its local economy tends to become more productive. Recent data suggests that a 1% increase in Australian city populations typically causes productivity to rise by 1-1.8%.[4] But these productivity benefits do not materialise to the same extent if housing is severely unaffordable, instead they're often lost in higher house prices.

Growing evidence from global cities points to a suite of commonly accepted effects when unaffordability becomes chronic (see Figure 1). For Sydney, these effects add up to a situation where productivity and growth are held back, equality becomes threatened, and the city is less competitive in the international context.

The first-order effects of unaffordability are well studied by economists in other global cities. They include businesses paying an additional 'wage premium' to encourage employees to stay working in the city; longer commute times and worsened congestion; reduced innovation and risk-taking; and out-migration of young, working age talent.

Figure 1: Sydney's unaffordable housing has immediate effects, which result in first and second order effects across the economy

Ways in which chronically unaffordable housing manifests in first and second order effects



Source: Unsplash

Many of the first order effects stem from the **distortion of a city's metropolitan labour market**. A fundamental purpose of cities is to match people to jobs. When people cannot afford to live near where the best jobs and job prospects for them are, cities do not enable this matching to take place as easily, or efficiently. When housing is affordable more skilled workers - especially young people – tend to access more productive jobs. An example is when a recent graduate feels able to move to a part of the city for a job that both requires a degree and is related to their degree subject.[5] These workers experience a bigger lift in pay and living standards than "job stayers".[6] Unaffordable housing deters and disincentivises them from doing this, and therefore plays a significant role in undermining the benefits of agglomeration that cities can deliver.[7]

The most commonly recognised first-order effects on a city of impaired labour market matching include effects on **talent**, **innovation** and **productivity**.

In addition to these first-order effects, there are also other "second-order" effects of chronically unaffordable housing on a city's economic competitiveness. These are not explored directly in this paper but are known to include:

- **Lower demand** for other goods and services, because of limited household spending power as individuals and families devote more income to housing.
- **Less investment** (directly or via savings) in businesses, productive sectors and the intangible assets that drive the new economy, because more credit is diverted towards property (as it is so lucrative).[8] This is known as misallocation of capital.
- **Less career development -** the high burdens of housing costs reduce the propensity for people to invest in their human capital through training or risk-taking. This disproportionately affects women and single parent families. Studies in other global cities show that women typically need to spend on average 10-20% more of their income to be able to afford housing costs.[9]
- **Long-term wellbeing.** More people tolerate poor physical housing conditions, which affect lifetime human capital and increase health risks and care costs further down the line (e.g. true cost of damp housing). Housing disadvantage is also consistently associated with worse mental health.[10]
- **Service quality.** Fewer key workers are able to live near to where services are delivered – this affects access to key services that tends to disproportionately harm the elderly and other vulnerable members of our society in need of caregiving support.
- **Commuting costs** increase for all as residents are pushed further away from the city centres. This again has a disproportionate effect on low and middle income people living further from jobs, highlighting questions and risks on the city's equitability as well as productivity. Longer commutes also result in higher carbon emissions, especially if people are living in public transport deserts and are forced to drive. In 2019, the average new light vehicle sold in Australia produced 181 grams of CO2 per kilometre.[11]
- **Disruption to social cohesion**. Without housing stability, families people may be forced move regularly, disrupting their ability to form deep connections with neighbours and their community.
- **Disruption to tacit knowledge creation**. If more people cannot afford to live close to work, they may opt to work from home all, or most of the time. This can lead to a reduction in serendipitous interactions needed to foster innovation and a drop in tacit knowledge sharing that is key for mentoring success.[12]

These second order effects tend to be cumulative and overlapping in ways that make untangling the specific costs more difficult. But there is little doubt these effects are increasingly important to the prospects and the morale of great global cities and those who want to be part of them.

There are of course always additional factors that explain how economies perform: business cycles, trade decisions, and pandemics, among many others. Other factors that shape the geography of housing demand include digital adoption in the economy, which is greater in some nations than others, and the level of competition from viable alternative cities in the nation. The latter partly explains high effects in the San Francisco Bay Area, since cities like Denver, Austin, Miami, Nashville and San Diego have all become viable alternatives for those seeking access to high-paying jobs and a vibrant city. Housing plays one important part in an interdependent set of relationships that shape the success of cities.

Most estimates in this paper, insofar as they relate to Sydney, are cautious and conservative. They consider the lower baseline in other global cities and extrapolate to Sydney where relevant. Equally we have not considered the costs of many other side effects that are acknowledged to stem from unaffordable housing, such as the risks of high mortgage debts on economic instability.[13]

2. The scale of Sydney's housing challenge in perspective

Available local data very clearly indicates that Sydney's housing challenge has worsened over the past decade.

By 2021, 59% of households were purchasing or fully owned a home – down from 62% in 2011.[14] 43% of households are making high loan repayments on a mortgage.[15] Median rents have risen by nearly 40% over the past decade.[16] In the last 12 months alone, rents have risen by 12.9% for houses and 27.6% for units in Sydney.[17] Added to supply constraints, it is clear that conditions are worsening – as illustrated below.

Across a range of international measures (owning, renting, getting on the property ladder) Sydney also emerges as becoming more unaffordable more rapidly over the last 10 years. This can be seen for example in:

- **The median multiple**. In 2023, this essential measure of the ratio between median home price and median household income shows Sydney among the highest in any global city. In one study it is 13.3, up from 8.3 ten years ago,[18] making Sydney the 2nd least affordable English-speaking market in the world after Hong Kong. In another, it is at 12.0 for houses, the highest of any high-income Asia-Pacific city.[19] This figure has tended to rise more rapidly in Sydney than in most unaffordable cities.
- **The number of years a person in professional services typically needs to work to buy a 60 square metre flat near the city centre**. This now stands at 8 years, up from 5 years in 2012. Sydney is among the 12 most unaffordable cities in the world.[20]
- **House price rises** on average were higher in Sydney between the end of 2015 and the end of 2021 than in London, Tel Aviv and Hong Kong (though not as high as Amsterdam and Toronto which saw higher spikes from a lower base).[21]
- **Mortgage repayments as a percentage of income** at more than 30%, are now even higher than the most unaffordable Canadian cities.[22]
- **Rental unaffordability.** Over the past four years, Sydney has consistently had the 15th highest rents out of 48 leading global cities. In 2022-23, Sydney's median monthly rent as a share of median monthly household income is now on a par with San Francisco and London, and catching up to Hong Kong.[23]
- **Perceptions of the housing unaffordability challenge.** Sydney is among the top 15% of more than 140 cities for share of local people who view access to affordable housing as one of the main challenges currently facing the city.[24]

Figure 2: Sydney, like other unaffordable cities, has been getting less affordable over the past decade.
Changes to Sydney's housing unaffordability over the past decade, vs. Amsterdam Region, Greater London, Greater Miami, Greater Tel Aviv, Greater Sydney, Greater Toronto, Hong Kong, Metro Vancouver and the Bay Area

