Transit Fare Benchmarking | 2018

NineSquared

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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 and 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 deep understanding of both the public and private sectors and the interface between them.

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Introduction

This is the fourth edition of our annual fare benchmarking reports. Bus, rail and ferry fares are often subject to scrutiny and questioning by customers, funders and the media as well as a range of other stakeholders concerned with ensuring an effective and efficient use of resources while achieving mobility outcomes.

As with our previous reports, this current edition is intended to provide data that informs the debate about public transport fares and fare levels. Our approach represents one possible way to analyse the impact of the cost of public transport for its users.

Our approach

Our approach to this year's fares benchmarking report is consistent with our previous reports allowing for direct comparisons to previous years. This year we have included five new cities – Addis Ababa, Bangalore, Moscow, Oslo, and Sao Paulo – in the analysis.

The price of fares has been normalised using the published minimum wage rates for each city. This information allows the estimation of the number of minutes that a person earning a minimum wage would have to work to pay for a specific public transport journey. A limitation of using minimum wage is that it is not necessarily representative of public transport users across adults, concession holders and seniors.

Using minimum wage allows for the consistent comparison between different fares for public transport services, which are not traded internationally and so are not directly comparable across cities let alone countries. Further consistency is obtained as minimum wage is an administratively or politically set figure as are public transport fares in many cases.

Pricing is not the only relevant comparator for public transport fares. A more extensive benchmarking report might account for service frequency and coverage to provide a more complete assessment.

The scenarios compared are the number of minutes work required to pay for:

- The cheapest return fares
- The fare required to undertake return travel 15 kilometres in each of the benchmarked cities and regions
- The fare required to undertake multiple trips

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Last year we reviewed fares and ticket products in 31 cities across North America, Europe, Asia, New Zealand, Africa, Latin America and each of the capital cities in Australia. This year we added five additional cities – Addis Ababa in Ethiopia, Bangalore in India, Moscow in Russia, Oslo in Norway, and Sao Paulo in Brazil – to take the number of cities included in this report to 36.

Between these 36 cities there are 43 different fare structures, tickets or prices. Last year five cities – Beijing, Chicago, London, Paris, and Sydney – operated with more than one pricing system. This year the difference in fares for the rail and bus systems in Santiago and Wellington has also been included which brings the number of cities that operate with multiple fare structures to seven out of the 36 included in the study.

While the cities in the study are all different, the impact that these differences have on the fares that are charged appears relatively limited. For example, there is a relatively low correlation between population density and minutes required to work for 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 - key demographic statistics

	City / Region	Population	Land Area (km2)	Density (persons per km2)
1	Tokyo	38,050,000	8,547	4,500
2	Jakarta	32,275,000	3,302	9,800
3	Seoul	24,210,000	2,745	8,800
4	New York	21,575,000	11,875	1,700
5	Beijing	21,250,000	4,144	5,100
6	Sao Paulo	21,100,000	3,043	6,900
7	Mexico City	20,565,000	2,370	8,700
8	Moscow	16,855,000	5,698	3,000
9	Los Angeles	15,620,000	6,299	2,300
10	Istanbul	13,995,000	1,360	10,300
11	Paris	10,980,000	2,845	3,700
12	Bangalore	10,920,000	1,166	9,400
13	London	10,585,000	1,738	5,600
14	Chicago	9,160,000	6,856	1,300
15	Taipei	8,605,000	1,140	7,600
16	Toronto	6,635,000	2,300	2,800
17	Santiago	6,350,000	1,140	5,600
18	Houston	6,285,000	4,841	1,100
19	Berlin	4,120,000	1,347	3,100
20	Sydney	4,390,000	2,179	2,000
21	Melbourne	4,305,000	2,705	1,600
22	Addis Ababa	3,650,000	492	7,400
23	Durban	3,515,000	1,062	3,300
24	South East Queensland	3,402,218	14,678	232
25	Vancouver	2,335,000	876	2,600
26	Portland	2,075,000	1,357	1,400
27	Munich	2,045,000	466	4,400
28	Perth	1,945,000	1,722	1,100
29	Auckland	1,530,000	544	2,800
30	Glasgow	1,240,000	368	3,300
31	Adelaide	1,185,000	837	1,400
32	Oslo	1,025,000	290	3,200
33	Wellington	450,000	194	2,300
34	Canberra	435,000	472	800
35	Hobart	170,000	269	600
36	Darwin	75,000	216	300

Fare facts

As part of the benchmarking study, we not only review the fares in each of the cities and region but also the type of fare and ticket offered by each transport agency.

