

JOINING THE TOPTABLE?

BENCHMARKING SYDNEY'S PERFORMANCE 2017

ISSUES PAPER 16 JULY 2017

1. FOREWORD

Successful global cities do not happen by accident. In its first Benchmarking report, the Committee for Sydney noted that 'the world's best cities, like the best companies, need to know how well they are doing and take action to progress further'. This report is an important update on the city's performance and our relative success as a global city.

As companies with weight in the Australian office sector, and a successful history of helping shape Sydney's skyline and urban landscape, Dexus and JLL are proud to be playing a part in leading the conversation on the city's performance and challenging it to be amongst the world's leading cities.

To improve on a fast changing and increasingly competitive global stage, key decision-makers should use data to improve city performance.

Joining the Top Table? is a study of Sydney's comparative performance, based on the latest data from an impressive range of indicators and research into Sydney's peers on the international stage.

Whatever the difficulties of establishing the key indices and evidence base, the very drive towards benchmarking and performance management will help us both understand the city better and improve it.

In the task of planning for the future of Sydney, we must get better at measuring the performance within our city. We need to create systems that identify and react in real time to the key performance data and indices for Sydney, benchmarking them against relevant global competition.

Our objective is less on securing unanimity for these proposals and support of the findings than to promote an informed community discussion and to focus government thinking on the value of becoming a data-driven, responsive city.

It is in this spirit we invite you to consider Professor Clark's review of Sydney's performance and join the conversation.

"It has never been more important to understand city performance. The ability of cities to attract investment, manage their growth and deliver quality of life will define the character and, ultimately, the success of the 'metropolitan century'. One important resource to track city performance, perception and progress is the huge body of city indices, benchmarks and rankings."

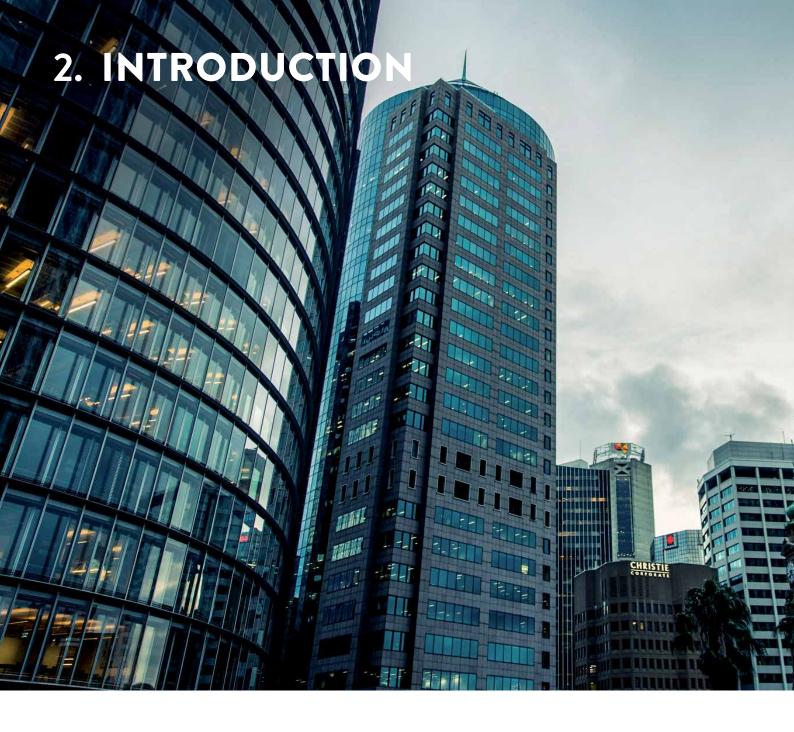
PROFESSOR GREG CLARK¹



DARREN STEINBERG CEO, Dexus



STEPHEN CONRY CEO. JLL



The Committee for Sydney's first Benchmarking report, *First Amongst Equals?* had a significant impact both within NSW and nationally. We had brought Professor Clark to Sydney in partnership with the NSW Department of Planning and Environment, UrbanGrowth NSW and the NSW Department of Premier and Cabinet. Following his visit Professor Clark became an advisor to the Greater Sydney Commission (GSC), the Planning and Industry Departments of the NSW Government and to the Australian Federal Government on its emerging cities policy. By the end of 2016, the Federal Government had started developing its own approach to the assessment of Australian cities' performance.

We stressed in the first survey that there was a need for robust city performance data and that 'the absence of such data also needs to be noted by the Federal Government whose new cities policy needs to be based on an agreed set of city benchmarks that Australian cities' economic, social and environmental performance can be measured against.

Professor Clark remains close to the Committee and keen to help us, our members and our stakeholders develop deeper insights into Greater Sydney's performance in key areas. The results this year are important and illuminating as they show both a continued momentum towards Sydney being a serious candidate to achieve 'top table' status as a global city and also that on some key indicators Sydney has serious challenges.

As with the previous study, the evidence suggests that Sydney's transport offer - while improving and receiving significant new investment - is still a drag on its absolute and comparative performance. There is also some



downward pressure on Sydney's liveability indicators, partly reflecting a change in the way in which this key area of a city's performance is being measured. Previous surveys played to Sydney's strengths in terms of natural environment and beach lifestyle, but the emerging approach to the assessment of a city's liveability stresses the relative ease of access to such assets by inhabitants across the metropolitan area and adds a new emphasis on the affordability of housing. Sydney's affordability challenge as one of the world's more desirable locations for property investment has exacerbated over the last few years and this is being picked up in global surveys as well as being a prime focus of new policy and thinking by both the state and federal governments. The knock-on effect on Sydney's attractions for global talent is also reflected in this survey.

This reminds us that in a global knowledge economy where talent is transient and can live where it chooses, hard infrastructure now needs to be matched and reinforced by a city's liveability factors. A successful city in the modern knowledge economy needs to be both a great city in which to do business and a great city in which to live. Our survey indicates again that Sydney is one of the very few cities in the southern hemisphere that can make a serious claim to be both, with globally competitive financial and business services, internationally respected universities, national leadership in digital technologies and a cultural sector that is at the heart of its global city offer.

