

Transit Fare Benchmarking | 2019

About NineSquared

NineSquared is a specialist economic consulting and commercial advisory firm focused on helping governments and companies make great decisions and achieve their goals.

Our principals and staff are experienced, senior-level practitioners who have worked in and advised government and private sector clients about a range of commercial and economic issues, primarily relating to transportation. Broadly, our expertise lies in the fields of transport and regulatory economics; policy development and analysis; advising on commercial arrangements between government and the private sector; as well as arrangements between companies operating within regulated environments.

Our combined public and private sector experience means that we are well placed to provide our clients with a deep understanding of both the public and private sectors and the interface between them.

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Introduction

This is the fifth annual NineSquared fare benchmarking report. It analyses the fares of select international public transit systems and seeks to initiate public discussion regarding the costs of public transport by informing readers of comparative travel costs in different countries.



Our approach

2019's fares benchmarking report is largely consistent with previous reports, such that it includes international fare facts, rankings of the most expensive cities to travel in and an examination of any changes over the last year. This allows for a direct comparison of this report to previous years'. Last year we reviewed fares in 36 cities across the world. This year, we have added seven new cities for analysis – Bogota, Cairo, Miami, Montreal, Osaka, Ottawa and Quebec City. It should be noted that Addis Ababa was removed this year due to a lack of reliable information being available, bringing the total number of cities in this report to 42. Between these 42 cities, there are 49 different fare structures, tickets or prices. This is because there are bus and rail transit systems for 7 cities that have pricing systems which are distinct enough to warrant separate analysis. These cities are Beijing, Chicago, London, Paris, Santiago, Sydney and Wellington.

For ease of comparison, fare prices have been normalised using the published minimum wage rates for each city. This information has been used to estimate the number of minutes that a person earning a minimum wage would have to work to pay for a specific public transport journey. For cities without official minimum wages (e.g. Oslo in Norway), NineSquared used the minimum collectively agreed on salary as a proxy.

For countries that only offer monthly minimum wage, hourly minimum wage has been extrapolated based on a specific number of working hours per week. Calculations for minimum wages in the cities with monthly minimum wages, such as Beijing and Santiago, may have changed since 2018. The number of working hours in a month (which has been generalised to 4 weeks for this report) varies between countries and has been accounted for. This alteration has caused some movements in the data and rankings for those cities this year.

Using minimum wage to normalize fare prices has its drawbacks. One limitation is that the minimum wage does not represent public transport users across all income brackets, and ages. Nevertheless, using the minimum wage allows for the consistent comparison between different fares for public transport services, which are not traded internationally and are not directly comparable across cities or countries. Furthermore, like fare prices, minimum wages are administratively or politically set figures, which allows for further consistency.

We compare the 49 selected systems in a number of scenarios. These are, the number of minutes work required to pay for:

- A single, adult, peak-time one-way fare
- The cheapest return journey in each of the benchmarked cities
- Multiple trips (specifically for 10 trips, a weekly pass, and a monthly pass)

- A return journey, 15 kilometres from the central business district (CBD) in each of the benchmarked cities and regions

While the cities in the study are quite diverse in demographics, economy, and government structure, the impact that this diversity has on fares appears to be limited. For example, there is a relatively low correlation between population density and affordability of a fare. There is a much stronger correlation between the fare structure and the distance that the transit system covers. This correlation manifests itself in the provision of flat fares compared to distance-based fares. If a transit system covers a larger area, it tends to use a distance-based fare over a flat fare.

Benchmarked cities ranked by population - key demographic statistics

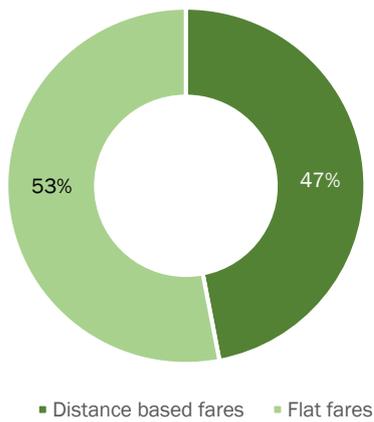
Rank	City/Region	Population	Land area (km ²)	Density (persons per km ²)
1	Tokyo	38,505,000	8,223	4,700
2	Jakarta	34,365,000	3,367	10,200
3	Seoul	24,315,000	2,745	8,900
4	New York	21,045,000	11,875	1,700
5	Sao Paulo	20,935,000	3,043	6,900
6	Mexico City	20,395,000	2,370	8,600
7	Beijing	19,430,000	4,144	4,700
8	Osaka	17,150,000	3,004	5,700
9	Cairo	16,925,000	1,917	8,800
10	Moscow	16,555,000	5,698	2,900
11	LA	15,440,000	6,299	2,300
12	Istanbul	13,860,000	1,360	10,200
13	Bangalore	11,250,000	1,166	9,700
14	Paris	10,960,000	2,845	3,700
15	London	10,840,000	1,738	5,600
16	Bogota	10,705,000	585	18,300
17	Chicago	9,275,000	6,856	1,300
18	Taipei	8,535,000	1,140	7,500
19	Toronto	6,630,000	2,300	2,800
20	Santiago	6,410,000	1,140	5,600
21	Houston	6,315,000	4,841	1,100
22	Miami	5,955,000	3,209	1,700
23	Sydney	4,515,000	2,179	2,000
24	Melbourne	4,450,000	2,705	1,600
25	Berlin	4,060,000	1,347	3,000
26	Montreal	3,600,000	1,294	2,700
27	Durban	3,505,000	1,062	3,300
28	South East Queensland	3,470,974	14,678	236
29	Vancouver	2,340,000	876	2,600
30	Portland	2,060,000	1,357	1,400
31	Munich	2,060,000	466	4,400
32	Perth	1,950,000	1,722	1,100
33	Auckland	1,525,000	544	2,800
34	Glasgow	1,255,000	368	3,300
35	Adelaide	1,195,000	837	1,400
36	Ottawa	1,025,000	521	1,900
37	Oslo	1,020,000	290	3,200
38	Quebec City	720,000	428	1,600
39	Canberra	450,000	402	1,100
40	Wellington	450,000	194	2,300
41	Hobart	180,000	248	700
42	Darwin	120,000	237	500

Fare facts

Flat fares and distance-based fares

The number of systems offering distanced based fares have increased from 22 to 23 (47% of the systems), while systems offering flat fares have increased from 21 to 26 (53% of the systems) in 2019. While two of the new cities, Cairo and Osaka, offer distance-based fares to commuters, the rest use flat fares. Distance-based tickets determine how much commuters pay by their kilometres, stations or zones travelled. The number of zones in cities ranges from 2 in Melbourne to 15 in Seoul. 4 cities (Auckland, Berlin, Munich, Perth) also offer their commuters distinct 'short trip' tickets between 2 sections on their public transit network. Adelaide once offered such a product, but it has been discontinued in 2019.