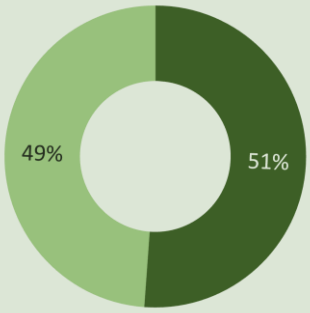
Flat fares and distance-based fares

Compared to the 2017 benchmarking report the number of systems offering distanced based fares and flat fares have increased from 16 to 21 (44% to 49%) and 20 to 22 (56% to 51%) respectively in 2018. Three of the new cities – Addis Ababa, Bangalore and Oslo – offer distanced based fares along with the new Wellington rail system. Additionally, the reported pricing system used in Durban has changed since 2017 from a flat fare to one that is distance based. For these systems that offer distance-based fares the number of ticketing zones ranges from three (Hobart, Vancouver, and Sydney Buses) to 15 (Seoul). Additionally, five cities (Adelaide, Auckland, Berlin, Munich, Perth) offer reduced fares for short-trips or city-links that are independent of the zones travelled.

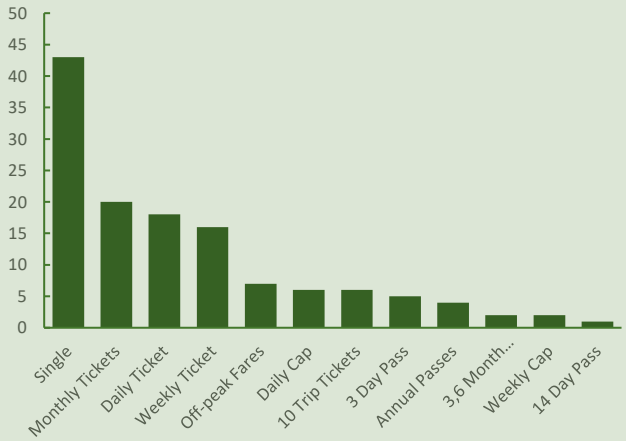
Ticket products

As was the case in the previous years, every city in the benchmark sampled offered a single fare product, either paid for through smartcards or with the purchase of paper tickets. Thirty of the 43 evaluated transit systems offered some form of periodic fare. The most frequently offered periodic fare from the study was a daily product provided either through a smartcard cap or a daily pass, which was offered by 22 systems. The most expensive daily pass was offered by Moscow, which costs 303% of a return trip using a smartcard. Comparatively, Darwin offered the cheapest daily pass which was 117% of a return trip. Twenty systems offered monthly passes while 16 systems offered weekly passes.

49% of fares are distance based with the remainder of transit systems providing flat fares to customers



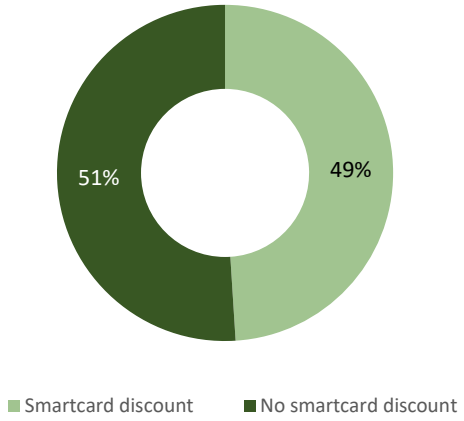
Product offering by number of systems offering product



Discounts for non-cash ticketing options

As in previous years, just slightly less than half of the 43 transit systems (49%) offered discounts for customers who chose not to use cash. Discounts range from 1.6% in Tokyo to 50% on the Beijing bus system. The average discount received for using a non-cash payment was 23.2%. However, there were multiple cities, such as Mexico City and Melbourne, that have discontinued on-board cash paper ticket sales.