Professor Clark notes that Sydney for the second year running has the world's top recognition as a city brand and that 'the world expects a lot of Sydney'. But with this profile comes higher expectations that the experience of visiting, doing business or living here matches Sydney's enhanced reputation. To stay a top destination for talent and investment, Sydney needs to meet or indeed exceed those expectations. Just as importantly, we need to ensure that in achieving this result we retain and enhance Sydney's 'offer' to its own inhabitants on the city's journey from its current 5 million people to 8 million by 2057: a 21st Century city for all, on the global stage. And not just for its inhabitants; Sydney's role and relationship with its regional hinterland can only grow further. In basing strategies for Sydney's growth on the back of the performance data in this Issues Paper, we must be mindful of and reinforce the hugely important function Sydney plays in the economy of the state and develop the positive contribution regional NSW makes to the future of Sydney.

The challenge of doing density well as the city doubles in population by mid-century is also key – a view backed up by Professor Clark's analysis. We need to focus policy, public investment and planning on how we can make Sydney better as we make it bigger – how growth can actually add to the amenity and inclusiveness of Sydney. This is a task for all tiers of government – which is why the Committee advocated for and now welcomes the new 'City Deal' process being developed between the Federal Government in partnership with the state governments and local councils in Sydney around leveraging the potential of significant new infrastructure investment in Western Sydney. It is also a task which the members of the Committee – from across public, private and not for profit sectors – will help governments fulfil.

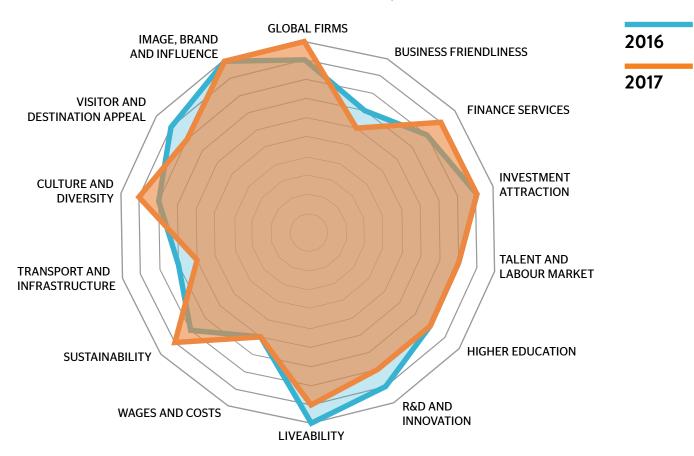
3. EXECUTIVE SUMMARY

In 2016, the Committee for Sydney and The Business of Cities published *First Amongst Equals?*, the first edition of a global benchmarking study of Sydney's comparative performance against other world cities. This second edition updates and develops this benchmarking exercise, rating Sydney's performance using a meta-analysis of 51 global indices, reviewed across 14 indicators in comparison with 33 of Sydney's peer cities.

- The 'top six' world cities have been established for a decade with London, New York, Paris, Tokyo, Hong Kong, and Singapore recognised as the established world cities of the current cycle, with Seoul recently joining this list. Sydney has now joined a second tier of 'leading contenders' with the assets and aspirations to join the global elite. The city has made incremental gains in many key areas that are necessary to make the next step: gateway functions, investment attractiveness, talent pool, clustered specialisations, and brand identity. Sydney is not only the outstanding global city in the Southern Hemisphere – it is also one of the only contenders to combine the agglomeration advantages of the biggest cities with the lifestyle and appeal of the best medium-sized world cities.
- A widening appeal and credibility in terms of financial services, foreign direct investment (FDI) and real estate highlight Sydney's growing maturity as a global city. The city has become a core business and investment location in Asia-Pacific and is moving ahead of European peers as the centre of global economic gravity moves East and South. Sydney's positive population growth forecasts and resilient brand identity also underpin this medium-term trend. Greater Sydney's new growth planning combines a recognition of the likely scale and pace of growth with ambitious plans to accommodate that growth through infrastructure systems and spatial planning, and to translate it into continued success.

- However, the unintended consequences of unmanaged growth for Sydney are now becoming starkly visible, as the data underpinning city indices catches up with current reality. Inflated costs, loss of liveability, and deficits in infrastructure, all now negatively affect Sydney's performance in multiple global measures. Congestion, spatial imbalances, unaffordability and environmental strains all risk relegating Sydney from the group of cities associated with a high quality of life. Recent results provide an even clearer imperative for integrated planning, spatial development, and infrastructure investment across Greater Sydney.
- Sydney has made rapid progress to expand and accommodate the innovation economy, but other cities are moving just as fast, if not faster. Sydney's openness, strong research institutions and emerging tech clusters help push the city into the global top 20 for innovation. But the scale of inter-firm activity, start-up exits and VC investment is still quite small compared to others in North America and Europe.
- The costs of Sydney's inherited low-density development model are becoming more evident as new ways to measure and define sustainability emerge. Sydney scores very highly for green space, air quality and natural environment, factors that paradoxically are a product of lower density. But new indices of environmental efficiency, social sustainability, and the transition to a low-carbon economy all suggest that Sydney has not been a first-mover on sustainability.
- As Greater Sydney grows to become a **6 million**metropolis over the next decade or so, it is well placed
 to become one of the next cities to join the very top
 tier. As the next phase of the project for Greater Sydney
 unfolds, comparative city indices and benchmarks will
 become even more essential tools to assess and monitor
 Sydney's progress towards a world-class future.

SYDNEY'S INTERNATIONAL PERFORMANCE AND PERCEPTION SPIDERGRAM, JUNE 2017



For each of the 14 indicators, Sydney has been compared to its peer cities in relevant multiple comparative rankings, indices or benchmarks. In each category, Sydney's performance has been graded on a 10-point scale, based on its performance against all comparator cities from within the group of 33 selected.

THE CITIES COMPARED (33 IN ALL) WERE:

Amsterdam Miami Seattle Chicago Vancouver Frankfurt Seoul Barcelona Milan Vienna Berlin Hamburg Montreal Singapore Washington D.C. Boston Hong Kong Munich Stockholm Warsaw Brisbane London Osaka Sydney Zurich Brussels Madrid Paris Tel Aviv Buenos Aires Melbourne San Francisco Toronto

4. SYDNEY'S ECONOMIC AND POPULATION GROWTH IN PERSPECTIVE

4.1 Sydney's global positioning

Table 1: Sydney metropolitan area's key economic statistics, 2016

		Position globally
Population	4.9 million	69th
GDP	\$251 billion	48th

Source: Brookings (2016). Redefining Global Cities.

Greater Sydney is among the 70 largest metro areas in the world, and its GDP places it among the 50 biggest urban economies. Its size and GDP per capita is broadly similar to cities such as Toronto, Madrid and Miami (Table 2).