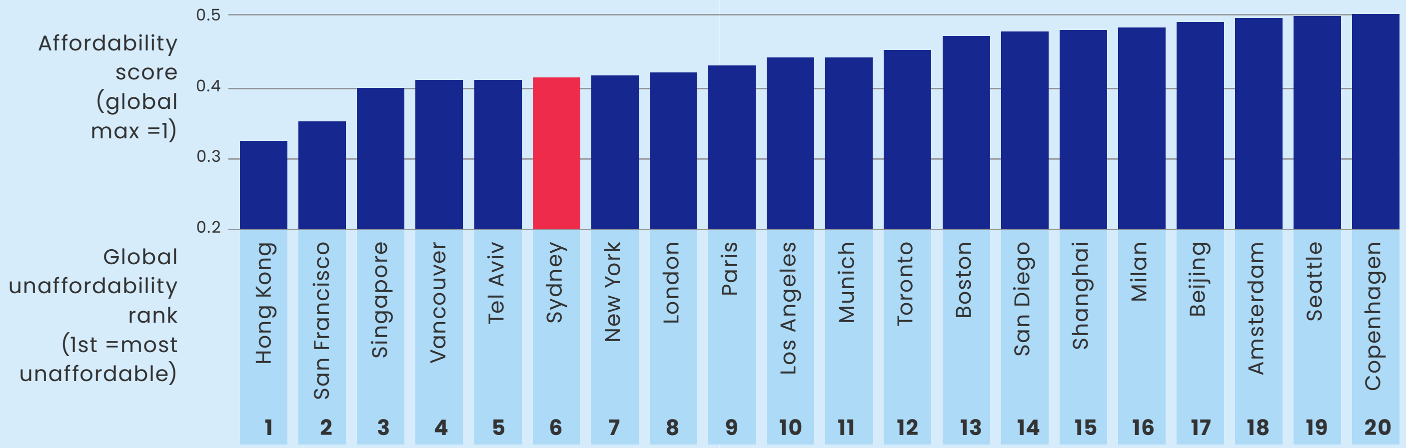
Change in	Sydney	Sydney's change compared Among 9 highly unaffordable global cities**	The worst change among 9 highly unaffordable global cities
Median multiple - home prices to incomes* (2012 to 2022)	Up to 5.0	+2.0 higher	Up 5.3 (Hong Kong)
No. of extra years a skilled service worker needs to work to afford a flat near the centre (2012 to 2022)	3 more years	Equal	7 more years (Hong Kong)
House prices*** (2012-13 to 2022-23)	Up 89%	-40% lower	Up 273% (Hong Kong)

Sources (from top to bottom): Demographia, UBS, local sources.[25]
*Ratio – median property sales price to median household income
**Amsterdam Region, Greater London, Greater Miami, Greater Tel Aviv, Greater Sydney, Greater Toronto, Hong Kong, Metro Vancouver, Bay Area
***Data for Amsterdam Region not available

Among all large international cities, Sydney's affordability has deteriorated over the past decade, and has now become one of the world's 10 most unaffordable housing markets.

Figure 3: Sydney is now the world's 6th most unaffordable city.

Most unaffordable cities among Top 200 Global Cities, larger than 2 million metro population



Source: Based on Elo Algorithm comparing full range of international housing ownership and rental measures since 2020.

There are risks that this will worsen in the coming years. Greater Sydney's recent supply track record of 6,000 to 7,000 homes per year per million people puts it roughly on par, or slightly ahead of Hong Kong and Toronto, but still well below other highly unaffordable cities such as Vancouver where the rate has been closer to 10,000.[26]

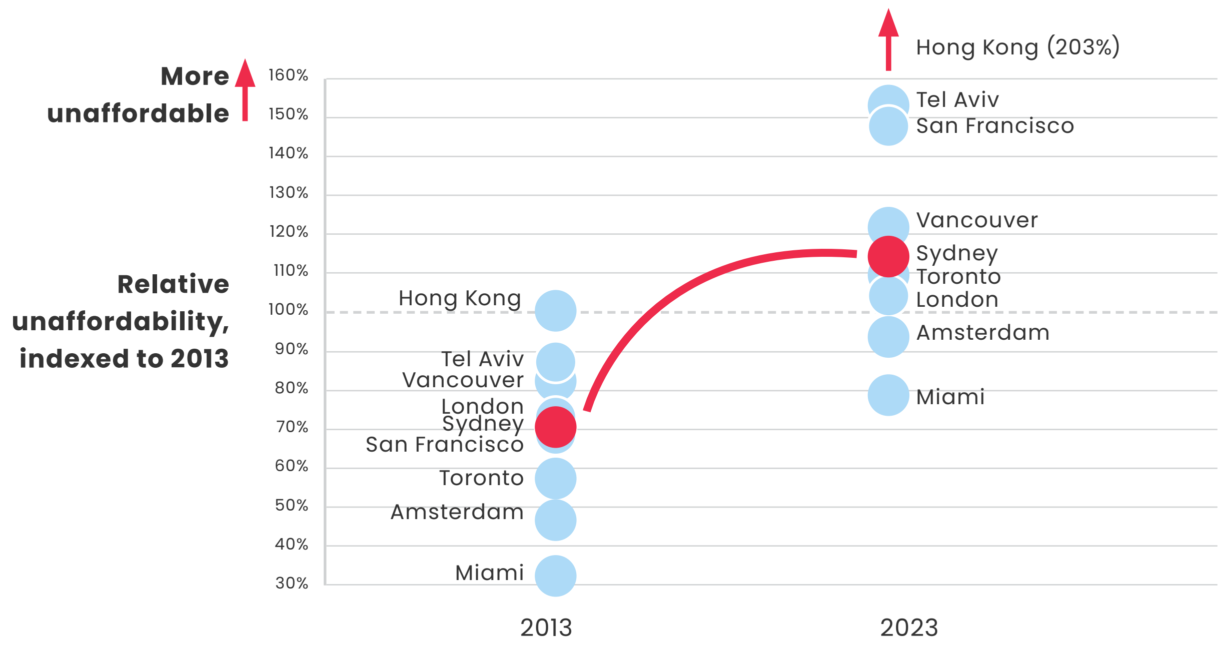
Who does Sydney share this challenge with?
Sydney is among a select group of city-regions with 2-10 million people where housing unaffordability is becoming chronic. It is now near the top of a 2nd tier cluster of cities after the San Francisco Bay Area, Hong Kong, Tel Aviv and Vancouver, which stand out as the most unaffordable global cities in their region.

Source: Unsplash

Toronto

Figure 4: Sydney is now near the top of a 2nd tier cluster of unaffordable cities

Housing affordability in select global cities in 2023 vs 10 years ago



*Metropolitan area data.
**Scores based on geometric mean of house prices, median multiple, and no. of years a skilled service worker needs to work to afford a city centre flat. For each data point, all cities scored relative to most unaffordable city. 2022-23 data scaled compared to 2012-13 baseline.

Across a balanced range of measures Sydney now tends to sit alongside London and has caught up with Vancouver. Other cities have also become much less affordable during this time, including Greater Miami, Greater Amsterdam and the Stockholm Region.

It is apparent that effects on the behaviour of business and talent become stark when these cities consistently reach a threshold where the median property price is 8 times greater than the median household income, and where more than a third of renter households spend upwards of 30% of their income on housing.