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

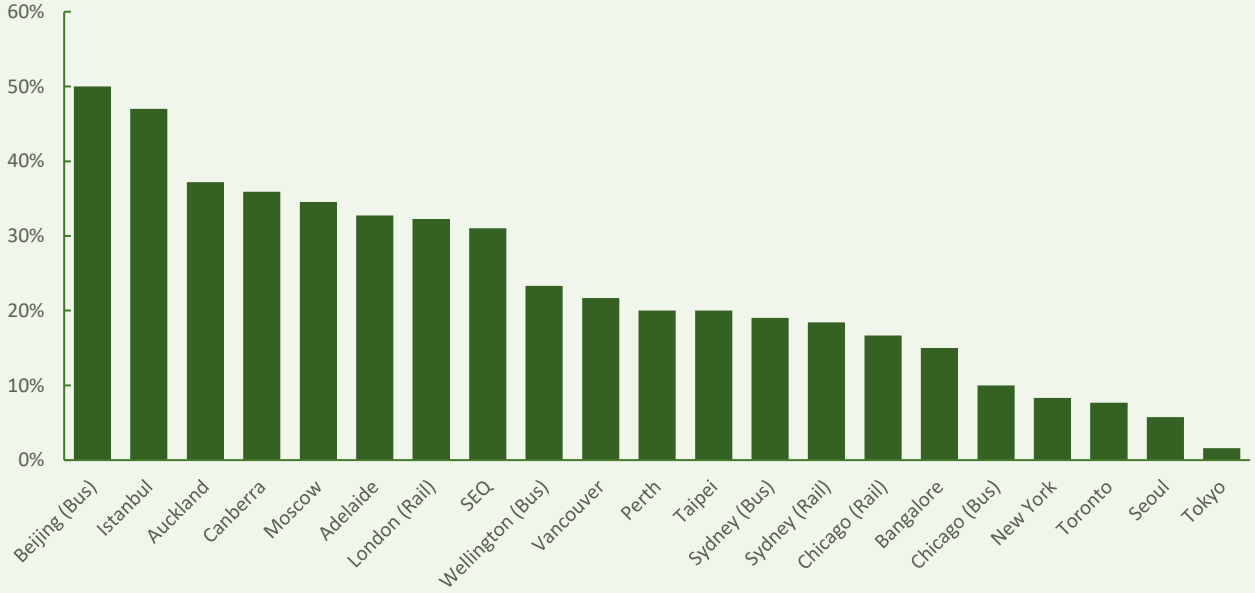


Off-peak discounts

Ten systems (23%) offered a discount for travelling outside of peak transit times in 2017-18. Two of these systems (Jakarta and Sao Paulo) offered discounts to early risers who commenced their journey before the morning peak. The largest discount given for travelling during off-peak hours is the 45% discount provided to Adelaide commuters. Conversely, commuters travelling by rail in Santiago received a 17% discount while travellers in Sao Paulo receive a discount of just 10% for travelling before the morning peak.

Discounts for off-peak and early morning journeys range from 10% to 45%

Discounts offered for non-cash tickets vary from 2.3% of the paper ticket fare to a high of 50%



Passenger based concessions

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

Child and school students

In many places, very young children are able to 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 in order to obtain the discounted fare while others limit access to discounted fares during school terms. Of the 43 systems in the benchmark study, all but nine systems provided some level of discounted fare to primary and / or high school students. Two systems provided free travel. The average discounted provided by those systems that offered a discounted fare to children and students was 55% of the full adult fare.

Tertiary students

Tertiary students have less access the primary and high school students to discounted travel around the world with 44 percent (19 systems) not offering any discount for tertiary students. There are also no systems that provide free travel to tertiary students. The average discount offered by those systems that offered a discount was 45% of the full fare.

Seniors and pensioners

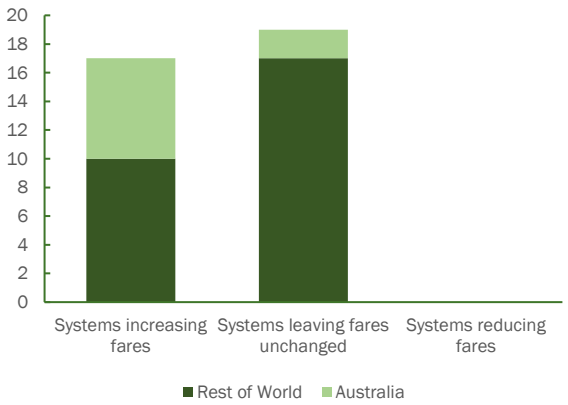
Twelve (28%) of systems in the benchmark study offered free travel to pensioners and / or seniors to some extent. A further 16 offered discounted travel for at least some pensioners and / or seniors. Around 35% of systems in the study did not offer any discounts for seniors or pensioners. The average discount offered seniors and pensioners amongst transit systems that provided a discount is estimated to be 71% (inclusive of free travel).

Number of systems providing passenger-based concessions by passenger type

Changes between 2017 and 2018

Fares

Of the 36 systems from 31 cities included in last year's benchmarking study, none decreased fares, 17 increased fare levels, and 19 kept fares constant. Of the 17 systems which increased fares, seven are from Australia (Adelaide, Canberra, Hobart, Melbourne, South East Queensland, Sydney Bus, and Sydney Rail). The other 10 systems that increased fares from the 2017 report period were Auckland, Beijing Rail, Chicago Bus, Chicago Rail, Durban, Glasgow, Istanbul, Munich, Santiago Bus, and Vancouver.



The average fare increase for the Australian systems was 3.73% compared to 6.83% for the rest of the world. It is important to note that these fare changes are calculated for one zone fares. The average increase in Australian fares was lower than that experienced last year – even with South East Queensland returning to fare increases after the reductions in fares progressed in later 2016.

In contrast, the average fare in the rest of the world was higher than last year (5.86% in 2017 compared to 6.83% in 2018). North America contributed a significant source of the increase with three systems (Chicago Bus, Chicago Rail, and Vancouver) implementing increases to the lowest fare of 9.4% on average.

Minimum wage rates

The minimum wage in five cities (Berlin, Chicago, Houston, Munich, and Taipei) did increase since the 2017 report. Conversely, those in the same pay category in the other 26 cities included in last year's report experienced an average 6.4% increase in the hourly minimum wage. The range for these increases was from 1.2% in Paris to 22.8% in Toronto.