47% of fares are distance-based with the remainder 53% of transit systems providing flat fares to customers

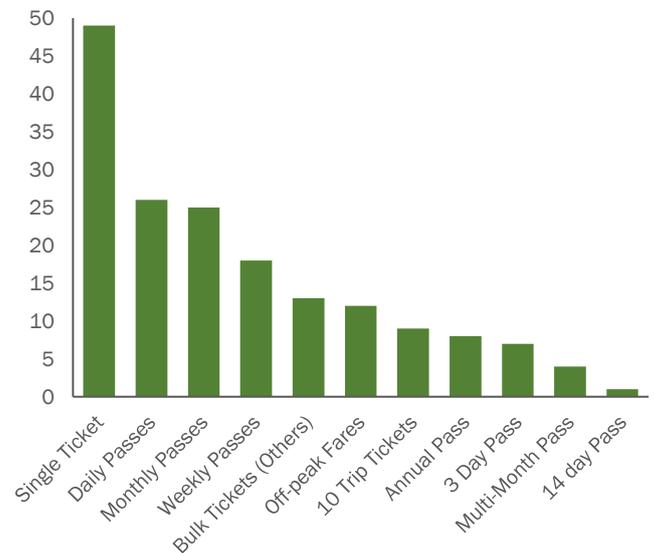


Ticket products

As was the case in previous years, every city in the fare benchmarking sample offers a single fare product, either paid for through smartcards, such as the Oyster card in London, or with the purchase of paper tickets. As in 2018, 30 of the 43 evaluated transit systems offer some form of periodic fare (that is, a ticket allowing unlimited travel in a set amount of time). The most frequently offered periodic fare from the study this year is a daily pass, offered by 26 systems. The most expensive daily pass is from Moscow, requiring 195.7 minutes of work at minimum wage to purchase. This stands in stark contrast to the cheapest monthly pass offered by the Darwin Bus system, requiring only 21.5 minutes of work.

Additionally, 25 systems offer daily passes, 18 systems offer weekly passes and 13 systems offer some other variety of bulk ticket. This can include return tickets, family passes, 5-day passes etc. Overall, the types of ticket products offered to commuters in different cities can vary greatly, from only 2 types in Bogota to over 50 in the London Bus and Rail systems.

Product offering by number of systems

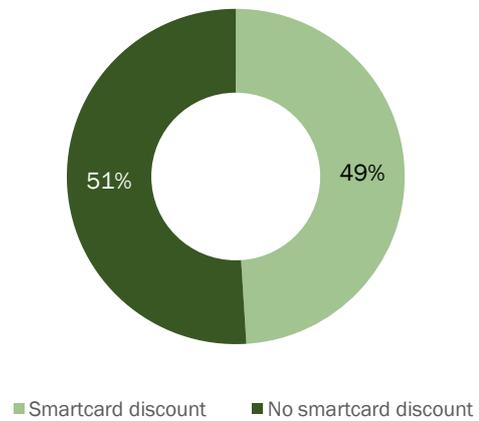


Discounts for non-cash ticketing options

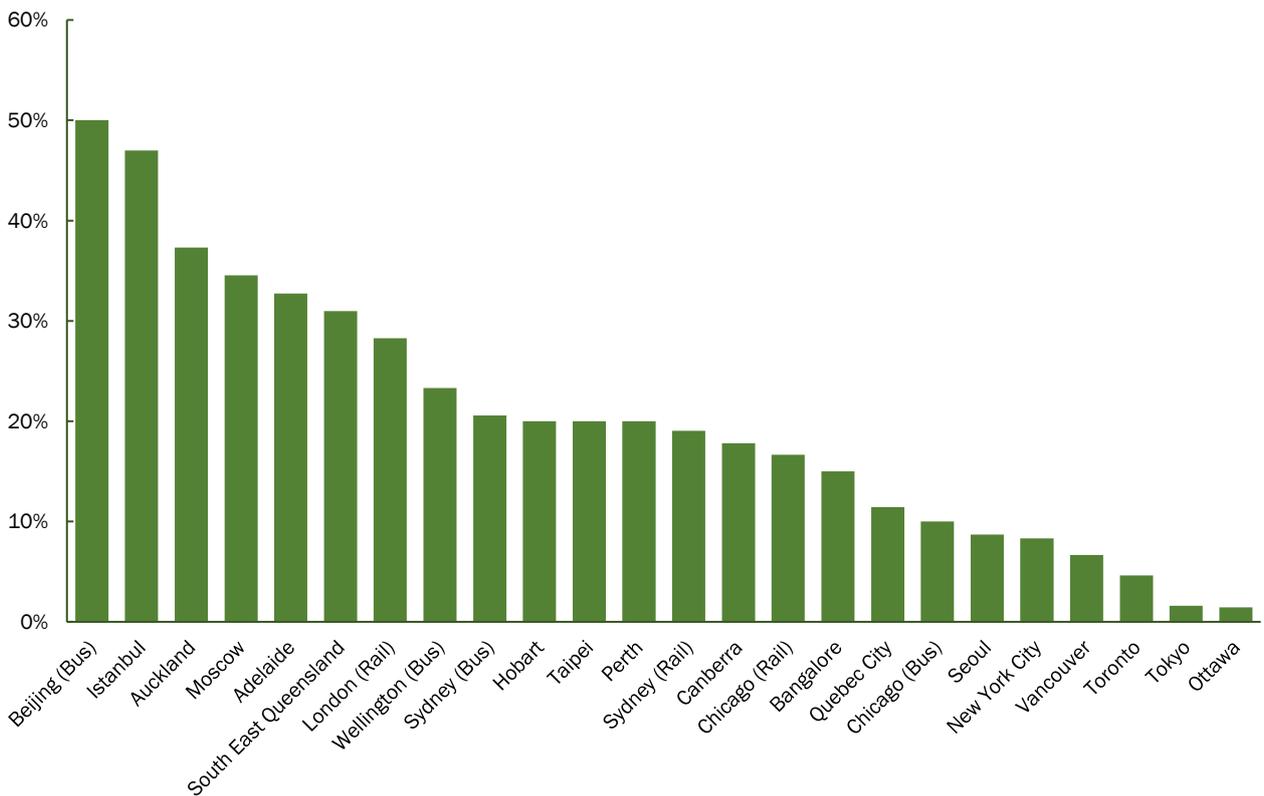
This year, 24 of the 49 transit systems analysed (49%) offer discounts for customers who choose cashless method of payment. Cashless payment usually requires a smartcard ticketing product, such as the go card in Brisbane. However, some transit systems, such as Sydney's, also accept contactless card payments (that is credit and/or debit cards). Non-cash discounts range from 1.4% in Ottawa to 50.0% on the Beijing bus system. The average discount for using a non-cash payment decreased from 23.3% in 2018 to 20.3% in 2019. This reduction was likely caused by the addition of Ottawa to this report, which has displaced Tokyo from 2018 in offering the lowest non-cash discount of all the included cities. Multiple cities, including Mexico City and Melbourne, have discontinued on-board cash paper ticket sales altogether.