Many of these cities have been considering the direct and indirect costs of becoming stuck at a threshold where unaffordability becomes chronic. We observe how some of these effects are starting to play out below, and what this might mean for Sydney without urgent action.

The deep roots to Sydney's housing challenge

Sydney's housing challenge is a variation of a global one: inadequacies in supply, tenures, formats, policies and incentives.[27] But in Sydney, three long-term factors have contributed to the scale of the challenge.

1. **Mismatch between population growth and investment in housing and infrastructure**
   Successful cities grow. But they also consistently plan for population growth over many decades. Sydney is currently about half-way through a 60-year growth cycle that will have seen it grow faster than nearly all other large high-income cities in the OECD. Its population increased by more than 50% over the past 30 years, and is set to grow faster still over the next 30 years.[28]

   But during the past 30 years, this level of population growth has not been matched by commensurate increases in housing and infrastructure investment.[29] Partly as a result of this, public transport coverage across the whole of Sydney's built footprint is lower, and there are fewer opportunities for workers to live in areas with easy public transport links to the main jobs hubs.[30] Instead, many of these workers now choose to travel by car, or to work remotely. As demand for larger homes has grown through the pandemic, and as fuel prices have continued to rise, the price of housing in outer suburbs has grown significantly.[31] The public transport premium also keeps prices in the inner city very high. Together, these factors have exacerbated unaffordability.

2. **Dependence on owner-occupier housing tenure**
   For many decades, Australian national and subnational housing policy has prioritised home ownership as the dominant tenure.[32] This means that, compared to other OECD countries, the diversification of housing supply and tenure has only more recently become a policy aspiration.[33] This embedded dependence on owner occupation is increasingly viewed as incompatible with modern urban labour markets.[34] Not only are cities' populations younger and more diverse than in the past, the entry level for owner occupation is now much more prohibitive than renting.[35] In addition, owner occupation can distort price signals in the rental market and generally favours land-intensive development that makes it harder for cities to achieve 'good density'.[36]

3. **Culture of housing as an investment asset**
   In Australia there is a less established culture of treating land as a non-renewable resource, taking land back into public ownership, or exploring other ways to leverage public alternative investment into housing.[37] One of the impacts of this has been that housing is more often still seen as an investment asset, rather than as an amenity.

   In Sydney, these three factors – under-investment to manage population growth, reliance on owner occupation, and a propensity to view housing as a wealth-creating asset – are acute. They have helped make housing in Sydney even more out-of-reach than many other highly desirable global cities.[38]

3. Breaking down the costs

Fairwater, Blacktown

Source: Unsplash

Sydney's chronically unaffordable housing market has a large economic impact on:

1. Talent

2. Innovation

3. Productivity

Gauging the competitive costs: An explainer

This section offers a global outside-in analysis of the different costs observed and analysed in other relevant global cities. It surveys the available international evidence and explains what this might mean for Sydney, taking into account the timing and severity of these' cities own housing challenges.

Two types of approach are applied that contribute to lower-end estimates of potential costs for Sydney:

1. A minimum figure calculated for a basket of chronically unaffordable cities is applied to Sydney, adjusting for Sydney's context conservatively. An example is the data on the cost of the wage premium. See Section 3.3.
2. Analysis in another comparable city (e.g. Greater Toronto – a region of 6 million people) is broadly applied to Greater Sydney and is informed by Sydney-specific data to adjust for economic size, demography, sectoral mix, housing composition and spatial flows. An example is the cost of out-migration. See Section 3.1.

More detailed explanations can be found in the footnotes.

These figures do not account for the wider second-order effects discussed in section 1.

This application of approaches and experiences from other highly unaffordable cities gives a sense of the likely minimum costs to Sydney. It is not a comprehensive estimate. To provide a more itemised picture, Sydney would need to develop a more bespoke analysis that:

- Adopts Sydney-specific methodologies for estimating the costs on talent, business behaviour and innovation, and the interplays between them.
- Takes full account of displacement and substitution effects across NSW and Australia.

3.1 Talent

Unaffordable global cities are finding that, at a certain point, talent across a range of incomes and skills are so constrained in their ability to purchase a property, save for a deposit, or rent affordably, that they have much less propensity to stay in the city or move close to the right job.

This has a host of effects on overall economic output such as:

- Businesses losing staff due to people being unwilling to commute or not being able to afford to live in the city.
- Companies no longer having an adequate talent pool to draw from and so more are inclined to relocate.
- Cumulatively, these lead to much-reduced lifetime incomes as people take jobs that do not maximise their pay and prospects.
- Reduced tax receipts and less expenditure on activities and services within the city.

Across the indices and the localised data, the three most visible talent effects on competitive outcomes in the most unaffordable global cities so far are:


Source: Jason Goodman unsplash

Talent dwindling

Chronically unaffordable cities have been losing 0.4-0.7% more of their workforce each year for housing related reasons.

- **San Francisco Bay Area.** Since it became chronically unaffordable in the mid 2010s, the Bay Area has lost approximately 15-20,000 more people each year from its workforce, compared to other US tech hubs. Net migration out of the Bay Area has been accelerating since 2016 and has reached at least 400,000 people,[39] including over 100,000 households over the last 3-4 years. On a per capita basis, this is up to 10% (30,000) more than in other comparable US cities.[40] The number of top global graduates has grown by 35,000 fewer than other comparable cities since the pandemic, and retention rates of top graduates is about 10% lower than in these cities.[41]
- **Greater Toronto.** The central city had lost more than 1,000 young families a year for the last decade.[42] It has grown its population by more than 10% over the last 2 decades, while at the same time losing more than 10% of its children under the age of 15.[43] Costs have increased as unaffordability surged in the late 2010s. Recently housing cost-related outflows of talent have been conservatively estimated to be $3bn per year.
- **Greater London.** For lower and middle-income workers, the net economic incentive to move to London has declined.[44] Since 2015 London has lost more than 15,000 people per year aged 25 to 39 age group compared to the wider growth trend. This is primarily due to housing issues.[45] Renters and buyers in particular are leaving in higher numbers. 40% of tenants moving home chose to leave London, up from 28% 10 years ago. A record 28% of Londoners buying outside the city are purchasing their first home, up from 22% in 2019 and 13% in 2013.[46] This has caused the human capital stock per worker to stagnate over the last decade.[47]
- **Tel Aviv.** With housing affordability declining further over the last 5 years, around 10% fewer graduates of top universities stay in Tel Aviv compared to other top regional innovation hubs.[48]

Relevant indicators with which to gauge progress

- Net migration levels (vs trend line)
- % or number of people leaving who are of peak-working/family age
- Rates of talent attraction and retention
- Reduced number (and retention) of international students
- Number of top graduates moving to the city

Appeal to talent has taken a bigger hit

Top cities are falling by about 10 places in the list of preferred places globally to work, and this is at least partly linked to costly housing.
• **San Francisco Bay Area.** In terms of global talent's expressed willingness to move for work, San Francisco fell from 18th in the world in 2014 to outside the top 30 in 2022.[49] For footloose tech workers, San Francisco has fallen from 13th to 18th since 2019. In other cities where home affordability declines have been less pronounced, the hit has been softer.
• **Tel Aviv.** Since 2019, Tel Aviv has fallen by 5 places (from 20th to 25th) for businesses' ability to recruit talent. Monthly housing expenses and congestion are rated as key downsides to moving to the city.[50]

