The page that ranks US cities by population is probably the Wikipedia page I’ve visited more than any other. Whenever I find myself thinking about living in in Raleigh, or Madison, or Philadelphia, population seems like an informative indicator of what life would be like there. There’s something fascinating about comparing cities on the basis of population. On the one hand, population seems to be an important metric – it explains a lot of the differences between Seattle and Portland, or between Boston and New York. But the numbers can also be really misleading. How could San Diego be the 9th biggest city in the country, and still feel so small and unexciting?

The size of a city determines how many stores and restaurants there will be, and what kinds of entertainment are available. It also determines how much businesses can specialize – when I visited Missoula for my brother’s graduation in May, there were clearly a lot of cool, independent ice cream shops and breakfast spots, but there wasn’t the specificity that you can find in a place like Manhattan, where there’s an entire store devoted to The Big Lebowski, and more than a few brands of local, organic specialty pickles.

Of course, there are downsides to living in a giant city as well: it’s hard to escape; there’s less piece and quiet. The complexity of the city can make it hard to keep perspective. Mostly, big cities just have too many *people*. Sometimes you don’t want to be elbowed in the grocery store, or observed while you attempt to parallel park. Sometimes you don’t want to parallel park at all, you just want to glide up the curb because nobody else is parked on the whole block.

An entertaining and diverse city with hardly any people would be magnificent. Clearly that’s impossible, so we have to make compromises. But is raw population really a good measure of how big a city *feels*?

Perhaps the big-city feel of a place is better reflected by its population density. Expressed as a number of people per square mile, population density seems like it should give you a sense of how crowded a grocery store is going to feel, and perhaps how much entertainment and commerce each neighborhood in a city can support. For example, while Boston and Portland have nearly the same population (617,000 and 583,000), they have considerably different population densities. Within the city of Boston, there are about 6,892 residents per square mile. In Portland, the population density is just over 4,000. Portland’s 145.4 square miles leave a lot more room for parks and lawns and gardens, and for office parks and empty warehouses, for its nearly 600,000 residents than Boston’s 89.6 do for about the same number of people.

Another limitation of population as a measure of city size is its dependence on the physical boundaries of the city. For a city like Boston, which seamlessly merges with the city of Cambridge (population 105,162) as well as surrounding urban areas like Brookline (58,000), it seems wrong to cut off the population count at the city limits. Indeed, if you compare the population of the Boston and Portland metro areas, Boston (with 4,5562,402 people) appears to be more than twice as large as Portland (2,226,009), which has an urban growth boundary and pretty sparsely populated suburbs.

Are any of these metrics sufficient on their own to predict which cities feel big and which cities feel small? I was interested in which of these statistics best captured my own sense of a city’s size, hoping that one could serve as a reliable enough proxy for “cityishness” that I could imagine the pace of life in cities I’ve never been to.

I’ve spent at least a few nights in about 14 different US cities, and a really substantial amount of time (months or years) in 5 of those. When I rank them in terms of their “big city feel”, they come out in this order (The cities I’m most familiar with are printed in bold):

|  |
| --- |
| **New York** |
| Los Angeles |
| San Francisco |
| **Chicago** |
| Washington DC |
| **Boston** |
| Seattle |
| Baltimore |
| **Portland** |
| **San Diego** |
| St. Louis |
| Austin |
| Berkeley |
| Missoula |

These rankings are completely subjective, and they’re based on a lot more than my direct experiences with each of these places. I had to try to ignore my own knowledge about the actual populations of these cities, perhaps overcompensating in the process. I was also influenced by their reputations, the degree to which they were held up as examples of large or small cities throughout my life, and by whether or not I liked them.

It might be worth taking a moment to consider whether you agree with me, and perhaps re-arranging the list to match your intuitions. It may be that as I compare these cities’ population statistics, you find a different fit for your own impressions compared to mine.

I had a particularly hard time figuring out where to place San Diego on my list – I know for a fact that it’s the 9th largest city in the US, but in my experience it did not feel that way. In terms of having shopping and entertainment options that interested me, San Diego scored quite low. And it didn’t have much hustle and bustle either. I was really interested to see whether my own impression of San Diego would be supported by any of these metrics of city size.

Here’s a list of the same 9 cities, ranked in terms of raw population.

|  |  |  |  |
| --- | --- | --- | --- |
| City | Population | My Size Ranking | Diff From Size Ranking |
| **New York** | 8,175,133 | 1 | - |
| Los Angeles | 3,792,621 | 2 | - |
| **Chicago** | 2,695,598 | 4 | -1 |
| **San Diego** | 1,307,402 | 12 | +8 |
| San Francisco | 805,235 | 3 | -2 |
| Austin | 790,390 | 10 | +4 |
| Baltimore | 620,961 | 8 | +2 |
| **Boston** | 617,594 | 6 | -2 |
| Seattle | 608,660 | 7 | -2 |
| Washington DC | 601,723 | 5 | -5 |
| **Portland** | 583,776 | 9 | -2 |
| St. Louis | 319,294 | 11 | -1 |
| Berkeley | 112,580 | 13 | - |
| Missoula | 108,623 | 14 | - |

Unsurprisingly, raw population matches my rankings for the largest and smallest cities quite well, but for the cities in between, the relationship between my rankings and the true populations seem to be a complete jumble. San Diego proves to be much larger than it feels, and San Francisco is considerably smaller. But there’s a huge cluster of cities for which the raw population is nearly identical: Portland, Washington DC, Seattle, Boston, and Baltimore. These cities may feel very different in size, but these differences are apparently not due to the cities actually containing different numbers of people.