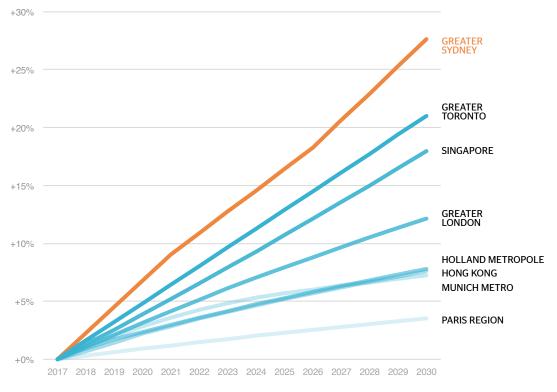
Looking back over the past two economic cycles, Sydney's growth has been on par with the faster growth metropolitan areas in Europe and Canada (see Chart 1), but it is striking that its GDP growth has been driven principally by its demographic dynamism rather than productivity gains (see Table 2).² Greater Sydney has some way to go to become as productive as metro areas such as Munich, Seattle or Singapore – and this will depend on strong jobs growth in knowledge-intensive, industries, and improved connectivity and access to jobs across the region.

Table 2: Sydney's economy in relation to its neighbours and global peers, 2016

	GDP (\$US, bn)	GDP Per Capita (\$US)
Singapore	468	84,400
Amsterdam	397	55,600
Madrid	316	48,000
Toronto	292	47,800
Seattle	286	76,500
Miami	283	47,000
Frankfurt	270	60,300
Munich	266	66,700
Sydney	251	51,100
Vienna	200	52,300
Barcelona	198	42,000
Melbourne	198	43,700
Berlin	186	43,100
Stockholm	168	64,200

Source: Brookings (2016) - Oxford Economics data

Chart 1: Forecast population growth, 2017-2030



Source: City and Regional Statistics Agencies

Looking forward, Greater Sydney is on a very strong growth trajectory over the next 15-30 years, even by the standards of leading regions around the world (see Chart 1). This exceptional rate of growth is a source of great opportunity for Sydney. But it also presents a number of risks to do with whether and how the growth will be accommodated in a way that complements Sydney's existing assets and reputation. This scenario of opportunity and risk is already visible in how Sydney has performed in indices and benchmarks over the last 12 months.

4.2 Sydney's overall performance and visibility in indices

Across more than 300 global indices, rankings and benchmarks, Sydney is currently the world's 8th most frequently measured city, making it by far the highest profile city in the Southern Hemisphere. It is also 7th for the number of Top 10 positions it achieves, just behind Hong Kong and ahead of Copenhagen. The sheer number of indices and data points that feature Sydney provide an important neutral lens on the city's evolution and its real and perceived performance. Sydney is a highly visible city in global benchmarks.

Combined analysis of the performance of 700 cities in these 300+ indices yields many striking aggregate insights about the changing character of the urban system in the current cycle of globalisation. Five years ago, the indices strongly indicated that a leading group of six world cities had separated themselves from the rest: Hong Kong, London, New York, Paris, Singapore and Tokyo (now joined by Seoul). Today, we observe that a rapidly maturing 'global second division' of 10 contender world cities has emerged and pulled away from a chasing pack of aspiring world cities (see Table 3). This group of cities includes Sydney.

Table 3: Sydney's overall position in the current urban system

Established World	Hong Kong, London, New York,
Cities	Paris, Seoul, Singapore, Tokyo
Nearly Established	Amsterdam, Beijing, Chicago,
Contender World	Los Angeles, Madrid,
Cities	San Francisco, Shanghai, <mark>Sydney,</mark> Toronto, Washington DC.

These 10 cities have become contenders to join the elite group of world cities because over time they have acquired many or most of the assets of the top cities: the gateway functions, the scale and market size, the trust of global capital, the talent pool, the multiple clustered specialisations, and the soft power and influence.

As Sydney grows to become a 6 million metropolis over the next decade or so, it is well placed to become one of the next cities to join the very top tier. In the sections below we illustrate how Sydney possesses many of the economic, social and lifestyle advantages to make the next step. What will be required, however, is the successful re-engineering of the city's development model to support a more productive, inclusive and innovation-led economy. As the next phase of the project for Greater Sydney unfolds, comparative city indices and benchmarks will become even more essential tools to assess and monitor Sydney's progress towards a world-class future.

Table 4: Ranking Sydney against other 'contender' world cities

Areas where Sydney ranks among top two of the 'contender' world cities

- Air pollution
- Social and cultural character
- Brand appeal
- Openness and information exchange
- Student environment

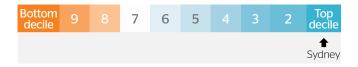
Areas where Sydney ranks among bottom two of the 'contender' world cities

- Affordability for young professionals
- Transport and infrastructure
- Software and digital sector competitiveness
- Life sciences economy
- Internet speed

5. BUSINESS AND FINANCE



5.1 Global firms

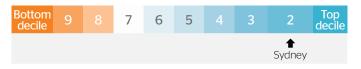


Sydney's status as a preferred location for firms in globally traded sectors has again improved, despite rising international competition. Sydney is currently the 10th most integrated city into networks of advanced services firms, maintaining its position since 2010, while two thirds of its peers have been overtaken by emerging cities. In this respect Sydney has sustained its global reach much more effectively than North American cities such as Chicago, Los Angeles and Toronto.³

Sydney's expanding cluster of finance, business and professional services firms and jobs is reflected in a range of new rankings. A.T. Kearney's *Global Cities Index* again ranks Sydney in the top 20 of 125 cities for business activity, a strong overall improvement since 2012. In PwC's *Cities of Opportunity* measure of economic clout, Sydney has moved from 12th to 6th, overtaking Hong Kong and Seoul.⁴

Interestingly, Sydney is less on the radar of global retail firms – the global retail presence is only 65^{th} (down from 63^{rd} in 2015), and remains well behind most of its European and North American peer group.⁵

5.2 Financial services



In 2017 Sydney has now firmly established its position as a leading global financial centre. Historically its medium size and distance from Northern Hemisphere markets were disadvantages to its financial ambitions, but today Sydney is the 8th most highly rated financial centre in the world, up from 23rd in 2014. Within the Asia Pacific, Sydney is only just behind Singapore, Hong Kong and Tokyo, and continues to rate ahead of Shanghai in measures of both perception and activity.