Relevant indicators with which to gauge progress
• % of footloose talent identifying city as top city to move to for work
• Perceived availability of skilled people among business executives

Plans to move to the city

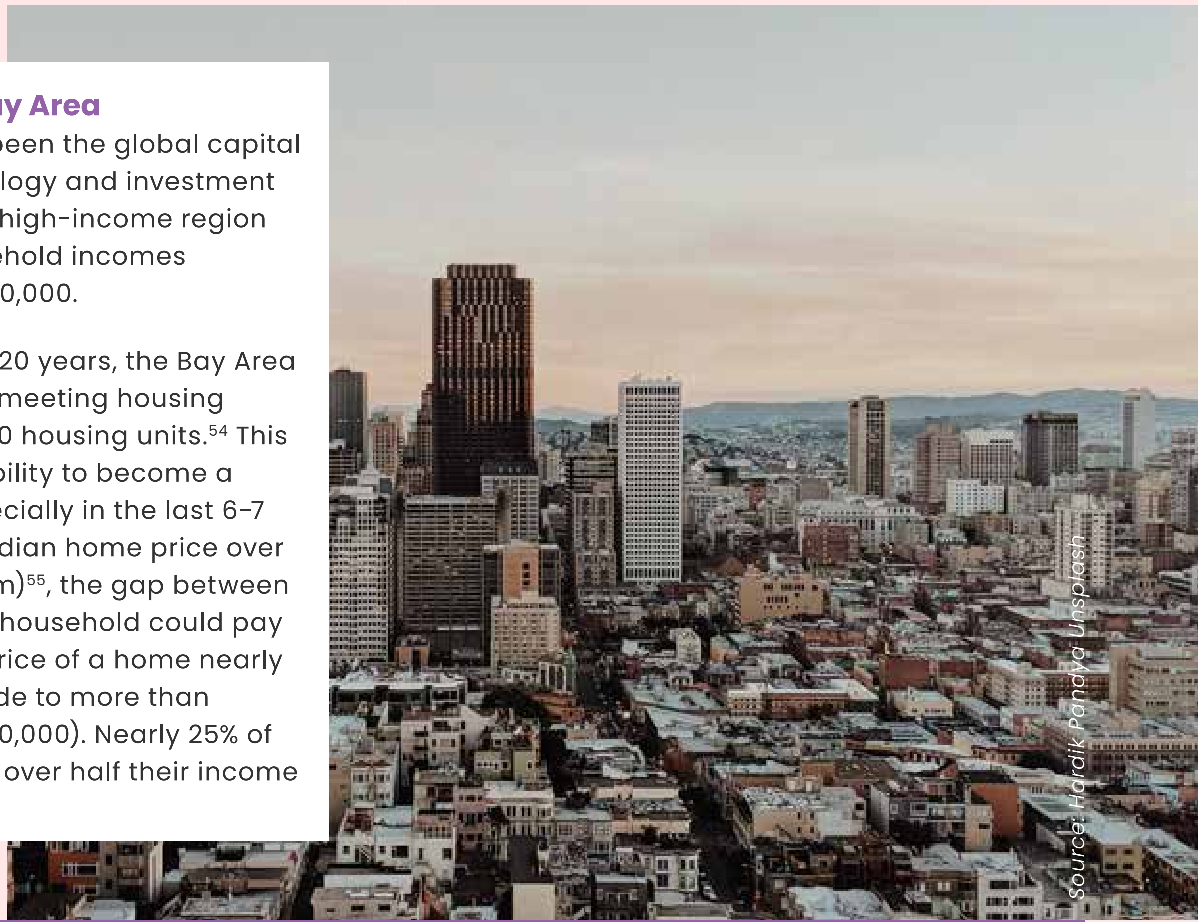
Unaffordable cities are set to lose more as the gap between housing supply and demand grows
• **Greater London** is set to see a decline in the active working population of 300,000 people over the next 15 years if housing growth only meets past levels of development. This has been forecast to create a vast A$35bn (£19.2bn) per year in lost productivity, compared with if housing growth targets are met.[51]
• **San Francisco Bay Area.** A further 1 in 40 Bay Area residents (i.e 2.5%) plan on moving to another US city in the next 5 years compared to other high-value US cities.[52] For at least the last 4 years, more than three quarters (77%) of those considering leaving cite housing costs as the main reason.[53]

Relevant indicators with which to gauge progress
• Surveys of future location intentions
• Number of requests for relocation services by postcode
• Survey of main disincentives
• Housing supply vs demand

San Francisco Bay Area

The Bay Area has been the global capital of software technology and investment for 40 years. It is a high-income region with median household incomes reaching over A$140,000.

Yet during the last 20 years, the Bay Area has fallen short of meeting housing demand by 700,000 housing units.[54] This caused unaffordability to become a chronic issue, especially in the last 6-7 years. With the median home price over A$2 million (US$1.7m)[55], the gap between the price a typical household could pay and the average price of a home nearly doubled in a decade to more than A$500,000 (USD 360,000). Nearly 25% of renters now spend over half their income on housing.[56]



Source: Hardik Pandya Unsplash

Implications

Taken together, the direct costs to multiple global cities of lost talent due to unaffordable housing is regularly assessed at $A3-4bn per year, per city.[57] These can create other effects including loss of corporate and income tax revenue that in dense business clusters are rated above A$250 per person per year.[58]

Data suggests that Sydney's appeal to talent is already at risk of declining. Over the last 7 years, Sydney has already fallen 6 places from 4th to 10th in the major survey of the top cities where footloose digital talent would choose to move for work.

If the trends that other cities have observed above are mapped on to Greater Sydney, over the next 10 years the city risks:

- Losing at least 10,000 extra people per year from its talent base
- Falling outside the top 20 cities across measures surveying mobile global talent in a range of sectors.
- Retaining 5-10% less of its international student and young talent base over time.

	Potential minimum annual costs in Sydney[59]
Loss of talent due to out-migration and diminished appeal.	**$1.5bn**

This potential cost does not include:

- Other negative externalities associated with out-migration (e.g. social mobility, hoarding of tacit knowledge, etc.)
- Extra recruitment costs associated with higher turnover of staff, that are estimated to be at least an additional A$100m per year.

3.2 Innovation

There is a growing number of studies that observe the eroding effects of chronically unaffordable housing on innovation rates. The main factors observed include:

- Companies spending less on R&D as the costs of land and talent are so high.[60]
- Fewer R&D workers and self-funded entrepreneurs feel encouraged to stay and choose to rent housing.
- Slowdown in the generation of patents.[61]
- Lower work satisfaction due to being unable to scale and grow a real company.
- Smaller share of advanced knowledge economy within the overall jobs base.

Some second-order effects also deserve mention, even though they are not explored in detail in this paper. These include the effects of housing unaffordability on:

- Propensity for remote work and the knock-on effects on innovation. This is a result of fewer people regularly being in the same place and a reduced number of interactions and face-to-face decisions.
- Attraction and retention of students and graduates and knock-on effects on the city's potential stock of future potential founders and researchers, and on the wider science and research base.