When it comes to comparing different regions the average increase for the 15 cities in the Asia-Pacific region was 5.0%. For the five cities in the North American region the average rise experienced was by 10.3% while it was 6.0% for the four cities in Europe. The remaining three cities (Durban, Mexico City, and Santiago) can be grouped into the global south, where the average increase was 6.5%.

2018's biggest movers

Commuters in Toronto, Seoul and Vancouver experienced the largest reduction in the time required to work to afford a return trip on public transport. Each of those cities, the benchmark minutes of work for the cheapest ticket fell by more than 10% due to increases of more than 14% in the minimum wage in each of those cities.

Together with the transit systems in these three cities, a further 19 systems experienced a reduction in the number of minutes of work required to make a return journey. In fourteen of these cities, commuters benefited from both increases in the minimum wage and no increase in fare. Public transport users in the remaining five systems (Auckland, South East Queensland, Wellington Bus, Canberra and Hobart) saw fares go up but at a rate that was outweighed by increases in the minimum wage.

For both Canberra and Hobart, the difference between the increase in the minimum wage and the increase in the fare level was small, resulting in the minutes required for a return trip in each city decreasing by only 0.9% and 0.5% respectively. Public transport users in the three cities of Berlin, Houston and Taipei experienced no changes in the minutes required to afford a return fare with changes to neither minimum wages or the cost of travel.

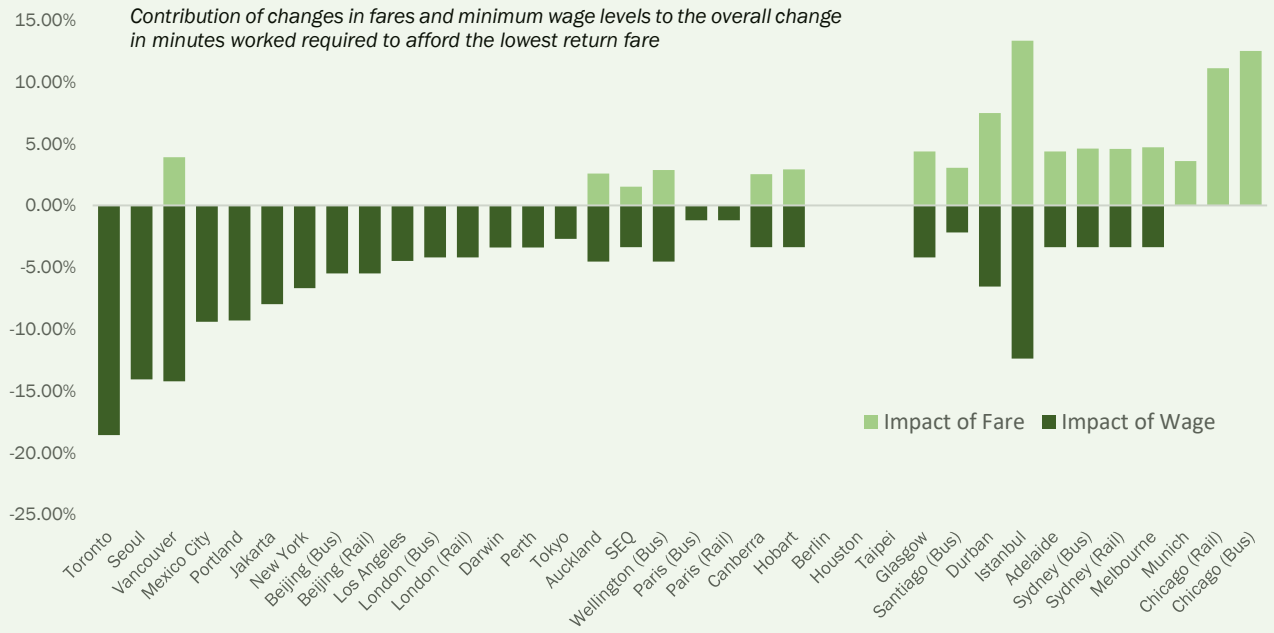
Increases in the cost of travel

The remaining 11 transport systems experienced increases in their minutes of work required. Commuters who use eight of these systems live in cities there was an increase in the minimum wage but where the increase was outweighed by higher transit fares.

Munich, Chicago Rail and Chicago Bus were the other three systems where commuters are now required to work more minutes to afford a return trip than 12 months ago. Residents in Chicago and Munich saw minimum wages stay the same while, at the same time, fares increased. The result was an effective increase in the real fare (as measured in minutes of work required) of 3.6%, 11.1% and 12.5% for transit customers using the Munich, Chicago Rail, and Chicago Bus transit systems respectively.

