



Source: the data above, part of an unpublished manuscript, has been collected during my work as an adviser to municipalities, hence the bias toward cities of Asia, North America and Europe, where I did most of my professional work.

Methodology: The densities presented here have all been calculated in the same systematic manner. They were obtained by dividing census population (in majority 1990 census) by built-up area. The built up area was defined by every area built, including adjacent streets and roads and parks and open space smaller than 4 hectares. Parks and contiguous open space larger than 4 hectares, bodies of water, and airports were not included in the built up area. The limits of the built-up area was obtained from land use maps, when accurate ones could be found, more often from aerial photography or satellite imagery.

The population of the built-up area was obtained by intersecting census tracts with the built-up area. In some cases, the limits of the built up area are contained within the municipal administrative boundaries, in most cases they are not. In these cases, the density corresponds to the metropolitan area including several local authorities (for instance New York includes few counties of New Jersey and Long Island). In the case of Jakarta-Jabotabek, Seoul and San Francisco I have provided 2 figures corresponding to 2 perimeters: Jakarta municipality and Jabotabek metropolitan area, Seoul Municipality

and Seoul including the 5 new satellites towns, San Francisco metropolitan area and San Francisco including San Jose.

Interpretation: Densities appears to be cultural, hence the clustering along continents. Densities are not correlated to income: Singapore, Hong Kong and Seoul have much higher income than many cities with much lower densities. Densities are not related to climate either, nor to economic systems: cities of Europe have similar densities whether they were part of the socialist experiment or not. Densities are of course the product of market forces, but market forces reflect consumer choices, hence culture.

For these reasons, there is no optimum density; when culture evolves it is likely that densities will also slowly change reflecting the cultural shift. The wide range of densities found in the above list of economically successful cities shows that, as yet, we have no evidence of unmanageable densities.