Source: Benjamin Sow Unsplash

The observed effects on cities that have reached a highly unaffordable threshold are:

Chronically unaffordable cities typically lose at least 100 new funded startups each year.

- **San Francisco Bay Area.** The number of newly-funded start-ups in San Francisco and Silicon Valley has fallen from a peak of 740 in 2017, when median home affordability consistently started to rise above 10, to an average of 640 in the years since and to a new low of 560. For the first time in at least 30 years, it is no longer the highest in the US.[62] Based on the funding these companies have typically attracted, this amounts to a shortfall of over US$500m in venture capital attracted into the city each year.[63] More broadly, the city has 8% fewer tech-oriented businesses headquartered in the city than would be expected had its startup ecosystem grown in line with other less unaffordable cities over the last 8 years. On average, more than 25 company HQs have left the Bay Area per year since 2018.[64]

Relevant indicators with which to gauge progress

- Rate of new start-up creation
- Venture capital investment rates
- Perception among investment and business executives
- Number of new FDI projects
- Net HQ migration (gains and losses)

Less upstream patenting innovation translating into a smaller tech footprint.

- **Greater Miami.** In Miami and Florida, each 1% increase in housing rental costs is linked to 0.5% fewer patent applications.[65] So a rise of 15% higher prices predicts 7.5% fewer patents.[66] Since 2019 when prices reached a new high, the tech share of office lease deals in the wider South Florida city-region has fallen by 1% while other markets have grown.[67]

Relevant indicators with which to gauge progress

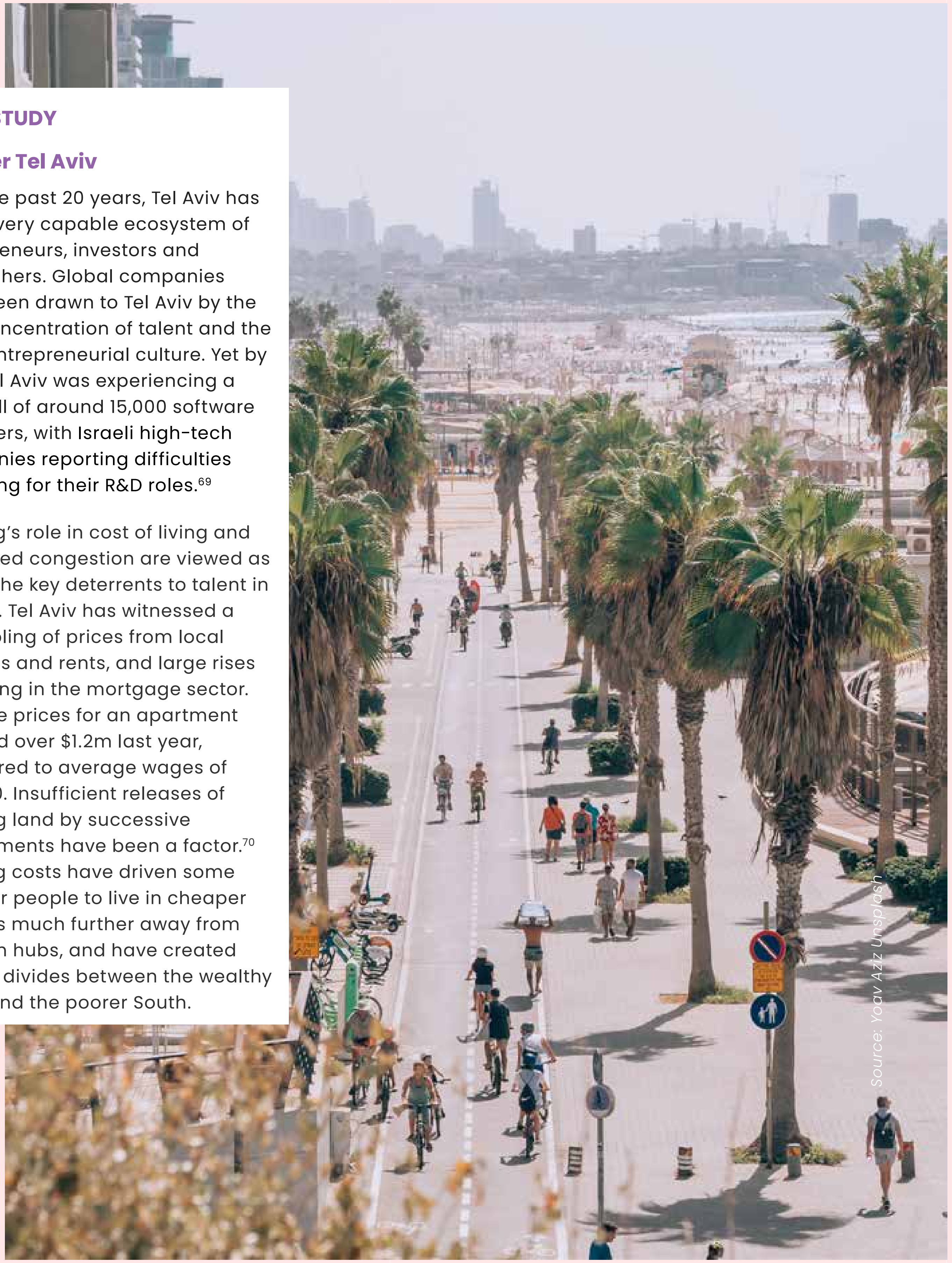
- Rate of new patent generation
- R&D expenditure

Less propensity to move in to grow innovative companies.

- The total ecosystem value of the three most unaffordable cities **(Tel Aviv, Hong Kong and the San Francisco Bay Area)** grew 7% slower year-on-year in the last 5-year period than their peer group. This compares to 10% faster growth in the 2014-18 period.
- **Tel Aviv.** The share of European start-up founders identifying Tel Aviv as the best city to found a new start-up has halved from its peak, partly due to concerns regarding talent availability.[68] There is a close correlation between this trend and the most recent spike in housing prices (see Box below).

Relevant indicators with which to gauge progress

- Number of firms scaling versus global trend line
- Share of VC or companies in late growth stages
- Share of start-up founders identifying city as top city to start up


Source: Yoav Aziz Unsplash

CASE STUDY

Greater Tel Aviv

Over the past 20 years, Tel Aviv has built a very capable ecosystem of entrepreneurs, investors and researchers. Global companies have been drawn to Tel Aviv by the high concentration of talent and the city's entrepreneurial culture. Yet by 2021, Tel Aviv was experiencing a shortfall of around 15,000 software engineers, with Israeli high-tech companies reporting difficulties recruiting for their R&D roles.[69]

Housing's role in cost of living and increased congestion are viewed as two of the key deterrents to talent in Tel Aviv. Tel Aviv has witnessed a decoupling of prices from local incomes and rents, and large rises in lending in the mortgage sector. Average prices for an apartment reached over $1.2m last year, compared to average wages of $42,000. Insufficient releases of building land by successive governments have been a factor.[70] Housing costs have driven some younger people to live in cheaper suburbs much further away from the tech hubs, and have created deeper divides between the wealthy North and the poorer South.