The discounts were calculated by comparing the cashless fares for adult tickets at peak times with the cash fares of the same type for all transit systems.

49% of transit systems offer discounts for payments made by smartcard or contactless payment devices



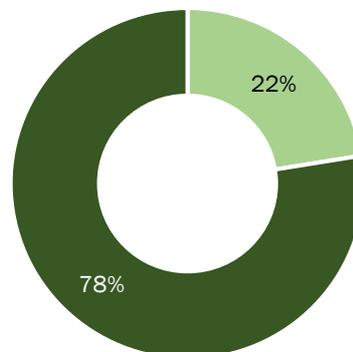
Discounts offered for non-cash tickets vary from 1.4% in Ottawa of the paper ticket fare to a high of 50% in Beijing



Off-peak discounts

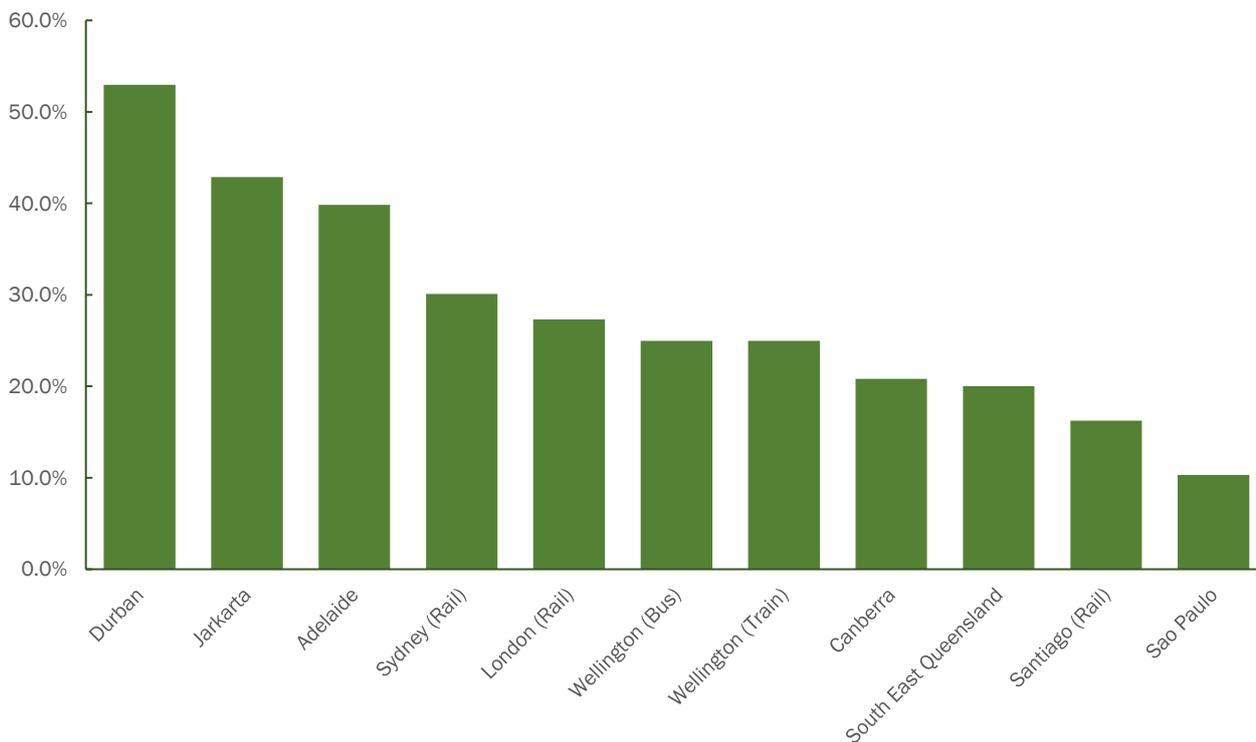
11 transit systems (22%) offer a discount for travelling outside of peak transit times in 2019. Two of these systems (Jakarta and Sao Paulo) offer discounts specifically to early risers who commence their journey before the morning peak traffic. The largest average discount given for travelling during off-peak hours is 52.9% for Durban commuters, while the lowest is 10.3% for Sao Paulo commuters. This is unchanged from 2018. The discounts were calculated by comparing the regular and peak and off-peak fares offered across single and bulk adult ticket types for all transit systems.

22% of transit systems offer discounts for off-peak travel



■ Off-peak discounts ■ No off-peak discounts

Discounts offered for off-peak travel fares range from 10.3% in Sao Paulo to 52.9% in Durban



Passenger based concessions

Passenger based concessions are discounts that are provided to customers based on their personal status. This can include providing discounted fares to children, students, pensioners and seniors. Several transit systems also provide discounted and free travel to customers who are disabled, veterans and others who may be classified as honoured citizens.

Child and school students

In 36 of the transit systems, very young children and infants (generally 5 and under) can access public transport for free. However, once children start school, most systems charge a discounted fare which may differ between primary and high school students. Some systems require school students to be in uniform or present student identification to obtain the discounted fare. Others only offer discounted fares during school terms. Of the 49 systems in this benchmark study, 36 systems provide some level of a fare discount to primary and/or high school students. 2 systems provide free travel to most children (London Bus and Toronto). The average discount provided by those systems that offer a discounted fare to children and students is 53.4% off the full adult fare.

Tertiary students

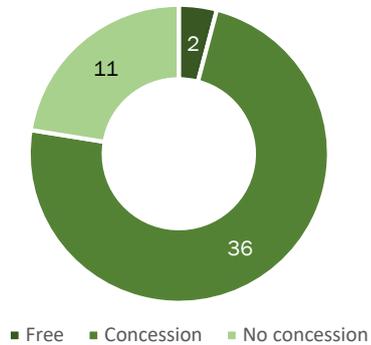
Tertiary students have less access than primary and high school students to discounted travel around the world with 19 systems of the 49 (38.8%) not offering any discount for tertiary students on any product. There are also no systems that provide free travel to tertiary students. The average discount offered by systems with a tertiary student discount on at least one ticket/pass product is 46.7% off the full adult fare.