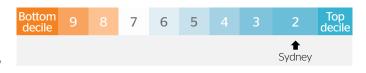
Sydney sits alongside San Francisco and Zurich in a small group of medium-sized world cities with a high quality of life and whose financial services offer is now competitive with the most established world cities. Among financial professionals the city stands out for its promotion and reputation (8th), and its business environment (10th), but the talent base and the maturity of the financial sector (both outside the top 15) are areas where others still have an advantage.⁶



Chart 2: Sydney's progress in the Global Financial Centres Index, 2007-2017

Sydney has witnessed a significant uptick in relative performance in the 12 months after Brexit. Its business environment has become more advantageous, and it has gained a foothold as a leading fintech hub within the Asia-Pacific. This appears to be linked to the expanded role of the Financial Services Knowledge Hub in supporting NSW to address regulatory barriers, accommodate technology change and invest in sector development.⁷

5.3 Investment attraction: FDI and real estate



Sydney has consolidated its position as a leading destination for external investment, withstanding global competition from emerging and niche world cities. A recent ranking of total FDI per capita since the global financial crisis shows that Sydney received the 4th highest volume globally, ahead of London and just behind Singapore, Hong Kong and Austin. This cycle of investment in Sydney puts it among the leaders of its global peer group, and more than 25% ahead of Greater Toronto and metropolitan Amsterdam, for instance.8

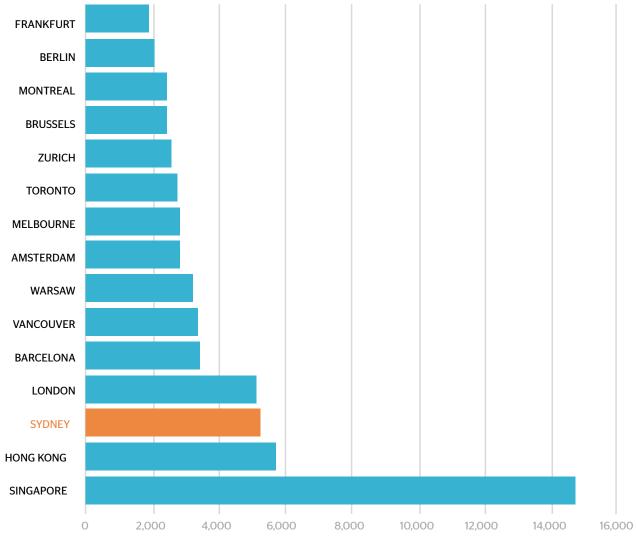


Chart 3: Sydney's FDI per capita in \$US, 2009-15, in relation to peers

Source: Brookings

Sydney's investment friendliness is re-iterated by KPMG's latest ranking on total FDI flows, where it places 7th for total FDI projects, ahead of Amsterdam, Munich and Barcelona. Meanwhile, fDi Intelligence's annual survey of most investment-friendly regions also observes improvement for Sydney, from 24th to 19th out of more than 130 cities. This study highlights the size and stability of Sydney's graduate talent pool (4th globally) as a key driver in the city's investment appeal. Within the Asia-Pacific, Sydney is noted for its strong FDI strategy (6th) and large economic potential (7th) because of promising demographic trends and solid macroeconomic fundamentals.⁹



One Farrer Place. Image credit: Dexus.

Sydney's real estate market continues to be very dynamic. JLL ranks the city 11th globally for cross-border real estate investment, 7th among its peers. JLL also rank it as 16th of over 300 cities for its short-term market health, and the long-term dynamics that will feed its growth (liveability, innovation and human capital). This puts Sydney in the same league as Beijing (15th) and Seattle (20th). Its slight decline in the rankings is not due to a deterioration in performance, but the inclusion of emerging centres in India, notably Bangalore (1st) and Hyderabad (5th).¹⁰

Sydney is also an impressive 8th of over 300 cities for its 'investment intensity' – the volume of real estate investment relative to the size of its economy. Of its peers it is only behind London, Frankfurt and Munich, although competition is rising from second tier cities such as Edinburgh, Dublin and San Jose. Sydney also stands out as the most high intensity real estate market globally for logistics, and 9th in the office market, partly as transport investment unlocks new investment corridors and opportunities. Sydney's cycle of strong performance in global real estate investment indices may reflect the growth of the last development cycle, and there are signs that the market has become more saturated and inflated. This may affect the city's rankings in the near future.¹¹

5.4 Business friendliness

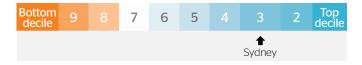


Sydney's business friendliness performance is stable but has room for improvement. On the one hand it is an attractive city in terms of business procedures – PwC ranks it 3rd globally for ease of setting up a business, while its operational risk climate was 2nd only to Hong Kong. This is also reflected the fact that Australia remains a highly business friendly nation, ranked 15th globally by the World Bank.¹²

But Sydney has clear challenges around high costs and business taxation. It ranks only 12th of 14 peers overall because of obstacles around immigration and tax efficiency. Another sub-index from PwC notes Sydney's high corporate tax rate, and affordability of rent, as key issues, ranking it 9th of 14 peers. This is also the assessment of KPMG in its ranking of tax burdens (14th of 19 peers), where Sydney is on a par with Madrid, Berlin, and Stockholm.

6. KNOWLEDGE ECONOMY

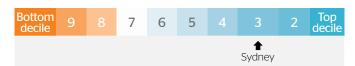
6.1 Talent and labour market



Sydney has been improving its competitive position over the last decade in terms of its talent pool, and the **attraction and retention of talent.** A major new index by Insead identifies Sydney's strong and admired university system, its buoyant jobs market, relatively strong vocational skills framework, and sustained ability to draw in talent through its quality of life. As a result, the city places 12th out of 46, only slightly behind the likes of Paris and San Francisco. Many other indices highlight the same assets as the key drivers of Sydney's human capital, along with the appeal of Sydney's increasingly entrepreneurial environment (5th of 14 peers).15 Sydney is now the 13th leading student city worldwide, and the student diversity and density of education institutions helps it rank 21st of 181 globally in IESE's talent measure. All in all, the city falls into the same league as major centres such as Hong Kong, Berlin and Toronto.16

Local schools and skills attainment is identified as a key area for improvement in global indices. Sydney's performance here is respectable but not outstanding (especially compared to Asian hubs such as Seoul, Singapore or Hong Kong), while it has a relatively low higher education attainment at the metropolitan level. Brookings ranks Sydney just 50th in this area, below Amsterdam, Barcelona and Berlin but ahead of most Canadian and German cities.