Implications:

Sydney's innovation dynamics have been catching up with many other global cities over the last decade. However, this growth is fragile, especially as Sydney's unaffordability has worsened in absolute and relative terms. The number of recognised new tech companies in Sydney grew by about 200 per year between 2014 and 2021, but has started to plateau. In terms of patents generated, since 2017, Sydney has stabilised at 12^{th} position out of 48 leading global cities.

Mapping Sydney's housing and innovation trends alongside other global cities, given the different stage and scale of Sydney's ecosystem, point to the risks that Sydney:

- Records up to 10% fewer patents over a decade than it would have, as researchers and inventors move elsewhere.
- Is home to 10-20 fewer well-funded start-ups over each of the next 5 years.

Even if the growth in value of Sydney's innovation ecosystem falls behind by a fraction of that in the most unaffordable cities, this would produce a multi-billion cost in the collective valuation of the start-up economy. This would have cumulative knock-on effects on Sydney's performance and reputation.

	Potential minimum annual costs in Sydney
Overall ecosystem value grows slower in Sydney due to fewer companies grown, retained and invested in, downstream of fewer patents and a smaller R&D system.	$2.9bn[71]

This potential cost does not include the impacts of housing unaffordability on:

- Propensity for remote work to diminish the rate of innovation. As a result of fewer people regularly being in the same place, there is a higher likelihood of miscommunication and reduced scope for the diffusion of ideas.
- Retention of innovation-minded graduates and, over time, the city's stock of future potential founders, researchers and entrepreneurs.
- Lower work satisfaction due to constraints in the ability to scale a company locally.

3.3 Productivity inefficiencies

Unaffordable housing is acknowledged to create a host of effects on the efficient functioning of an urban economy. Most commonly these are:

- **Extra costs.** In particular, businesses spend more on talent to take into account the costs of housing. This is called a wage premium. Essentially it describes upward pressure on wages to ensure companies and talent can stay in the region and it could be better invested productively.[72]
- **Wasted time for workers** travelling extra distances from more affordable places.
- **Companies relocating away** to less pressured places that may be lower cost but are also usually less productive. These companies have less incentive or propensity to adopt new ideas or processes.[73]
- **Less efficient agglomeration.** One observed effect is smaller functioning CBDs as people disperse**.** For example, the high productivity commercial core of the San Francisco Bay Area has seen its share of jobs fall since the mid-2010s, just as many other regions in the US saw this share of jobs rise.[74] Another correlation is between housing unaffordability and more WFH. In the most unaffordable cities approximately 5% fewer people are back at work (in a designated workplace) than would be expected for their size/economy, based on North American data.[75]

Observed effects of a highly dispersed labour market induced by chronically unaffordable housing include employee absenteeism, higher greenhouse gas emissions (especially from transport), and reduced time available for leisure activities.

Businesses pay about 1% more on wages than they should on labour.

- **Greater London.** The talent wage premium associated with housing affordability is assessed to be 1% of the annual wage bill, or about A$5bn. Housing prices are viewed as a key part of this constraint of the city's productivity slowdown in the 2010s, down to 0.2% per year, as prices have contributed to the underperformance of London's high-performing companies. They have eaten up business budgets and crowded out investment while costs of office space have risen.[76] Housing is responsible for a small share of the vast cumulative effect of lower productivity in London - £54 billion to the national economy.[77] London is now 16th out of 48 top global cities for GDP per capita (in 2022), down from 11th in 2017.[78]
- **Greater Toronto**'s talent wage premium associated with housing affordability has been measured at A$2.2-3bn (C$2-2.8bn) per year, based on growing labour costs in the inner city. Meanwhile, Toronto's GDP per capita has fallen 7 places to 31st among 48 cities over the last 5 years.[79]

Example metrics

- Business costs relating to recruitment
- Efficiency of skills matching
- GDP/GVA per person

Source: Quaid Lagan Unsplash

Housing's effect on excess commuting has around a 1% impact on unaffordable cities' economic output.

- **Greater Toronto.** Of all North American cities, Toronto has the highest average distance travelled during a one-way commute, and the third longest average commute time of 56 minutes.[80] As a result, Toronto's commute time rank has fallen from 21st to 31st among 48 global cities between 2017 and 2022.[81] Productivity costs based on observed lost days of work due to lateness and tiredness have been calculated at C$2.2bn per year, or 1-3% of productivity.[82]
- **San Francisco Bay Area.** Commuting's known effect on productivity – via near 1% increases per year in commuting times and the share of people doing long-distance car travel – means the Bay Area experiences at least a $2-3bn impact on productivity, not including health and stress effects.[83]
- **Greater London.** The share of Central London workers now living in Outer London has grown from 27% to 39% between 2016 and 2022.[84]

Example metrics	
• Average commute times/distances	• Number of hours lost to congestion annually
• % of long-distance travel	• % of population who can access city centre within a 1h commute
• % of people commuting for >1h per day	

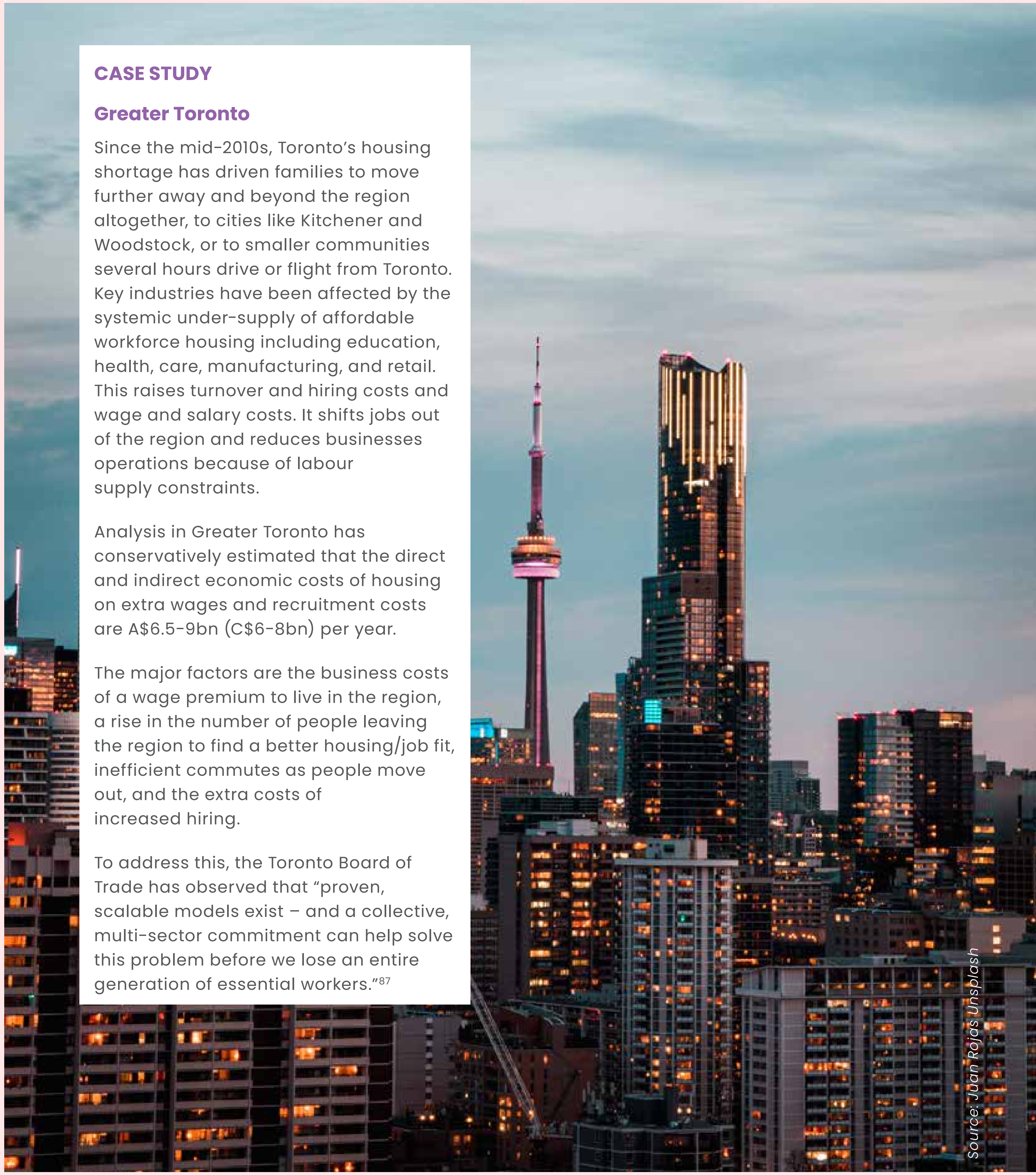
Spending power is affected by approximately $1,000 per capita in cities that have become highly unaffordable.