Seniors and pensioners

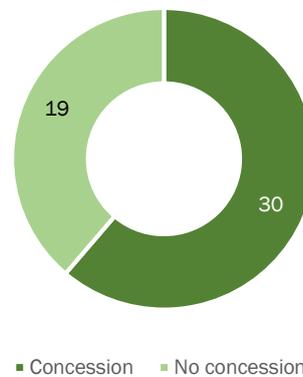
16 (28%) of the systems in this benchmark study offer free travel to pensioners and/or seniors to some extent – usually at off-peak travel times. A further 17 offer discounted travel for at least some pensioners and/or seniors. 16 of the systems in the study do not offer any discounts for this group. The average discount offered to seniors and pensioners amongst transit systems that provide a discount for at least one product is 65.0% (inclusive of free travel).

Number of systems providing passenger-based concessions by passenger type

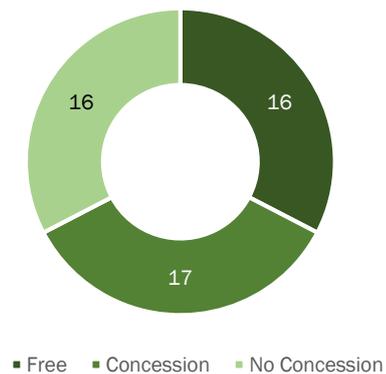
Child and school students



Tertiary students



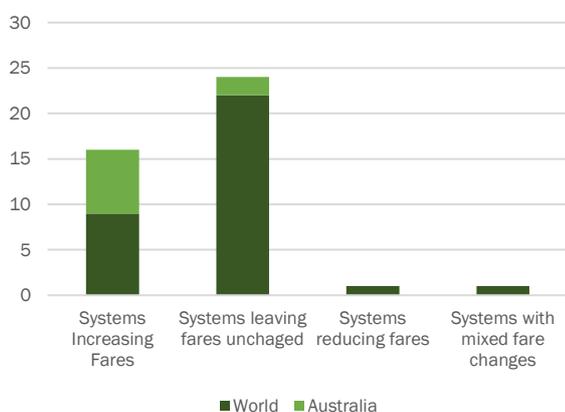
Seniors and pensioners



Changes between 2018 and 2019

Fares

Of the 42 systems cities included in last year's and this year's benchmarking study, 16 increased fares, 1 decreased fares, and 24 kept fares constant from 2018. Of the 16 systems which increased fares, 7 are from Australia (Canberra, Hobart, Melbourne, Perth, South East Queensland, Sydney Bus and Sydney Rail). The other 9 systems were Glasgow, Tokyo, Toronto, Santiago (bus), Sao Paulo, Durban, Oslo, Auckland and Vancouver. One systems in 2019 had mixed fare changes - increasing some fares while reducing others. This was London Rail, which increased its travelcard prices but reduced some student fares. It must be noted that Santiago increased rail fares during the year, however this has since been rolled back, in sensational circumstances.



The average fare increase of a single one-zone fare for the Australian systems was 1.85% compared to 0.95% for the rest of the world. Compared to all the previous years of benchmarking reports, the growth in fares this year is the slowest. The average increase in Australian fares this year was lower than the 3.73% experienced in 2018, 4.09% in 2017 and 3% in 2016. The other cities saw average growth of 6.83% in 2018, 5.86% in 2017 and 3.96% in 2016.

Minimum wage rates

In 2019, all cities in the study increased their minimum wages except for Tokyo, Chicago, Houston, Portland and Toronto. These increases ranged from 26.0% in Istanbul to 0.5% in Jakarta.

When it comes to comparing different regions, the average increase for cities in the Asia-Pacific region was 9.5%, an increase from 5% last year. For the 12 cities in the North American region, the average rise experienced was 6.3%; a significant drop from 10.3% in 2018. In Europe, the minimum wage in its 8 cities increased, on average, by 3.9%. While for the 3 cities from South America and 2 cities from Africa, wages increased on average by 8.4% and 6.2% respectively.

In Australia, the minimum wage is normalised across all states by Fair Work Australia. The minimum wage increased by 3.0% from \$18.93 to \$19.45 in 2019, which is less than the 3.5% rise observed in 2018. This is the lowest wage increase since 2016 (2.4%).

2019's biggest movers

In accordance with previous years' fare normalising methods, this year we have used the number of minutes required to work at minimum wage to afford a specific fare. The largest reduction in time required to work to purchase a single, adult, peak-time, one-way fare, was experienced by commuters in Istanbul (-20.7%), Bangalore (20.0%) and Santiago (Rail) (19.3%).

A further 32 systems experienced a reduction in the number of minutes of work required to make a return journey. This is because minimum wages increased in most cities. In 21 of these cities, commuters benefitted from increases in the minimum wage and unchanged fares from 2018. Public transport users in the remaining 10 systems (Auckland, Canberra, Glasgow, Melbourne, Oslo, South East Queensland, Sao Paulo, Sydney Bus, Sydney Rail and Vancouver) saw fares go up but at a rate that was outweighed by increases in the minimum wage. Santiago (Rail) is a special case where wage increases were accompanied by single fare price decreases, which led to a compounded effect of a more affordable ticket.

As per the benchmarking report from last year, this seems to indicate a trend among cities of lowering fare prices for public transport. Public transport users for the Chicago Bus, Chicago Rail, Hobart, Houston and Portland transit systems experienced no change in minutes of work required to travel. For most of these cities, both wages and fares remained unchanged. However, In Hobart both wages and fares increased by approximately 3.0%, leading to no changes in amount of time required to afford the fare.

Increases in the cost of travel

The remaining 5 transport systems that were included in 2018's report (Durban, Perth, Sao Paulo, Santiago Bus, Tokyo and Toronto) experienced increases in their minutes of work required to travel. In most cases, this was because fare increases outweighed minimum wage increases. Toronto is the exception, having increased its fares but not its minimum wage.

Australian Cities

The 8 Australian cities in this report have 9 transit systems due to Sydney commuters having separate fares for their rail and bus systems. Adelaide and Darwin were the only cities that did not increase public transport fares this year. Out of the 9 systems, 7 of them have become more affordable. Commuters in Perth have experienced a 0.3% increase in minutes required, while those in Hobart experienced no changes in the minutes of work required to afford a single fare.