6.2 Higher education

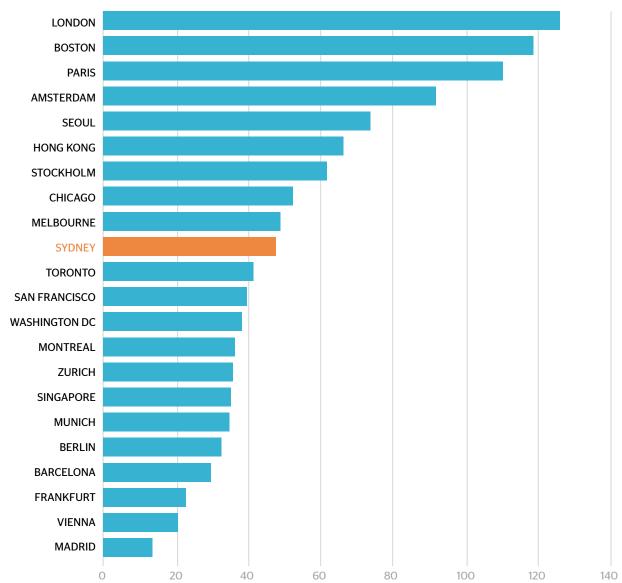


A review of Sydney universities' position in all global rankings shows that the city is among the top 15 for higher education institutions, and 3rd in the Asia Pacific. Although the city has fewer institutions than some peers, they are highly ranked for their research output and impact across all rankings, regardless of methodology. Ranked 13th globally, Sydney is only just behind Paris and Seoul, and ahead of Toronto, San Francisco, Singapore and Munich.



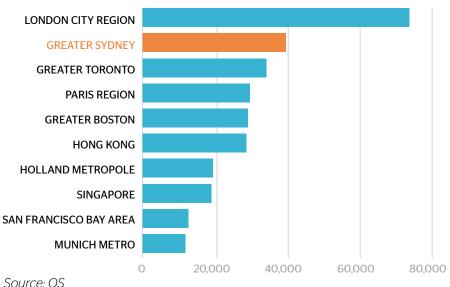
Western Sydney University Parramatta City Campus. Image credit: Western Sydney University.

Chart 4: Sydney and peers' aggregate score across major university rankings, 2016



Source: Each city is assigned a score based on their rank in each university ranking (where 5 = top 50, 4 = top 150, 3 = top 200, 2=top 300, 1=top 400, 0.5=top 500). Data obtained through QS World University Rankings, Financial Times, Times Higher Education World University, Shanghai ARWU and CRWU data.

Chart 5: Number of international students studying at a top 500-ranked institution, 2016

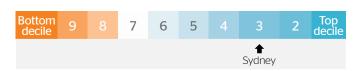


Source: QS



Dr Chau Chak Wing Building, UTS. Image credit: Hpeterswald, Creative Commons Licence 4.0.

6.3 R&D and Innovation



Sydney is gradually improving its innovation ecosystem, although indices show it still does not possess the scale of its peers. A number of new indices highlight limitations in Sydney's innovation model and an imperative to improve.

The major study by 2thinknow, which focuses on the research and cultural infrastructure necessary to foster innovation, evaluates Sydney as having improved from 20th to 14th globally (out of 500 cities) in recent years, despite progress by competitors. Similarly, in the *Global Power City Index* R&D dimension, Sydney is now placed 14th of 40 cities, a big improvement on its rank of 20th in 2012. The city has made clear advances in terms of openness to foreign researchers, and the quality of university research, but has relatively low scores for research interaction and spillovers.¹⁷

In three new studies on tech and innovation ecosystems, Sydney ranks between 14th and 18th globally. This is a promising but not outstanding performance considering the global competition, and in many cases puts Sydney considerably behind its peers.

Sydney's assets are typically highlighted to be talent, an active funding/VC environment, and strong ties to other start-up ecosystems around the world. But in terms of sheer numbers of start-up exits and valuations, Sydney is still well behind most of its peers, as is its mentoring environment, despite the catalytic efforts of the non-profit support group, TechSydney:¹⁸ The depth of Sydney's innovation ecosystem is illustrated by firm data. As of Spring 2017, Sydney was home to 27 of the global top 10,000 rated tech firms, comparable to Barcelona and Stockholm and ahead of Melbourne and Singapore (see Chart 6).19 Index data on VC funding per capita also shows that Sydney ranks just 54th globally, well behind many North American and even Chinese cities.²⁰ Overall Sydney's performance is on a par with other cities seeking to accelerate innovation, including Paris, Toronto and Madrid.²¹

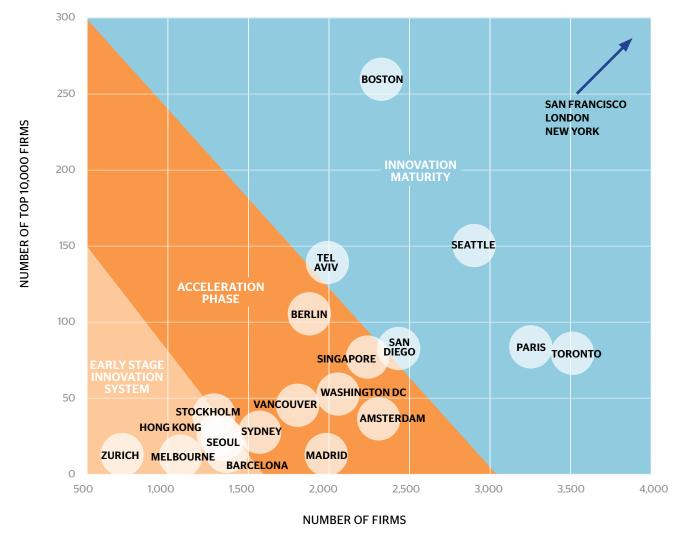


Chart 6: Total number, and number of top 10,000 innovation firms per city, 2017

Source: Crunchbase (Note: San Francisco, London and New York are not featured in this chart as their firm numbers are significantly larger than most other cities.)

These results are reflected in CITIE's major study of innovation and entrepreneurship, which found that Sydney was about halfway to developing a mature innovation ecosystem. Sydney was placed in the same league as Brussels, Vienna and Toronto, but behind Amsterdam, Tel Aviv and Berlin.²² On the one hand Sydney receives strong public and private support, and has the real estate product that is well adapted to the needs of the innovation economy. It also is rated to have a strong e-governance and digital infrastructure. However, regulations and procurement rules are not yet fully adapted to enable disruption and SME growth, while a lack of vision and strategy around innovation was noted.