Australian Cities

Eight Australian cities are included in the study, and the use of the minimum wage rates set by Fair Work Australia normalised their fares for comparison which meant that each city had a 3.5% in the minimum wage. These Australian cities include nine transit systems due to Sydney commuters having separate fares for their heavy rail and bus systems. Perth and Darwin were the only cities that did not increase fares. For the other seven systems, only users of the Melbourne, Sydney Bus and Sydney Rail systems had fare increases that outweighed the 3.5% minimum wage increase – meaning only public transport commuters in Melbourne and Sydney saw an increase in the minutes that needed to be worked to afford a return fare in 2018.



Detailed results

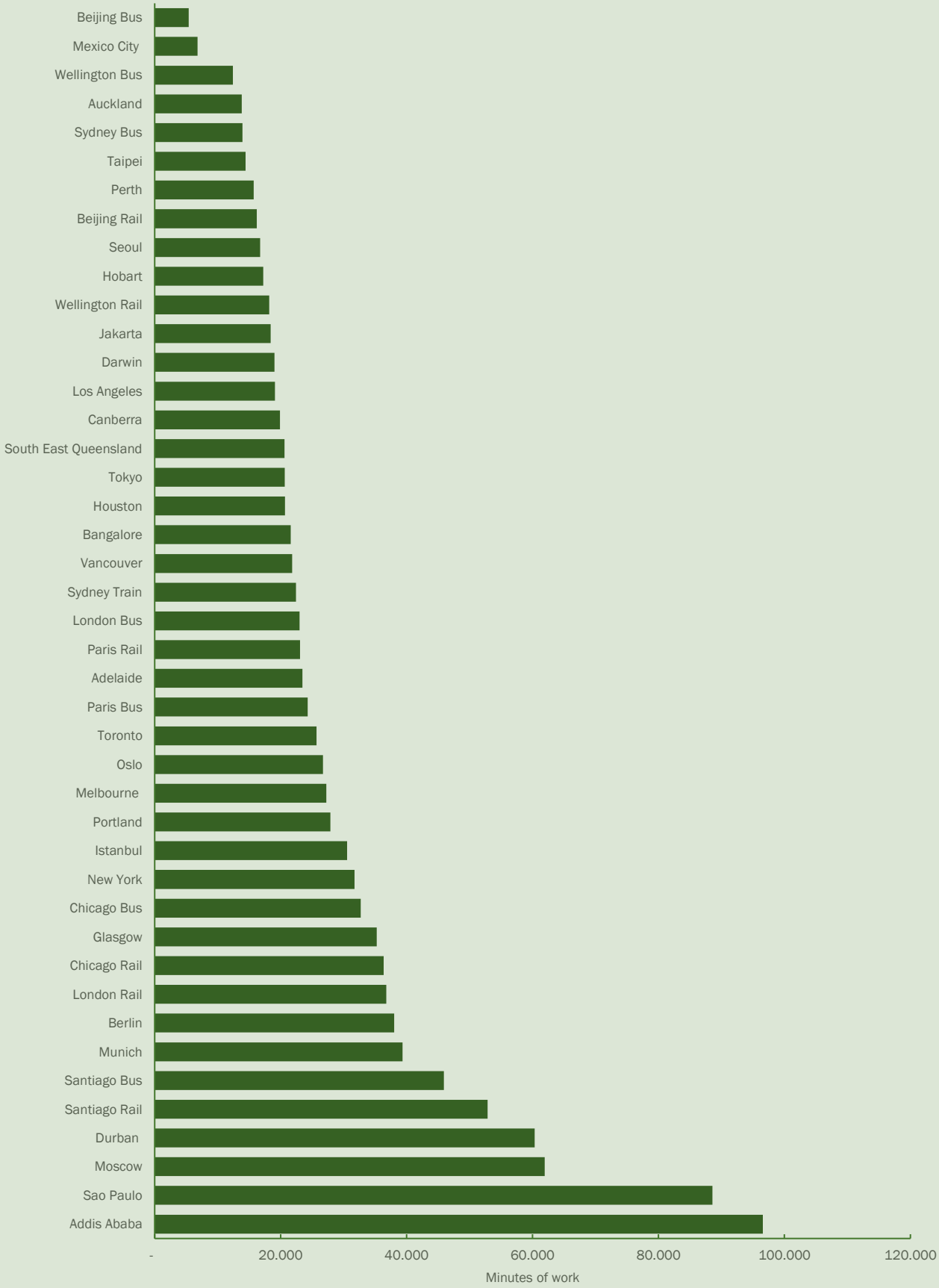
The following pages lists the cities and regions with the most expensive and least expensive public transport based on the number of minutes a person would have to work at minimum wage to afford a return journey on public transport. The data is based on the least expensive ticket product excluding short 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.

New inclusions

The three most expensive cities in 2018 are Addis Ababa, Sao Paulo, and Moscow. Addis Ababa and Sao Paulo are clearly trailing when it comes to affordable transport fares for those working on minimum wage. Moscow requires approximately 35 and 27 minutes less work at minimum wage to afford return fares compared to Addis Ababa and Sao Paulo respectively. The other two new cities, Oslo and Bangalore, were closer to the middle of the rankings as they came 16th and 24th respectively.