Change in minutes of work required to purchase a single, adult, peak-time one-way fare

Cities	2018 minutes	2019 Minutes	% Change in minutes required	
Adelaide	11.7	11.4	-2.9%	▼
Auckland	6.9	6.6	-4.3%	▼
Bangalore	10.8	8.6	-20.0%	▼
Beijing (Bus)	2.7	2.5	-7.4%	▼
Beijing (Rail)	8.1	7.5	-7.4%	▼
Berlin	19.0	18.3	-3.8%	▼
Bogota	NEW	32.9	-	
Cairo	NEW	17.3	-	
Canberra	10.0	9.9	-0.4%	▼
Chicago (Bus)	16.4	16.4	0.0%	—
Chicago (Rail)	18.2	18.2	0.0%	—
Darwin	9.5	9.2	-2.9%	▼
Durban	30.2	31.4	4.1%	▲
Glasgow	12.6	12.4	-1.7%	▼
Hobart	8.6	8.6	0.0%	—
Houston	10.3	10.3	0.0%	—
Istanbul	15.3	12.1	-20.7%	▼
Jakarta	9.2	9.2	-0.5%	▼
London (Bus)	11.5	11.0	-4.6%	▼
London (Rail)	18.4	17.5	-4.6%	▼
Los Angeles	9.5	8.8	-8.3%	▼
Melbourne	13.6	13.5	-0.6%	▼
Mexico City	3.4	2.9	-13.9%	▼
Miami	NEW	16.0	-	
Montreal	NEW	16.8	-	
Moscow	31.0	30.6	-1.0%	▼
Munich	19.7	18.9	-3.8%	▼
New York City	13.8	12.0	-13.3%	▼
Osaka	NEW	11.5	-	
Oslo	13.4	12.9	-3.7%	▼
Ottawa	NEW	15.2	-	
Paris (Bus)	12.1	12.0	-1.5%	▼
Paris (Rail)	11.5	11.4	-1.5%	▼
Perth	7.9	7.9	0.3%	▲
Portland	14.0	14.0	0.0%	—
Quebec City	NEW	14.9	-	
Santiago (Bus)	27.8	28.2	1.6%	▲
Santiago (Rail)	32.0	25.8	-19.3%	▼
Sao Paulo	44.3	45.5	2.8%	▲
Seoul	8.4	7.5	-9.8%	▼
South East Queensland	10.3	10.2	-1.1%	▼
Sydney (Bus)	7.0	6.9	-1.1%	▼
Sydney (Rail)	11.2	11.1	-1.0%	▼
Taipei	7.2	6.4	-11.3%	▼
Tokyo	10.3	10.5	1.8%	▲
Toronto	12.9	13.9	8.3%	▲
Vancouver	10.9	10.4	-4.7%	▼
Wellington (Bus)	6.2	5.8	-6.8%	▼
Wellington (Rail)	9.1	8.5	-6.8%	▼



Detailed results

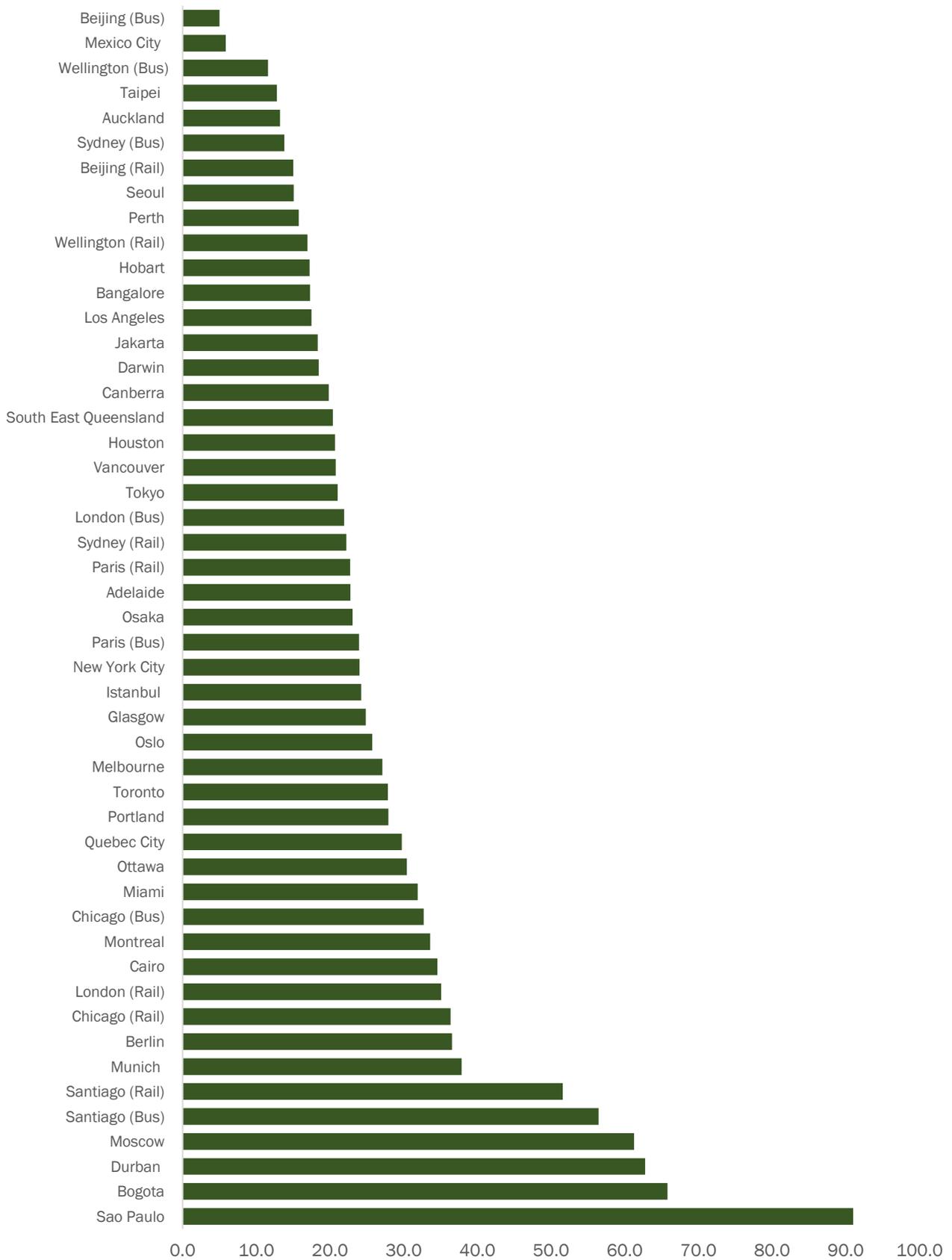
The following pages list the cities by the number of minutes a person would have to work at minimum wage to afford a return journey on public transport. The data is based on the least expensive ticket product, excluding “short trip” tickets which are offered by only some transport agencies. If travel was cheaper using a smartcard or mobile device, then the cheaper option was used.