7. LIFESTYLE AND ENVIRONMENT

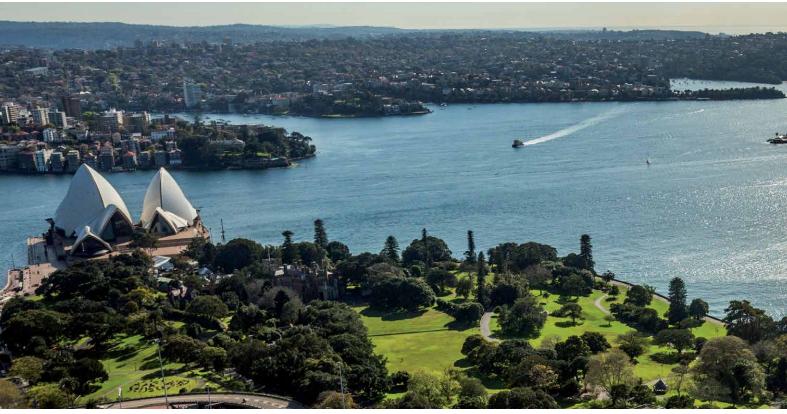
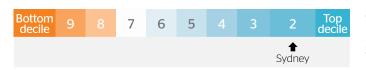


Image credit: Peter Greig.

7.1 Liveability



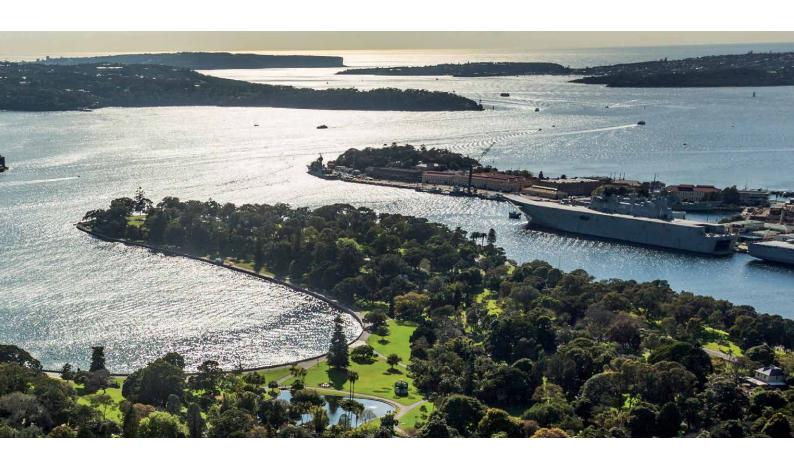
Quality of life has long been Sydney's critical advantage. However indices increasingly indicate that Sydney's leadership is at risk as the externalities of the city's success become more serious and more visible.

On the one hand, Sydney's performance in the most established indices is stable as their criteria for success are fairly fixed. Mercer's Quality of Living survey ranks the city 11th in 2017, a drop of one place from its long-term average of 10th. It is also just outside the global top 10 in EIU's liveability index (albeit having been 7th in 2015).²³ These positive results are in line with many other assessments (e.g. PwC's *Cities of Opportunity*) where Sydney excels on measures of diversity, social stability and elderly care.

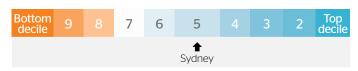
However other studies that focus on a broader mix of factors see Sydney do less well. One index by a team at the National University of Singapore places Sydney 14th of 63

cities, with lower scores around sustainability and security.²⁴ In the *Global Power City Index* Sydney ranks only 30th of 42 cities for liveability because of the surging cost of living and housing, and the metro area's relatively low urban density. Sydney has also fallen from 1st to 12th in another ranking because its entertainment offer is not rated as highly, and because of lower scores than in the past in terms of quality of life for younger people.²⁵ Some of these limitations also now show up in crowdsourced measures of quality of life – a user-generated index by Numbeo sees Sydney rank just 39th globally, behind Central European cities and North American cities, partly because of high costs, commute times and car dependency.²⁶

These indices suggest that Sydney's reputation for quality of life risks being eroded as comparative measures increasingly take on a metropolitan dimension and include the perspective of all residents as well as short-term visitors. Steady falls down the rankings reflect the fact that other cities have been pursuing a more 'managed metropolis' for some time, which has produced stronger outcomes on job access, affordability and sustainability. Relative to these peers, Greater Sydney's growth model has yet to be fully co-ordinated and optimised.²⁷



7.2 Infrastructure and Transport



Indices that assess Sydney's infrastructure platform highlight a mixed picture. The city tends to perform best in measures of housing and construction activity (10th of 30 cities), mobile and school internet coverage, and the quality of online digital services (7th globally). These scores place Sydney alongside peers such as Madrid, Toronto and Paris.

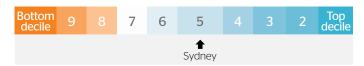
In terms of digital infrastructure, Sydney's key weakness in comparative rankings is the relatively low access to high speed fixed broadband compared to many leading cities, and limited delivery of smart infrastructure which reflects an historic lack of integrated thinking on how to leverage big data analytics and the Internet of Things.²⁸ Meanwhile, across many infrastructure measures, Sydney is penalised because it has relatively few direct international air connections (28th of 32 peers), which is typically a baseline metric of a city's global linkages.²⁹

However it is really public transport where Sydney emerges as one of the weaker cities in its peer group – both in terms of costs, usage, system coverage and punctuality. Transport is Sydney's weakest field in IESE's *Cities in Motion* index, 71st globally, well behind Melbourne. The city also ranks only 29th of 42 cities in the *Global Power City Index* for accessibility, well behind leading peers in the Asia-Pacific and on a par with cities such as Berlin and Boston, which also have recognised metropolitan infrastructure deficits.

Alongside the gaps identified in public transport provision, Sydney's congestion rankings continue to be poor. Across different rankings, Sydney places as high as 29th for congestion, not far from emerging cities including Buenos Aires and larger established cities such as London.