This report separates out the bus systems in Santiago and Wellington. In previous years, the report reported only the rail systems which ranked 5th and 37th in each city. It is observed that commuters in Santiago save roughly seven minutes per return trip on the bus in comparison to the train. Commuters in Wellington can save roughly two and a half minutes per return trip when using the bus compared to using the train.

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



City ranking - most expensive to least expensive (lowest cost ticket product)

2018 Rank	2017 Rank	Difference in Rank	Transit system	Mode	Lowest Single Fare	Minimum Wage	Minutes of work required
1	-	New	Addis Ababa	Rail	Br2.00	Br2.49	96.6
2	-	New	Sao Paulo	All	R$4.00	R$5.42	88.6
3	-	New	Moscow	All	36.00 ₽	69.77 ₽	62.0
4	1	-3	Durban	Bus	R 9.50	R 18.90	60.3
5	-	New	Santiago Rail	Rail	$760.00	$1725.00	52.9
6	2	-4	Santiago Bus	Bus	$660.00	$1725.00	45.9
7	5	-2	Munich	All	€2.90	€8.84	39.4
8	4	-4	Berlin	All	€2.80	€8.84	38.0
9	3	-6	London Rail	Rail	£2.40	£7.83	36.8
10	7	-3	Chicago Rail	Rail	$2.50	$8.25	36.4
11	6	-5	Glasgow	All	£2.30	£7.83	35.2
12	12	-	Chicago Bus	Bus	$2.25	$8.25	32.7
13	8	-5	New York	All	$3.00	$10.40	31.7
14	14	-	Istanbul	All	₺2.65	₺10.41	30.6
15	11	-4	Portland	All	$2.50	$10.75	27.9
16	13	-3	Melbourne	All	$4.30	$18.93	27.3
17	-	New	Oslo	All	35.00 kr	157.18 kr	26.7
18	9	-9	Toronto	All	$3.00	$14.00	25.7
19	15	-4	Paris Bus	Bus	€2.00	€9.88	24.3
20	18	-2	Adelaide	All	$3.70	$18.93	23.5
21	17	-4	Paris Rail	Rail	€1.90	€9.88	23.1
22	16	-6	London Bus	Bus	£1.50	£7.83	23.0
23	19	-4	Sydney Train	Train	$3.54	$18.93	22.4
24	10	-14	Vancouver	All	$2.30	$12.65	21.8
25	-	New	Bangalore	Rail	₹8.50	₹47.20	21.6
26	22	-4	Houston	All	$1.25	$7.25	20.7
27	20	-7	Tokyo	Rail	¥165.00	¥958.00	20.7
28	21	-7	South East Queensland	All	$3.25	$18.93	20.6
29	23	-6	Canberra	Bus	$3.14	$18.93	19.9
30	25	-5	Los Angeles	All	$1.75	$11.00	19.1
31	26	-6	Darwin	Bus	$3.00	$18.93	19.0
32	24	-8	Jakarta	BRT	Rp 3500.00	Rp 22800.22	18.4
33	-	New	Wellington Rail	Rail	$2.50	$16.50	18.2
34	30	-4	Hobart	Bus	$2.72	$18.93	17.2
35	27	-8	Seoul	Subway Rail	₩1050.00	₩7530.00	16.7
36	34	-2	Beijing Rail	Subway Rail	¥3.00	¥22.22	16.2
37	28	-9	Perth	All	$2.48	$18.93	15.7
38	29	-9	Taipei	All	NT$16.00	NT$133.00	14.4
39	32	-7	Sydney Bus	Bus	$2.20	$18.93	13.9
40	31	-9	Auckland	Bus & Rail	$1.90	$16.50	13.8
41	33	-8	Wellington Bus	Bus	$1.71	$16.50	12.4
42	35	-7	Mexico City	Metro	$5.00	$88.36	6.8
43	36	-7	Beijing Bus	Bus	¥1.00	¥22.22	5.4

Benchmarking multi-trip tickets

The analysis on the previous pages covers single trip travel and not the additional discounts that many transit providers offer customers when purchasing multiple or period pass tickets.

Of the cities included in the analysis, six offered some type of discounted 10 trip ticket product. Weekly tickets were offered by 16 cities and 20 cities offered a monthly pass or similar. Oslo, Munich and Glasgow priced weekly tickets above 10 trip tickets while Darwin and Melbourne offer them for the same price. Apart from these, all weekly tickets are priced above 10 trip tickets.

Compared to last year, Portland and Sydney rail no longer offer weekly tickets – while the bus and rail systems in Paris now provide weekly products. Additionally, three new systems (Moscow, Oslo, and Wellington rail) offer monthly products while the former two also offer weekly passes.