The three most expensive cities in 2019 are Sao Paulo, Bogota and Durban. Sao Paulo stands out as significantly more expensive than all other cities in the benchmarking report, requiring approximately 91 minutes of work at minimum wage to afford a return journey on their metro and bus system. Bogota and Durban follow, requiring 65.8 and 62.8 minutes of minimum wage work respectively. Four public transit systems require at least an hour’s worth of work to travel return, including Moscow, and the top three already mentioned.

New inclusions

The seven new cities in the 2019 benchmarking report (Bogota, Cairo, Miami, Montreal, Osaka, Ottawa and Quebec City) remain roughly mid-range among the other cities in terms of the affordability of a return journey on public transport. Bogota is the notable exception by being in the top 5 most expensive cities. Furthermore, Sao Paulo has become the most expensive city due to the exclusion of Addis Ababa from this year’s report sample.

Minutes of work required at the minimum wage to afford the cheapest return fare



City ranking - most expensive to least expensive (lowest cost ticket product) for a return fare

2019 Rank	2019 Minutes	2018 Minutes	Change between 2018 and 2019		Location	Mode	Lowest Single Fare		Minimum Wage	
1	91.0	88.6	2.4	▲	Sao Paulo	All	R\$	4.30	R\$	5.67
2	65.8	NEW	-		Bogota	Gondola	COP	2,200.00	COP	4,012.19
3	62.8	60.3	2.5	▲	Durban	Bus	R	10.50	R	20.07
4	61.3	61.9	-0.6	▼	Moscow	All		36.00 ₺		70.50 ₺
5	56.4	55.5	0.9	▲	Santiago (Bus)	Bus	\$	700.00	\$	1,488.37
6	51.6	63.9	-12.3	▼	Santiago (Rail)	Rail	\$	640.00	\$	1,488.37
7	37.9	39.4	-1.5	▼	Munich	All	€	2.90	€	9.19
8	36.6	38.0	-1.4	▼	Berlin	All	€	2.80	€	9.19
9	36.4	36.4	0.0	—	Chicago (Rail)	Rail	\$	2.50	\$	8.25
10	35.1	36.8	-1.7	▼	London (Rail)	Rail	£	2.40	£	8.21
11	34.6	NEW	-		Cairo	Rail	\$	3.00	\$	10.42
12	33.6	NEW	-		Montreal	All	\$	3.50	\$	12.50
13	32.7	32.7	0.0	—	Chicago (Bus)	Bus	\$	2.25	\$	8.25
14	31.9	NEW	-		Miami	All	\$	2.25	\$	8.46
15	30.4	NEW	-		Ottawa	All	\$	3.55	\$	14.00
16	29.8	NEW	-		Quebec City	Bus	\$	3.10	\$	12.50
17	27.9	27.9	0.0	—	Portland	All	\$	2.50	\$	10.75
18	27.9	25.7	2.1	▲	Toronto	All	\$	3.25	\$	14.00
19	27.1	27.3	-0.2	▼	Melbourne	All	\$	4.40	\$	19.49
20	25.7	26.7	-1.0	▼	Oslo	All	NOK	36.00	NOK	167.90
21	24.8	25.3	-0.4	▼	Glasgow	All	£	1.70	£	8.21
22	24.2	30.5	-6.3	▼	Istanbul	All	₺	2.65	₺	13.12
23	24.0	27.7	-3.7	▼	New York City	All	\$	3.00	\$	15.00
24	23.9	24.3	-0.4	▼	Paris (Bus)	Bus	€	2.00	€	10.03
25	23.1	NEW	-		Osaka	All	¥	180.00	¥	936.00
26	22.8	23.5	-0.7	▼	Adelaide	All	\$	3.70	\$	19.49
27	22.7	23.1	-0.3	▼	Paris (Rail)	Rail	€	1.90	€	10.03
28	22.2	22.4	-0.2	▼	Sydney (Rail)	Rail	\$	3.61	\$	19.49
29	21.9	23.0	-1.1	▼	London (Bus)	Bus	£	1.50	£	8.21
30	21.0	20.7	0.4	▲	Tokyo	Rail	¥	168.00	¥	958.00
31	20.8	21.8	-1.0	▼	Vancouver	All	\$	2.40	\$	13.85
32	20.7	20.7	0.0	—	Houston	All	\$	1.25	\$	7.25
33	20.4	20.6	-0.2	▼	South East Queensland	All	\$	3.31	\$	19.49
34	19.8	19.9	-0.1	▼	Canberra	Bus	\$	3.22	\$	19.49
35	18.5	19.0	-0.5	▼	Darwin	Bus	\$	3.00	\$	19.49
36	18.3	18.4	-0.1	▼	Jakarta	BRT	Rp	3,500.00	Rp	22,912.63
37	17.5	19.1	-1.6	▼	Los Angeles	All	£	1.75	£	12.00
38	17.3	21.6	-4.3	▼	Bangalore	Rail	₹	8.50	₹	58.99
39	17.2	17.2	0.0	—	Hobart	Bus	\$	2.80	\$	19.49
40	16.9	18.2	-1.2	▼	Wellington (Rail)	Rail	\$	2.50	\$	17.70
41	15.8	15.7	0.1	▲	Perth	All	\$	2.56	\$	19.49
42	15.1	16.7	-1.6	▼	Seoul	Subway Rail	₩	1,050.00	₩	8,350.00
43	15.0	16.2	-1.2	▼	Beijing (Rail)	Rail	¥	3.00	¥	24.00
44	13.8	13.9	-0.2	▼	Sydney (Bus)	Bus	\$	2.24	\$	19.49
45	13.2	13.8	-0.6	▼	Auckland	Bus & Rail	\$	1.95	\$	17.70
46	12.8	14.4	-1.6	▼	Taipei	All	NT\$	16.00	NT\$	150.00
47	11.6	12.4	-0.8	▼	Wellington (Bus)	Bus	\$	1.71	\$	17.70
48	5.8	6.8	-0.9	▼	Mexico City	Metro	\$	5.00	\$	102.68
49	5.0	5.4	-0.4	▼	Beijing (Bus)	Bus	¥	1.00	¥	24.00

Benchmarking multi-trip tickets

Most public transit systems offer their commuters discounted tickets when they purchase multi-trip or periodic fares.