Sydney's ongoing deficits in transport and mobility reflects the growing distances between homes and jobs in the metro region, and provides a clear logic for the increased infrastructure investment and more integrated planning that is in train.³¹ The concept of a Greater Sydney that consists of three CBDs – the existing city centre plus Parramatta and Western Sydney – in principle has the potential to reduce the region's spatial imbalances and enhance connectivity to the level of Sydney's peers in the rest of the world.³²

7.3 Wages and costs

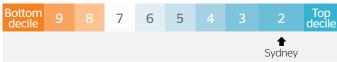


Sydney remains an expensive location by global standards, both for day-to-day life and relocation costs, even though business costs are more competitive. Studies by Mercer (42nd of 209), PwC (16th of 31), UBS (8th of 80) and KPMG (12th of 29) highlight the fact that Sydney's high cost of living is accompanied by relatively high purchasing power and moderate business occupancy costs. The city's current scores mean it is more affordable than some important peers (e.g. San Francisco, Singapore and Hong Kong), but less than Amsterdam, Melbourne and Stockholm.³³

The indices analysis suggests that the cost of housing and rent is currently the biggest outlier for Sydney, with access for residents on median incomes having deteriorated both in absolute terms and relative to other cities in recent years.³⁴ Sydney is now ranked as the 7th most expensive city for relocation costs in the first months of a move, in the same league as London, partly because of high rent costs.³⁵ When housing is factored out, Sydney's affordability improves significantly relative to other cities that are competing for talent and firms.

The indices analysis suggests that the cost of housing and rent is currently the biggest outlier for Sydney.

7.4 Sustainability and resilience



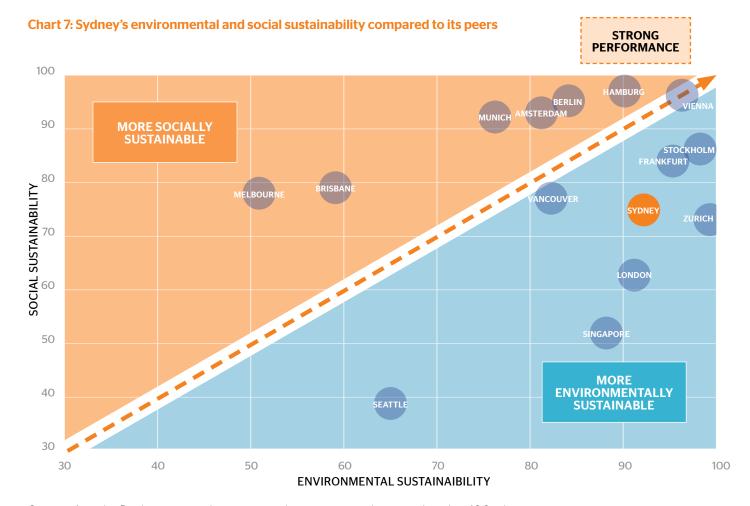
Sydney has historically performed well in indexes measuring sustainability, because the city's low-density development model is inadvertently favoured by many metrics that assess biodiversity and green space. In 2017, Sydney remains an impressive 2nd in PwC's Cities of Opportunity assessment because of low disaster risk, high green space, and a relatively good record on recycling and pollution relative to higher density cities. This is confirmed by index results from Mori, IESE and Arcadis, which also highlight Sydney's relatively strong waste and water management systems. Numbeo's Pollution index also classifies Sydney as the 10th least polluted city of 31 peers, in the same league as central European and Nordic cities. Across all areas of environmental performance Sydney is only outperformed by smaller cities (Zurich, Stockholm and Vienna).

As indexes on sustainability evolve, however, there are at least three areas where Sydney cannot be complacent:

- In measures of sustainability policies and processes, Sydney performs less well. In one new index on the sustainability readiness of Sydney's conference and destination economy, the city places 10th of 34, which highlights room for improvement in the way convention bureaux and the destination economy supply chain adopts low carbon practices.³⁶ In another, which measures adoption of the green economy, Sydney rates only 25th.
- Public perceptions of Sydney's sustainability lag its performance - whereas in most cities, it is the opposite. In one large study the city is only 25th of 50 cities in terms of how citizens perceive climate change policy, environmental standards and eco-friendly investment. This suggests that the available data on Sydney's current performance belies a lack of public confidence in longterm sustainability efforts.³⁷
- Sustainability indices increasingly incorporate social measures where Sydney performs less well. Arcadis Sustainable Cities Index penalises the city for high income inequality and a negative work-life balance (see Chart 7). Sydney therefore only rates 18th of 31 peers for social sustainability. This is verified by IESE data where Sydney is only 58th for social cohesion, because of disparities that are more typical of a large established world city than a compact medium-sized world city.³⁸



Image credit: flickr user Ryan Tracey.

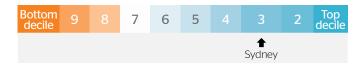


Source: Arcadis. Ranks converted into percentile positions, and reversed so that 100 = best.

These trends indicate that as sustainability indices mature further, Sydney's advantage may diminish and the unrecognised costs of past development choices will become more visible.³⁹

8. CULTURE AND DESTINATION APPEAL

8.1 Visitor and destination power

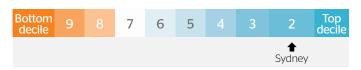


Sydney's gateway functions are improving relative to other peer cities. In terms of total exports, imports, FDI, tourism and migration, Sydney places 29th globally (15th of 30 peers), which is impressive given its location.⁴⁰

The latest SABRE estimates suggest that Sydney processes a similar number of international passengers as Toronto, Madrid and Barcelona, inside the global top 40.⁴¹ The city ranks 59th globally in Euromonitor's ranking of international arrivals, with 3.2 million, representing a steady increase from 2.8 million in 2013. However, in other studies it remains just outside the top 10 destination cities in the Asia Pacific where larger and more strategically located cities (Seoul, Osaka, Singapore and Hong Kong) witness very strong growth. Visitor spending in Sydney is now established among the global top 20 (currently 17th), spending a similar amount to tourists in San Francisco and Hong Kong (US\$6.4 bn).⁴²

Sydney's appeal as a conference and convention destination is also striking given its distance from other markets. It ranked 10^{th} in the Asia Pacific in the 2017 rankings, and continues to attract more major rotating events than many of its peers despite a very competitive environment.⁴³

8.2 Culture and diversity

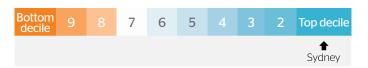


Sydney's cultural assets and vibrancy are increasingly rated higher in global assessments as data comes to favour quality and access as well as number and scale.

In the latest *Global Cities Index*, Sydney ranked 10th for cultural experience – a big leap from 30th – due to a change in methodology to reflect more qualitative measures of its museums, sporting venues, hotels and restaurants. Other indexes (Mori, Resonance) also rate Sydney in the top quartile of leading cities, not far behind London, Paris and Amsterdam, and in most cases the standout city for culture in the Asia Pacific region.