San Francisco Bay Area. Analysis has shown that if economically insecure Bay Area renters paid only what they could afford for housing, their spending power could grow by $4.4 billion per year.[85]

Hong Kong. Prior analysis has suggested that unrealised spending reached A$8bn ($US$6bn), given the rise in costs of housing in the early 2010s compared to wages.[86]

Example metrics

- Yearly disposable income after housing
- % of household income taken up by housing costs



Source: Juan Rojas/Unsplash

CASE STUDY

Greater Toronto

Since the mid-2010s, Toronto's housing shortage has driven families to move further away and beyond the region altogether, to cities like Kitchener and Woodstock, or to smaller communities several hours drive or flight from Toronto. Key industries have been affected by the systemic under-supply of affordable workforce housing including education, health, care, manufacturing, and retail. This raises turnover and hiring costs and wage and salary costs. It shifts jobs out of the region and reduces businesses operations because of labour supply constraints.

Analysis in Greater Toronto has conservatively estimated that the direct and indirect economic costs of housing on extra wages and recruitment costs are A$6.5-9bn (C$6-8bn) per year.

The major factors are the business costs of a wage premium to live in the region, a rise in the number of people leaving the region to find a better housing/job fit, inefficient commutes as people move out, and the extra costs of increased hiring.

To address this, the Toronto Board of Trade has observed that "proven, scalable models exist – and a collective, multi-sector commitment can help solve this problem before we lose an entire generation of essential workers."[87]

Implications

On the eve of the Covid-19 pandemic, Sydney's overall productivity rated 89th among 159 major urban economies in the OECD. It has been improving quite slowly over the last decade.[88]

The effects of housing on Sydney's business productivity and on commuting efficiency already appear to be substantial. Average commute distances grew by nearly 1 kilometre in the 8 years leading up to the pandemic, and the time spent commuting increased each year by around 30 seconds per day.[89] Key workers, in particular, have had to move further away due to high housing costs and are now disproportionately more likely to commute more than 30km to work.[90]

The trends observed in Greater Toronto, Greater London and the San Francisco Bay Area highlight that the productivity effects of higher labour costs for business and of inefficient commutes and unrealised spending are at least A$2bn each. In many cases, they are much more.

These figures suggest that given Sydney's population size, tenure mix, spatial economy, commuting patterns, and affordability relative to these cities:

	Potential minimum annual costs in Sydney
The extra labour costs for business associated with Sydney's increased housing unaffordability is likely to be well over 0.5% of gross value added, potentially 1%+ as in other cities of similar unaffordability, and is set to grow.	**$3.2bn**[91]
Inefficient commutes driven by location choices shaped by more unaffordable housing, have a productivity effect that in Sydney is likely to be at least 75% as high as other chronically unaffordable global cities.	**$1.1bn**[92]
Withheld spending due to increased rent costs, would likely be somewhat lower in Sydney than in unaffordable cities that have larger populations of renters and slightly higher rates of rental stress.	**$2.5bn**[93]

If these figures are conservatively applied to Sydney they point to a potential minimum annual productivity and efficiency impact of **A$6.8bn.**

These figures do not include:

- Productivity and healthcare costs relating to additional detrimental mental and physical effects of long commute times induced by unaffordable housing.
- Withheld consumer spending as a result of high mortgage payments.
- The extra carbon, air pollution and fuel costs associated with longer commute times.
- The impact of less spending on neighbourhood vibrancy and safety.

This review of the global comparative analysis of housing and city competitiveness suggests that if the costs to talent, innovation and productivity experienced in other cities are applied to Sydney, they would exceed **A$10bn per year**. The cumulative figure is in the region of 2% of Sydney's total GDP.

This does not account for second-order effects or all the first-order effects. As such, it is likely to be a significant under-estimate.

Bridge Housing Parramatta

SGCH Gibbons Street, Redfern

Coming to terms with the indirect costs and effects

When housing becomes chronically unaffordable, global cities are not only seeing the effects on talent availability, innovation rates and urban efficiency observed above. They also start to witness and record other deep-seated impacts.

These are not quantified in this paper but five areas in particular that are set to become more apparent are:

1. **Effects on happiness, loneliness and work-life balance** that shape the long-term productivity of individuals.[94] More people working long hours and multiple jobs is linked to higher reported feelings of lack of belonging and isolation and less volunteering and community participation. Other impacts include less time spent with children and the flow-on effects on their human capital. A further factor is less time and money available for leisure activities in a city – especially for renters – which affects sales of services, and worker wellbeing and exercise.[95]
2. **Inequality.** Intensified housing costs is strongly linked to growing income inequality, spatial segregation by income and, in turn, reduced social mobility as more people are locked out of areas of opportunity.[96]
3. **Vibrancy and night-time economy**. Very high housing costs have been correlated to fewer restaurant reservations and less footfall in key centres, especially in the evenings and night-time.[97] There is a correlation in the city indices between unaffordable cities and modest or declining vibrancy. This constrains sales tax revenues for hospitality firms. High housing costs can also decimate a city's arts and cultural scene if artists are unable to live near venues or galleries and other places of work.
4. **Transport emissions and carbon intensity.** Cities with unusually high commuting distances related to housing costs and density have been observed to have higher carbon intensity in their mobility system. Carbon costs based on time spent idle in traffic and billions of extra fuel being burned are substantial.[98]
5. **Less access to important services.** A decline in the number and activity of young people in cities associated with chronically unaffordable housing has been shown to reduce the availability of critical public services. Recent research has highlighted the pressure on London's schools and nurseries, more of which are shrinking or closing.[99] Four public-funded nurseries or primary schools have had to close or merge each year over the past 5 years.[100]

If Sydney remains in the company of the world's most chronically unaffordable cities, the cumulative and measurable effects of these issues on productivity are likely to become more apparent. The city is also more likely to fall down the global indices of cities that increasingly measure these aspects as being essential to the appeal and agility of great global cities as they face up to future challenges.