The most commonly offered multi-trip tickets are daily passes which are offered by 26 systems, monthly passes (25 systems) and weekly passes (18 systems). 9 of the public transit systems also offer 10-trip tickets, which are the same price (e.g. Darwin) or more expensive (e.g. Montreal) than the weekly passes. This is because it is expected that commuters would take 10 trips during the working week (5 return journeys) with a weekly pass.

All the new cities in the 2019 report aside from Bogota offer multi-trip tickets. Miami, Montreal and Ottawa each offer monthly, weekly and daily passes. Quebec City offers monthly and daily passes, while Osaka only offers monthly passes.



Single Trip Rank	Transit system	Mode	10 Trips (minutes of work)	10 Trip rank	Weekly Passes (minutes of work)	Weekly rank	Montly Passes (minutes of work)	Monthly rank
1	Sao Paulo	All	455.0	1				
2	Bogota	All	358.9	2				
3	Durban	Bus	303.4	4				
4	Moscow	All	306.4	3			1846.8	1
5	Santiago (Bus)	Bus	258.0	6				
6	Santiago (Rail)	Rail	282.2	5				
7	Munich	All	182.8	8	100.5	17	360.4	22
8	Berlin	All	182.8	7	195.9	7		
9	Chicago (Rail)	Rail	181.8	9	240.0	3	763.6	5
10	London (Rail)	Rail	175.4	10	249.2	2	985.1	3
11	Cairo	Rail	172.8	11				
12	Montreal	All	139.2	17	128.4	13	415.2	20
13	Chicago (Bus)	Bus	163.6	12	240.0	4	763.6	6
14	Miami	All	159.6	13	207.4	6	797.9	4
15	Ottawa	All	152.1	14	215.4	5	512.1	11
16	Quebec City	Bus	148.8	15			429.6	18
17	Portland	All	139.5	16			558.1	10
18	Toronto	All	132.9	19	278.4	1	647.8	8
19	Melbourne	All	135.5	18	135.5	11	489.5	14
20	Oslo	All	128.6	20	101.8	16	268.0	24
21	Glasgow	All	124.2	21	124.2	15	387.3	21
22	Instabul	All	121.2	22				
23	New York	All	110.0	26	132.0	12	508.0	12
24	Paris (Bus)	Bus	89.1	34	136.4	9	449.9	16
25	Osaka	All	115.4	24			484.0	15
26	Adelaide	All	116.1	23			304.8	23
27	Paris (Rail)	Rail	89.1	35	136.4	10	449.9	17
28	Sydney (Rail)	Train	69.0	42				
29	London (Bus)	Bus	109.6	27	154.9	8	595.6	9
30	Tokyo	Rail	105.2	28			1083.5	2
31	Vancouver	All	104.0	29			424.5	19
32	Houston	All	103.4	30				
33	South East Queensland	All	101.9	31				
34	Canberra	Bus	99.1	32				
35	Darwin	Bus	61.6	45	61.6	18		
36	Jakarta	BRT	91.7	33				
37	Los Angeles	All	87.5	36	125.0	14	500.0	13
38	Bangalore	Rail	86.4	37				
39	Hobart	Bus	86.2	38				
40	Wellington (Rail)	Rail	58.0	47			173.9	25
41	Perth	All	78.8	39				
42	Seoul	Rail	75.4	40				
43	Beijing (Rail)	Rail	25.0	49				
44	Sydney (Bus)	Bus	111.1	25				
45	Auckland	All	66.1	43			728.8	7
46	Taipei	Rail	64.0	44				
47	Wellington (Bus)	Bus	58.0	46				
48	Mexico City	Rail	29.2	48				
49	Beijing (Bus)	Bus	75.0	41				

Minutes for average trip

Average trip length for commuters varies between cities. The average distance travelled to work on public transport in South East Queensland is 15 km one-way. Thus, for this analysis, we have compared the minutes of work required to travel 15 km return from the CBD (30 km altogether) in each city to approximate this journey. For cities with distance-based fares, a zone that was situated 15 kilometres from the CBD was identified and the fare from this zone into the CBD was used as the average trip fare.

There were some differences in the zones identified for the analysis of an average trip between 2018 and this year. Many cities have had large changes to their overall rankings as a result. For example, Vancouver rose the most in the rankings this year because a further zone was identified for the 15 km distance from last year. Another factor in the large changes in rankings is the inclusion of 7 new cities, which has extended the ranking board.

Sao Paulo has the most expensive average trip in 2019, alongside the most expensive return journeys as seen on the previous pages. It is joined by London Rail, Bogota, Santiago (Rail), Durban, and Moscow for requiring at least an hour of work at minimum wage to afford this trip. Bangalore's ranking has dropped from being the most expensive city for an average trip in 2018 (excluding Addis Ababa), while London Rail and Vancouver have seen their rankings rise dramatically in the 2019 report. On the other hand, Glasgow, Istanbul and Taipei have fallen enough to become some of the cheapest cities in the report for an average journey.

In terms of the cheapest fares, Mexico City and the Beijing Bus systems have come in first and second respectively. They are followed by Seoul, Jakarta and Los Angeles as the top 5 cheapest cities for an average journey in 2019. All these cities have decreased their minutes from 2018 because they have all increased their minimum wages but left their fares unchanged.