Sydney's diversifying population, its breadth of cultural activities, and an increasingly joined-up cultural policy at the state and metropolitan level, are all measured factors that support the city's strong performance in indexes that assess culture.⁴⁴

8.3 Image, brand and influence



Sydney's compelling brand identity is re-affirmed in the latest comprehensive and informal studies of city brand. The largest surveys of residents in high-income

brand. The largest surveys of residents in high-income countries highlight that Sydney remains the most highly regarded and admired city in the world, scoring highly for aesthetic appeal, quality of place, safety and lifestyle. In addition, a new major city brands study ranks Sydney 5th place globally, standing out again for its scenic quality (3rd globally), cosmopolitan diversity (11th), and online promotional efforts (11th).⁴⁵ A whole host of new indices that draw on big data emphasise that Sydney is one of the most written about and pictured on social media platforms, and right at the top of travel wish lists for all kinds of visitors.⁴⁶ Sydney's brand image translates into a positive reputation among expats as a desirable city in which to live according to a new index by InterNations, where Sydney ranks 8th of 35 cities.⁴⁷

Recent indexes do highlight that Sydney has an under-developed business brand. A study of business assets suggests Sydney does not communicate its industry strengths sufficiently, despite its core appeal to businesses because of its quality of life and business environment. In terms of business brand Sydney only ranks 29th of 67 cities, behind other cities that are also sometimes associated with lifestyle and tourism such as Tel Aviv and Miami. Otherwise, the only other area of concern highlighted by brand and experience-focused indices is around infrastructure and placemaking outside central areas, which emerges as a minor challenge in some assessments.



APPENDIX: METHODOLOGICAL NOTES

HOW IS THE SPIDERGRAM CONSTRUCTED?

Explaining the 10-point scale

In sections 5 to 8 of this paper, we detail Sydney's performance across 14 indicators, along the same 10-point scale. This scale is indicated by the horizontal colour scheme, where orange indicates weaker performance, and blue indicates stronger performance. This is explained in more detail below:

- i. For each of the 14 indicators, Sydney has been evaluated in relevant multiple comparative rankings, indexes or benchmarks. These indexes are highlighted in the explanatory text for each section along with other notable cities against which Sydney is compared.
 - In each category, Sydney's performance has been graded on a 10-point scale, based on its performance against all comparator cities from within the group of 30 selected.
- ii. Cities were eligible to be compared to Sydney if they:
 - Have a population higher than 500,000
 - Are upper income or upper middle-income cities, with a GDP per capita above \$25,000 (based on Brookings Institution Global Metro Monitor data and other sources where necessary)

This was to ensure that Sydney is compared to its peers: developed or advanced cities with a critical size that makes them international as well as national in their orientation.

To be eligible for comparison with Sydney in a given category, a city must also appear in at least three indexes, including indexes where Sydney may not have been measured or included. This ensures that Sydney is compared with other highly visible cities.

- iii. For each ranking in each category, every city was assigned a score based on its performance compared to all cities meeting the above criteria (i.e. cities >500,000 population, >\$25,000 GDP p.c.). This approach allows indices that rank a varied number of cities (some rank just 10, others up to 500) to be compared to one another.
 - e.g. 500 eligible cities are ranked in the 2thinknow Innovation Cities Index. A city ranked 1st receives a score of 1/500 = 0.002. A city ranked 60th receives a score of 60/500 = 0.12.
 - e.g. 30 cities are ranked in the Cities of Opportunity study. A city ranked 1st receives a score of 1/24 = 0.033.
 A city ranked last achieves the maximum score of 1.
- iv. An average score is then taken of all cities that are ranked in the same category of an index (e.g. 'competencies and knowledge').
 - Cities are placed in order of their average score.
 - Sydney's position in this list determines its grading in each category. If it is in the top 10% of measured cities, it is in the top decile and receives a maximum score for the spidergram. If it is in the top 10%-20% of measured cities, it is in the 2nd decile, and so on.

The city indexes used were:

- 2thinknow Consulting: Innovation Cities Index
- Arcadis: Sustainable Cities Index
- AT Kearney: Global Cities Index
- Brookings Institution: Re-defining Global Cities
- Business Insider: The Most Expensive Cities for Businesses to Operate in
- CBRE: How Global is the business of retail?
- Reputation Institute: City RepTrak Topline Report
- Compass: Global Startup Ecosystem Report
- Conde Nast: Top Coastal Cities / Best Cities / Most Beautiful Cities
- DHL: City Global Connectedness Index
- Dual Citizen: The Global Green Economy Index 2016: Cities
- EIU: Global Liveability Ranking
- EIU: Safe Cities Index
- Ericsson: Networked Society Index
- Euromonitor: Top 100 City Destinations Ranking
- fDi Intelligence: Global Cities of the Future/Asia Pacific Cities of the Future
- FOCUS: World's Best Tech Hubs to Live and Work
- GDS: Global Destination Sustainability Index
- Giap and Thye: Global Liveable Cities Index
- Hashtag the World: Top 30 Hashtagged Cities on Instagram
- ICCA: Country and City Rankings
- IESE: Cities in Motion Index
- INSEAD: Global City Talent Competitiveness Index
- InterNations: Expat Destinations
- JLL: City Momentum Index

- JLL: Investment Intensity Index
- JLL: Global 300
- KPMG: Global Investment Monitor
- KPMG: Competitive Alternatives and Competitive Alternatives Focus on Tax
- Loughborough University: Globalization and World Cities The World According to GaWC
- MasterCard: Global Destination Cities Index
- Mercer: Quality of Living Survey
- Mercer: Cost of Living Survey
- Monocle: Quality of Life survey
- Mori Memorial Foundation: Global Power City Index
- Movinga: 2017 Relocation Price Index
- Nesta: CITIE
- Numbeo: Cost of Living Index
- Numbeo: Pollution Index
- Numbeo: Quality of Life Index
- QS / Times Higher Education / Shanghai Academic University Rankings / CWRU / Financial Times Business Schools ranking
- QS: Best Student Cities Index
- PwC: Cities of Opportunity
- Resonance: World's Best City Brands
- Rome2Rio: Global Connectivity Ranking
- Saffron: The World City Business Brand Barometer
- The Telegraph: The World's 50 Greatest Cities
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- UBS: Prices and Earnings
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