Single Trip Rank	Transit system	Mode	10 trips (minutes of work)	Rank	Weekly (minutes of work)	Rank	Monthly (minutes of work)	Rank
1	Addis Ababa	Rail	482.9	1				
2	Sao Paulo	All	442.8	2				
3	Moscow	All	309.6	3	713.8	1	1,784.5	1
4	Durban	Bus	298.4	4				
5	Santiago Rail	Rail	264.3	5				
6	Santiago Bus	Bus	229.6	6				
7	Munich	All	190.0	8	104.5	14	374.7	16
8	Berlin	All	190.0	8	203.6	5		
9	London Rail	Rail	183.9	10	252.9	2	1,003.8	3
10	Chicago Rail	Rail	181.8	11	240.0	3	763.6	5
11	Glasgow	All	122.6	20	118.8	13	367.8	17
12	Chicago Bus	Bus	163.6	13	240.0	3	763.6	5
13	New York	All	158.7	14	184.6	7	698.1	7
14	Istanbul	All	193.4	7				
15	Portland	All	139.5	16			558.1	10
16	Melbourne	All	136.3	17	136.3	12	492.6	12
17	Oslo	All	133.6	18	95.1	15	281.0	19
18	Toronto	All	128.6	19	187.5	6	626.8	8
19	Paris Bus	Bus	90.5	30	138.5	9	456.7	13
20	Adelaide	All	117.3	21			313.8	18
21	Paris Rail	Rail	90.5	30	138.5	9	456.7	13
22	London Bus	Bus	114.9	22	162.5	8	624.5	9
23	Sydney Train	Train	112.2	23				
24	Vancouver	All	139.9	15			450.6	15
25	Bangalore	Rail	108.1	24				
26	Houston	All	165.5	12				
27	Tokyo	Rail	103.3	25			1,083.5	2
28	South East Queensland	All	103.0	26				
29	Canberra	Bus	99.5	27				
30	Los Angeles	All	95.5	28	136.4	11	545.5	11
31	Darwin	Bus	63.4	39	63.4	16		
32	Jakarta	BRT	92.1	29				
33	Wellington Rail	Rail	62.2	40			186.5	20
34	Hobart	Bus	86.2	32				
35	Seoul	Subway Rail	83.7	33				
36	Beijing Rail	Subway Rail	81.0	34				
37	Perth	All	78.6	35				
38	Taipei	All	72.2	36				
39	Sydney Bus	Bus	69.7	37				
40	Auckland	Bus & Rail	69.1	38			781.8	4
41	Wellington Bus	Bus	62.2	40				
42	Mexico City	Metro	34.0	42				
43	Beijing Bus	Bus	27.0	43				

The cost of an average length trip

Average trip length is specific to location. For comparison purposes, we have assumed an average trip length is 15 kilometres, which is based on data about the average trip in South-East Queensland. 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. As with the previous tables the ranking order is in terms of the most expensive to least expensive in terms of minutes of work required at minimum wage to pay for an average return journey.

As it did for most expensive return fare, Addis Ababa has also taken the mantle for most expensive 'average' trip. In Addis Ababa travelling 15km involves going more than 16 stations – for which a ticket costs Br6.00. With the minimum wage at only Br2.49, to afford an 'average' return trip 289.71 minutes of work are required at the minimum wage. This is more than triple the second placed Bangalore's 90.77 minutes. These two cities are joined by new systems Sao Paulo, Moscow and Santiago Rail in the top 5. Commuters on each of these five systems require more than 50 minutes of work at the minimum wage to afford a return 'average' trip. These inclusions have resulted in last year's second and third placed London Rail and Auckland systems dropping to sixth and eighth respectively.

One of the largest movers within the table this year was Toronto – falling 15 positions. This large drop can be attributed to the 22.8% rise in the minimum wage which was coupled with unchanged fare prices.

In terms of cheapest fares, Mexico City and the Beijing Bus systems again come in first and second respectively. Perth is a new addition to the top three cheapest transit systems by benefitting from a 3.5% increase in the minimum wage while the fare for an 'average' trip has remained unchanged.

2018 rank	2017 rank	Difference in Rank	Transit system	Minutes of work
1	-	-	Addis Ababa	289.7
2	-	-	Bangalore	90.8
3	-	-	Sao Paulo	88.6
4	-	-	Moscow	61.9
5	-	-	Santiago Rail	52.9
6	2	-4	London Rail	47.5
7	4	-3	Santiago Bus	45.9
8	3	-5	Auckland	45.1
9	-	-	Wellington Rail	40.0
10	5	-5	Berlin	38.0
11	6	-5	Munich	38.0
12	10	-2	Chicago Rail	36.4
13	7	-6	Taipei	36.1
14	8	-6	Glasgow	35.2
15	9	-6	Houston	33.1
16	17	1	Chicago Bus	32.7
17	11	-6	New York	31.7
18	22	4	Istanbul	30.6
19	13	-6	Wellington Bus	30.5
20	16	-4	Sydney (Bus)	29.9
21	15	-6	Tokyo	29.7
22	14	-8	Portland	27.9
23	19	-5	Sydney (Rail)	27.9
24	20	-4	Melbourne	27.3
25	18	-7	Beijing Rail	27.0
26	-	-	Oslo	26.7
27	12	-15	Toronto	25.7
28	21	-7	South East Queensland	25.1
29	23	-6	Paris Bus	24.3
30	27	-3	Adelaide	22.3
31	26	-5	Paris Rail	23.1
32	25	-7	London Bus	23.0
33	24	-9	Vancouver	21.8
34	29	-5	Canberra	19.9
35	31	-4	Los Angeles	19.1
36	32	-4	Darwin	19.0
37	30	-7	Jakarta	18.4
38	28	-10	Seoul	19.9
39	34	-5	Hobart	17.2
40	33	-7	Perth	15.7
41	35	-6	Beijing Bus	8.1
42	36	-6	Mexico City	6.8