Can population density do a better job of capturing the feel of a city? Wikipedia was a bit inconsistent in its reporting of population density, so I calculated this directly using Wiki’s reports of 2010 city population and area.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | City | Population | City area (sq. miles) | Population Density Population / Area) | Subjective Size Ranking | Diff From Size Ranking |
| 1 | **New York** | 8,175,133 | 468.9 | 17,434.70 | 1 | - |
| 2 | **Chicago** | 2,695,598 | 234 | 11,519.65 | 4 | +2 |
| 3 | Washington DC | 601,723 | 68.3 | 8,810.00 | 5 | +2 |
| 4 | Los Angeles | 3,792,621 | 502.693 | 7,544.61 | 2 | -2 |
| 5 | **Boston** | 617,594 | 89.63 | 6,890.48 | 6 | -1 |
| 6 | Baltimore | 620,961 | 92.052 | 6,745.76 | 8 | -2 |
| 7 | Berkeley | 112,580 | 17.696 | 6,361.89 | 13 | +6 |
| 8 | St. Louis | 319,294 | 66.2 | 4,823.17 | 11 | +3 |
| 9 | Missoula | 108,623 | 23.9 | 4,544.90 | 14 | +5 |
| 10 | Seattle | 608,660 | 142.5 | 4,271.30 | 7 | -3 |
| 11 | **Portland** | 583,776 | 145.4 | 4,014.97 | 9 | -2 |
| 12 | **San Diego** | 1,307,402 | 372.398 | 3,510.77 | 12 | - |
| 13 | San Francisco | 805,235 | 231.889 | 3,472.50 | 3 | -10 |
| 14 | Austin | 790,390 | 296.2 | 2,668.43 | 10 | -4 |

These cities range wildly in terms of physical area, so even cities that are closely matched in terms of population vary in terms of density. However, the densities of these cities seem almost entirely unrelated to my perceptions of their size. I’m gratified to see that San Diego is much smaller by this measure (it is the 3rd largest city in the list by area), but it’s cold comfort – density does not seem to be a good predictor of how big a city feels to me. While dense neighborhoods probably do seem more busy and big-cityish, every city is going to have more and less densely populated pockets. Also, like raw population, this measure depends hugely on the physical boundaries of the city.

Perhaps metro area population will fare better. I used the US census definition of a “Metropolitan Statistical Area” for these rankings. This measure begins by taking a county that houses an urban area of over 50,000 people, and adding surrounding counties in which at least 25% of residents commute in and out of that urban area for employment. Because Berkeley falls within the metro area of San Francisco, it is not included in the rankings below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | City | Metro area population | Subjective Size Ranking | Diff From Size Ranking |
|  |  |  |  |  |
| 1 | **New York** | 18,897,109 | 1 | - |
| 2 | Los Angeles | 12,828,837 | 2 | - |
| 3 | **Chicago** | 9,461,105 | 4 | +1 |
| 4 | Washington DC | 5,582,635 | 5 | +1 |
| 5 | **Boston** | 4,552,402 | 6 | +1 |
| 6 | San Francisco | 4,335,391 | 3 | -3 |
| 7 | Seattle | 3,439,809 | 7 | - |
| 8 | **San Diego** | 3,095,313 | 12 | +4 |
| 9 | St. Louis | 2,812,896 | 11 | +2 |
| 10 | Baltimore | 2,710,489 | 8 | -2 |
| 11 | **Portland** | 2,226,009 | 9 | -2 |
| 12 | Austin | 1,716,289 | 10 | -2 |
| 13 | Missoula | 109,299 | 14 | - |
|  | Berkeley | In SF metro | 13 | - |

Overall, this metric seems to be a much better fit for my subjective impressions, and the places where it departs seem to be more the result of my personal biases than the actual “feel” of the cities. In fact, only San Francisco, St. Louis, and San Diego don’t fit the ratings I gave them. St. Louis is a city I hardly know – I only spent a weekend there for a conference. San Francisco’s Metropolitan Statistical Area is smaller than Boston’s, which surprises me, but perhaps this is because I think of the entire San Francisco Bay area (population 7,468,390) when I think of San Francisco, but not all of this area is tightly linked to the commerce of San Francisco itself.

The San Diego metro area is larger than I would expect based on how it feels, but it’s much closer to the ballpark I’d expect now – smaller than respectable “big cities” like Boston and Seattle. I have little trouble accepting that San Diego is “bigger” than Portland, even if it is significantly less cool.

I’d like to come back at some point and do some stats comparing these rankings in a systematic way, but I’m not going to bother with that right now. Metro area appears to be the clear best fit with my intuitions about city size. Perhaps this shouldn’t be surprising – metro area is perhaps the best measure of how many people are using the city for entertainment and commerce, as well as for employment.

While I was working on this post, John sent me an article about cities and suburbs from the June New Yorker. In the article, Nicholas Lemann argues that the distinction we make between cities and suburbs does not always reflect the facts. Urban areas can’t be clearly divided into city and broader metro area, and the distinction is likely to grow even less clear in the coming decades. Having just done these analyses, I found his argument quite convincing. Cities vary hugely in their density, the location of their city limits, and the vibrancy of their surrounding communities. It’s also clear that suburban residents contribute to the hustle and bustle of the cities they surround.