2019 rank	2019 minutes	2018 minutes	Change in minutes		Transit System
1	91.0	88.6	2.4	▲	Sao Paulo
2	68.7	47.5	21.2	▲	London (Rail)
3	65.8	-	New		Bogota
4	64.5	52.9	11.6	▲	Santiago (Rail)
5	62.8	-	-		Durban
6	61.3	61.9	-0.6	▼	Moscow
7	56.4	45.9	10.5	▲	Santiago (Bus)
8	42.3	-	New		Osaka
9	39.8	90.8	-51.0	▼	Bangalore
10	37.9	38	-0.1	▼	Munich
11	37.3	40	-2.7	▼	Wellington (Rail)
12	36.6	38	-1.4	▼	Berlin
13	36.4	36.4	0.0	—	Chicago (Rail)
14	34.6	-	New		Cairo
15	33.6	-	New		Montreal
16	33.2	45.1	-11.9	▼	Auckland
17	33.1	33.1	0.0	—	Houston
18	32.7	32.7	0.0	—	Chicago (Bus)
19	31.9	-	New		Miami
20	30.4	-	New		Ottawa
21	30.3	29.7	0.6	▲	Tokyo
22	29.9	21.8	8.1	▲	Vancouver
23	29.8	-	New		Quebec City
24	29.6	29.9	-0.3	▼	Sydney (Bus)
25	28.5	30.5	-2.0	▼	Wellington (Bus)
26	27.9	27.9	0.0	—	Portland
27	27.6	27.9	-0.3	▼	Sydney (Rail)
28	27.1	27.3	-0.2	▼	Melbourne
29	26.6	25.7	0.9	▲	Toronto
30	25.7	26.7	-1.0	▼	Oslo
31	25.0	27	-2.0	▼	Beijing (Rail)
32	24.8	35.2	-10.4	▼	Glasgow
33	24.8	25.1	-0.3	▼	South East Queensland
34	24.2	30.6	-6.4	▼	Istanbul
35	24.1	15.7	8.4	▲	Perth
36	23.9	24.3	-0.4	▼	Paris (Bus)
37	23.6	17.2	6.4	▲	Hobart
38	23.2	22.3	0.9	▲	Adelaide
39	22.7	23.1	-0.4	▼	Paris (Rail)
40	22.4	36.1	-13.7	▼	Taipei
41	22.0	31.7	-9.7	▼	New York City
42	21.9	23	-1.1	▼	London (Bus)
43	19.8	19.9	-0.1	▼	Canberra
44	18.5	19	-0.5	▼	Darwin
45	18.3	18.4	-0.1	▼	Jakarta
46	17.5	19.1	-1.6	▼	Los Angeles
47	16.5	19.9	-3.4	▼	Seoul
48	7.5	8.1	-0.6	▼	Beijing (Bus)
49	5.8	6.8	-1.0	▼	Mexico City

Data sources

Topic	City/Region	Source
Demographics and regional facts	All excluding South East Queensland South East Queensland	'Demographia World Urban Areas 15 th Annual Edition' - http://www.demographia.com/db-worldua.pdf 'Population growth highlights and trends, Queensland, 2019 edition' - http://www.qgso.qld.gov.au/products/reports/pop-growth-highlights-trends-qld/pop-growth-highlights-trends-qld-2019-edn.pdf Australia Bureau of Statistics, 'Population Estimates by Local Government Area (ASGS 2018), 2017 to 2018' - https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3218.02017-18?OpenDocument Transport and Main Roads, 'Travel in south-east Queensland' - https://www.tmr.qld.gov.au/~/_media/aboutus/corpinfo/Open%20data/householdtravelsurveyreport/HouseholdTravelinsoutheastQueensland.pdf
Fares and products	Adelaide	https://www.adelaidemetro.com.au/Tickets/Fares#Concession_and_Tertiary_Student_Fares
	Auckland	https://at.govt.nz/bus-train-ferry/fares-discounts/bus-train/fares/
	Bangalore	https://www.karnataka.com/bangalore-metro/metro/fares/
	Beijing	https://www.travelchinaguide.com/cityguides/beijing/transportation/bus.htm https://www.travelchinaguide.com/cityguides/beijing/transportation/subway.htm
	Berlin	https://shop.bvg.de/index.php/tickets
	Bogota	https://www.transmilenio.gov.co/publicaciones/146280/tarifas/
	Cairo	http://cairometro.gov.eg/UIPages/faq.aspx https://www.egypttoday.com/Article/3/51990/Fare%E2%80%99s-Fair
	Canberra	https://www.transport.act.gov.au/
	Chicago	http://www.transitchicago.com/fares/
	Darwin	https://nt.gov.au/driving/public-transport-cycling/public-bus-tickets/bus-fares-and-concessions
	Durban	http://www.muvo.co.za/fares/fare-categories/ http://www.durban.gov.za/City_Services/ethekwini_transport_authority/Pages/Schedule-and-Routes.aspx
	Glasgow	https://www.firstgroup.com/greater-glasgow/tickets/ticket-prices
	Hobart	http://www.metrotas.com.au/fares/urban/fares/
	Houston	http://www.ridemetro.org/Pages/Fares.aspx
	Istanbul	http://www.turkeytravelplanner.com/go/Istanbul/Transport/fares.html
	Jakarta	http://www.transjakarta.co.id/
	London	https://tfl.gov.uk/fares-and-payments/ http://www.toptiplondon.com/transport/tickets/oyster-card https://www.london toolkit.com/briefing/oystercard.htm
	Los Angeles	https://www.metro.net/riding/fares/
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	Montreal	http://www.stm.info/en/info/fares
	Moscow	http://news.metro.ru/useeng.html
	Munich	https://www.mvv-muenchen.de/en/tickets-and-fares/tickets-daytickets/index.html
	New York City	http://web.mta.info/nyct/fare/FaresatAGlance.htm#Fares
	Osaka	https://subway.osakametro.co.jp/en/guide/fare/fare/price.php
	Oslo	https://ruter.no/en/buying-tickets/tickets-and-fares/
	Ottawa	http://www.octranspo.com/en/fares/costs/
	Paris	http://www.francetravelplanner.com/go/paris/trans/ratp/bus/city.html http://parisbytrain.com/paris-train-metro-week-pass-navigo-decouverte/ https://www.ratp.fr/en/titres-et-tarifs
	Perth	https://www.transperth.wa.gov.au/tickets-fares/fares#julyfare
Portland	http://trimet.org/fares/	
Quebec City	https://www.rtcquebec.ca/Default.aspx?tabid=99&language=en-CA	
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Sao Paulo	http://www.metro.sp.gov.br/en/your-trip/tickets-cards/single-ticket.aspx	
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South East Queensland	https://translink.com.au/tickets-and-fares/fares-and-zones/current-fares	

	Sydney	https://www.opal.com.au/en/opal-fares/
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	Tokyo	http://www.tokyometro.jp/en/ticket/types/regular/index.html
	Toronto	https://ttc.ca/Fares_and_passes/Prices/index.jsp
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	Wellington	http://www.metlink.org.nz/tickets-and-fares/
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	New Zealand	https://www.govt.nz/browse/work/workers-rights/minimum-wage/
	Norway	https://www.arbeidstilsynet.no/en/working-conditions/pay-and-minimum-rates-of-pay/minimum-wage/
	United Kingdom	https://www.gov.uk/national-minimum-wage-rates
	United States of America	http://www.ncsl.org/research/labor-and-employment/state-minimum-wage-chart.aspx
	All other regions	http://www.wageindicator.org/

About NineSquared

NineSquared works across a number of industry sectors including offering clients strong experience across transport, regulated assets and infrastructure project evaluation. We can assist across a range of services relating to economic analysis, financial and commercial advice, strategy, public policy and analytics.

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