This problem is not unsolvable: a new cycle of approaches to housing in global cities

The wide range of social, economic and environmental effects linked to chronically unaffordable housing has prompted renewed efforts from some of Sydney's peer cities and their higher-level governments to find novel ways to cut through the issue.

This spans everything from overdue policies to support gentle density in areas zoned for single family homes in the 'missing middle' (e.g. Toronto), to optimising available public land and infrastructure for housing (e.g. Miami), to improving the trust and co-ordination among those responsible for delivery (e.g. Amsterdam).

One of the clearest examples of government becoming more permanently and strategically committed to the housing challenge is found in Vancouver. The provincial government (BC) has committed to C$4.2bn over the next three years to building homes for lower income people, including a strong focus on indigenous populations. That approximates to over A$7bn in a Sydney/NSW context.

Key to this new approach in Vancouver is the new A$500m B.C. Builds program, which is designed to speed up the production of quality low and middle-income housing. The focus is on small-scale, multi-unit housing through zoning changes and proactive partnerships, and much more strategic use of public land. It has created a full inventory of available public or First Nations lands where it can partner with private developers to build below-market housing and units with rent-to-own schemes. Informed by models in Singapore and Japan, it intends to create larger volumes of social housing, supportive housing, rental housing and affordable home ownership. The pledge so far is to build 114,000 new affordable units over 10 years.[101]

Government is providing A$400m+ to address homelessness, A$90m in capital funding to acquire land for future affordable and market housing near transit corridors, and A$50m+ to help post-secondary institutions build more student housing.[102] It includes a $500m Rental Protection Fund that enables non-profit and co-operative housing providers to purchase existing purpose-built rental buildings to lock in their affordability and preserve tenants' security of tenure.[103]

Another city where government is investing directly is Hong Kong. The city is targeting a dramatic increase in overall public housing supply. The public/private split of new housing supply is aimed at 70:30, with more than 360,000 units targeted to be delivered over the next 10 years. Around 100,000 of these will be delivered in the next 5 years alone (costing A$27.5bn).[104] Given uncertainties around construction costs and the time needed to prepare land, the government recently announced temporary modular public housing as a major short-term priority. This A$5bn scheme will take 3 years, with many homes able to be converted to commercial uses after 5 years. Over the longer term, the city's major new development area, the Northern Metropolis towards Shenzhen, is also a big priority. This A$19bn investment will house up to 2.5 million people and, in the next decade, will account for up to 60% of total expected affordable housing delivery (150,000 to 180,000 new affordable homes).[105] It will also help to scale more innovative financing and delivery approaches. Meanwhile, the government also aims to limit the waiting time for public rental housing to 4.5 years, down from 6 years currently.[106] Job creation to support growth remains a priority - the city also aims to attract 100 new international scale-ups over the next 5 years to drive HK$10 billion of investment.[107]

Other cities are moving forward in different ways.

Source: Louis Meeckers Unsplash

Source: Max van den Oetelaar, Unsplash

CASE STUDY

Partnering to deliver in Amsterdam

In Greater **Amsterdam**, around 200,000 new homes must to be built in the next decade. A partnership between Noord Holland provincial government and leading developers is starting to ease housing pressures. The province has hired a new Construction Ambassador to ensure large mixed-use projects are optimised, to streamline procedures, liaise with developers and to set aside dedicated capacity to confront bottlenecks around pollution, energy and noise concerns head on.[108] It has also created a management function charged with helping local governments, construction companies, investors and developers to accelerate housing supply. Nine secondary centres are earmarked for housing growth, many of them around important transport hubs including over-station development at scale. Amsterdam is also experimenting with innovative co-operative models, informed by Vienna, where the government takes on a more proactive role in acquiring and issuing land, subject to developers committing to a long timeframe or promising to rent or sell homes according to socially linked ownership models.

CASE STUDY

Aligning across government to speed up housing in Tel Aviv

Tel Aviv's regional planning council is now working closely with national government to raise the supply of housing amid land shortages and rising prices. Current priorities are making it easier and quicker for housebuilders to construct new homes (currently it takes about twice as long in Israel as in the US), and building more housing units for rentals.[109] In 2022, a new comprehensive housing policy was approved with the goal of expanding affordable housing stock, where every new residential project built on private land must include 15-20% of units as affordable housing.[110] Attention is also shifting to the conversion of older properties (pre-1980) into new flats to provide space for families – especially around new stations that are coming online as the city builds out its new light rail system. As part of this, the Regional Planning Council is bringing forward a new 64-storey building in a suburb around 5km east of the CBD, where all flats would be available only for rent, as opposed to sale.[111]

CASE STUDY

Focus on key worker housing in Miami

Miami has built a new strategy focused on addressing the multi-family sector to support key workers like teachers, firefighters and those providing public services. Public transport-based housing development is a relatively new cornerstone, along with density incentives, financing incentives for affordable housing (e.g. to help bridge the financing gap on projects already underway but which are experiencing issues in starting or completing construction), and expansions of loans housing voucher programs. As a County, Miami-Dade also now has a Housing Affordability Tracker – an online tool to pinpoint the locations and progress of more than 18,000 affordable housing units that are in the development pipeline.[112]

Implications

Chronically unaffordable housing is costing Sydney $10 billion a year. It's dragging Sydney down and threatening its competitiveness and its standing as a fair and equitable city.

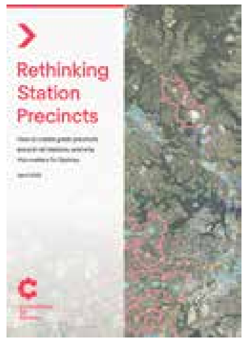
Now is the time to take considered but bold and brave steps to ensure we can send Sydney's chronic housing crisis into remission and prevent a future relapse:

1. Bring Sydney in line with other global cities by introducing an inclusionary zoning target for all rezonings with appropriate transitional provisions.
2. Invest more in building more social and affordable housing. The Victorian Government's investment of $5b is likely to be at the level required to deliver significant change.
3. Bring on more housing density but do it well. Increase housing in places that have good transport connectivity and ensure key community infrastructure like open space, schools, child care, shops and services are provided.

This issue cannot be addressed overnight, but will require continuous investment, innovation, iteration and co-ordination over the next decade.

These recommendations build on significant work the Committee has undertaken over the last two years including:

- **Rethinking Station Precincts** – recommendations to increase walkable density around transport nodes (2022).



- **The Problem of Affordability** – recommendations for interventions across the housing continuum (2022)

- **Planning for Growth** – recommendations to increase housing supply (2022)

- **Bringing Affordable Housing to Scale** – recommendations to increase social and affordable housing (2022)

Now is not the time to reinvent the wheel, but instead take tried and tested housing interventions and apply them at scale in Sydney.

Endnotes

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