Note: Durban was excluded from the 'Average' Trip analysis due to the distance of each stage not being available on their website.
Note: Wellington Bus last year was calculated using the minutes required for a child's trip – this accounts for its large rise in this year's report.
Note: Beijing Rail was calculated using the outdated (as of 2016) flat fare of ¥1.5 – this accounts for its large rise in this year's report.
Note: Vancouver was calculated using the paper ticket price last year as opposed to the smartcard price – this accounts for its large drop in this year's report.

Data Sources

Topic	Source
Demographics	DEMOGRAPHIA WORLD URBAN AREAS 12TH ANNUAL EDITION - http://www.demographia.com/db-worldua.pdf Queensland Treasury (2018) Queensland Regional Profiles, SEQ Region
Fares and products	http://www.erc.gov.et/AddisAbaba-LR https://www.adelaidemetro.com.au/Tickets/Fares#Concession_and_Tertiary_Student_Fares https://at.govt.nz/bus-train-ferry/fares-discounts/bus-train-fares/ https://www.karnataka.com/bangalore-metro/metro-fares/ https://www.travelchinaguide.com/cityguides/beijing/transportation/subway.htm https://www.travelchinaguide.com/cityguides/beijing/transportation/bus.htm https://shop.bvg.de/index.php/tickets http://www.action.act.gov.au/fares/bus-fare-increase http://www.transitchicago.com/fares/ https://nt.gov.au/driving/public-transport-cycling/public-bus-tickets/bus-fares-and-concessions http://www.muvo.co.za/fares/fare-categories/ https://www.firstgroup.com/greater-glasgow/news-and-service-updates/planned-changes/fares-revision-7-january-2018 https://www.firstgroup.com/greater-glasgow/tickets/ticket-prices http://www.metrotas.com.au/fares/urban-fares/ http://www.ridemetro.org/Pages/Fares.aspx http://www.turkeytravelplanner.com/go/Istanbul/Transport/fares.html http://www.transjakarta.co.id/ https://tfl.gov.uk/fares-and-payments/ https://www.metro.net/riding/fares/ https://www.ptv.vic.gov.au/tickets/fares/metropolitan-fares http://mexicometro.org/about/fares/ http://news.metro.ru/useeng.html https://www.mvv-muenchen.de/en/tickets-and-fares/tickets-daytickets/index.html http://web.mta.info/nyct/fare/FaresatAGlance.htm#Fares https://ruter.no/en/buying-tickets/tickets-and-fares/ https://www.ratp.fr/en/titres-et-tarifs http://www.francetravelplanner.com/go/paris/trans/ratp/bus/city.html http://www.transperth.wa.gov.au/tickets-fares/fares http://trimet.org/fares http://www.transantiago.cl/tarifas-y-pagos/conoce-las-tarifas;jsessionid=hvscuSA7BvhyAAHeRKWFqKD2 http://www.metro.sp.gov.br/en/your-trip/tickets-cards/single-ticket.aspx http://www.kias.re.kr/sub06/sub06_06.jsp https://translink.com.au/tickets-and-fares/fares-and-zones/current-fares https://www.opal.com.au/en/opal-fares/ http://english.metro.taipei/ http://www.tokyometro.jp/en/ticket/types/regular/index.html https://ttc.ca/Fares_and_passes/Prices/index.jsp http://www.metlink.org.nz/tickets-and-fares/ https://www.translink.ca/Fares-and-Passes.aspx
Minimum wage data	https://www.fairwork.gov.au/pay/minimum-wages/pay-guides http://www.wageindicator.org/ https://www.gov.uk/national-minimum-wage-rates http://www.ncsl.org/research/labor-and-employment/state-minimum-wage-chart.aspx http://www.ncsl.org/research/labor-and-employment/state-minimum-wage-chart.aspx http://www.ncsl.org/research/labor-and-employment/state-minimum-wage-chart.aspx https://english.gov.taipei/News_Content.aspx?n=A11F01CFC9F58C83&sms=DFFA119D1FD5602C&s=B531E584F5486855 https://tradingeconomics.com/south-korea/minimum-wages

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