

## **Best City Contest submission**

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This submission can be considered as an exploration process to find out which other factors can define a new “liveability” index.

### **What make cities more “liveable”?**

Taking into account the different factors included in the liveability index, which in my opinion are all relevant, I tried to find additional items which I think are very important.

During the process I soon realized that although there are many interesting items which should be included in the index, it's very difficult to find in such a short term data which fulfills the contest requirements. For this reason I decided to define two new categories and calculate indicators with available data, being aware of the fact that some additional indicators would give a better result.

Part of the data used for this submission has a public domain license. For other data the authors have been contacted and permission has been granted.

### **New Categories**

Two additional categories have been considered in the new index:

- Environment
- Life satisfaction

#### **Environment**

In order to create an indicator for environment the following data has been used:

- Air pollution: Air Pollution Data by Country and City, PM10 concentrations (micro grams per cubic meter) in residential areas of cities larger than 100,000. Source: The World Bank, Development Economics Research Group Estimates
- Green areas as m<sup>2</sup> per inhabitant: For european countries: Multidimensional Evaluation of Urban Green Spaces: A Comparative Study on European Cities (Tüzün Baycan Levent, Ron Vreeker, Peter Nijkamp), for the rest of the world: data extracted from the Green Index reports: <http://www.siemens.com/entry/cc/en/greencityindex.htm>

Unfortunately, I couldn't find green spaces data for many countries including countries in Oceania.

These two sets of data have been mixed together and translated to a scale from 0 to 100.

Of course there are other important factors which can be considered as part of the environment. It would be nice to include data regarding access to nature from the city. Even when the nature is not part of the city, a city can become more attractive if you can recreate in a nice piece of nature within a certain (time) distance.

#### **Life satisfaction**

For life satisfaction the data from world database of happiness has been used: Veenhoven. R.. Average happiness in 149 nations 2000-2009. World Database of Happiness. Rank report Average Happiness. Internet: [worlddatabaseofhappiness.eur.nl/hap\\_nat/findingreports/RankReport\\_AverageHappiness.php](http://worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/RankReport_AverageHappiness.php)

Ideally, this category should reflect how “pleasant” it is to live in a certain city. This should be a combination of different subjective and non-subjective factors. Subjective factors can include indicators which reflect how easy it is to feel socially comfortable in the city, is to get in contact with

local people, if can you expect to receive help if necessary, etc. Other factors should reflect the availability of free time, including: work-life balance, commuting time, etc.

See the complete dataset additional categories an weights at “data preview”.

## Visualization

The visualization has been created as an interactive interface and can be found at <http://www.torre.nl/bestcity>.

For each city a “radar” chart is visible which shows the different categories of the index, the bigger the chart, the better the city scores. The colors show the continent classification.

Both the existing EIU liveability index and the new liveability index are visible. When opening the interface the cities are ordered according to the index (from better to worse)

**IMPORTANT:** The new liveability index has not been computed for all those cities for which not all data was available. These cities are therefore not visible at the “new liveability index” visualization.

In order to give some extra context to the data, it’s possible to order the cities according to other factors which are not included in the index. These factors are:

**Footprint:** The ecological footprint of an individual is a measure of the amount of land required to provide for all their resource requirements plus the amount of vegetated land required to sequester (absorb) all their CO2 emissions and the CO2 emissions embodied in the products they consume. Cities are ordered from lower footprint to higher footprint.

The data is part of the Human Development Report <http://www.visualizing.org/datasets/human-development-report-2011-data>

**Population:** This data was included in the air pollution dataset (World Bank, see above)

**Human Development Index:** The data is part of the Human Development Report <http://www.visualizing.org/datasets/human-development-report-2011-data>

Only the cities for which the mentioned data is available are visible in the list.