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AND INTERNATIONAL MIGRATION**

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**Notes on the urban transition and beyond:
Facing new challenges of the mobility and settlement transitions in Asia**

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Notes on the Urbanization of Our Planet

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The Urbanization Project:

The *Urbanization Project*—the massive movement of people from being closer to the land to being closer to each other—started in earnest in 1800, when 5-10% of the people lived in cities, and is likely to end by 2100, when 75-80% will live in cities.

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The Year 2100:

By the end of this century the *Urbanization Project* will be over. Our cities will then have to be recycled and rebuilt rather than built afresh from the ground up. The window of opportunity for building our cities from the ground up is now closing.

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Declining urban growth rates:

Contrary to common perceptions, the growth rate of the world's urban population has been in constant decline, at least since 1950. It was 3.1% per annum circa 1950, 2.3% circa 2000, and it is expected to decline to 1.0% per annum by 2050.

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The urban population will stabilize by 2100:

If the world's urban population continues to grow at an average rate of 0.5% between 2050 and 2100, it can now be expected to stabilize at 8 billion people, twice the world's urban population in 2015, estimated at 3.96 billion.

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On the doubling of the urban population since 1959:

The world's urban population will thus double, one last time, in the 85 years between 2015 and 2100. In comparison, it doubled in only 25 years between 1959 and 1984, and it doubled again in only 31 years between 1984 and 2015.

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On tripling the present areas of cities by 2100:

We estimate that if the world's urban population doubles by 2100 then, given present trends, the area occupied by cities—their urban extents—will triple. Urban extents increase faster than populations largely because of economic growth.

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Explaining urban extents:

Urban extents are largely a function of population and per capita income. A city with twice the population of another one will have an area that is only 80% larger. A city with twice the GDP per capita will have an area that is 55% larger (figure 1).

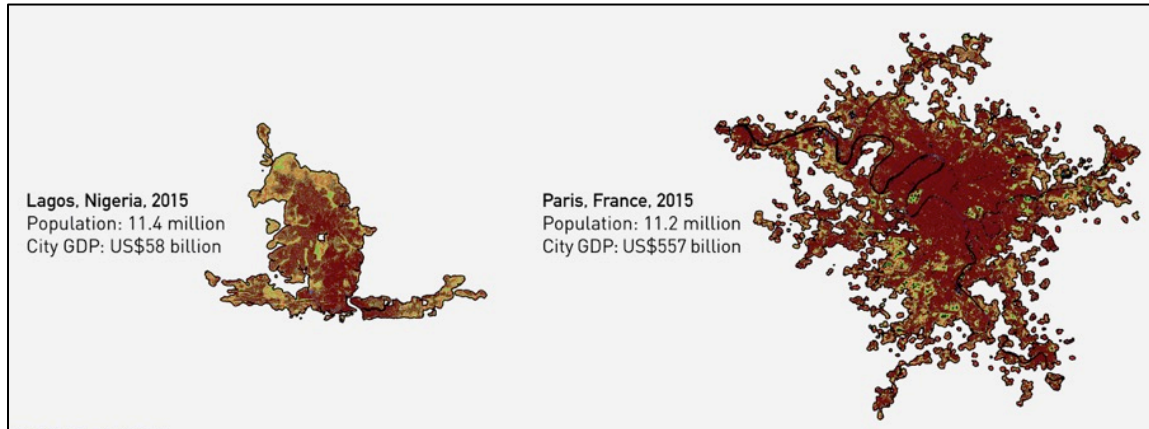


Figure 1: In 2015, Paris, France, had almost the same population but 10 times the GDP as that of Lagos, Nigeria. As a consequence, the urban extent of Paris was 3.5 times that of Lagos.

The tripling of urban extents during the 1990-2015 period:

The urban populations of less developed countries and their GDP per capita increased approximately 2.3 times between 1990 and 2015, and the urban extent of cities in less developed countries increased 3.2 times during this period (figure 2).

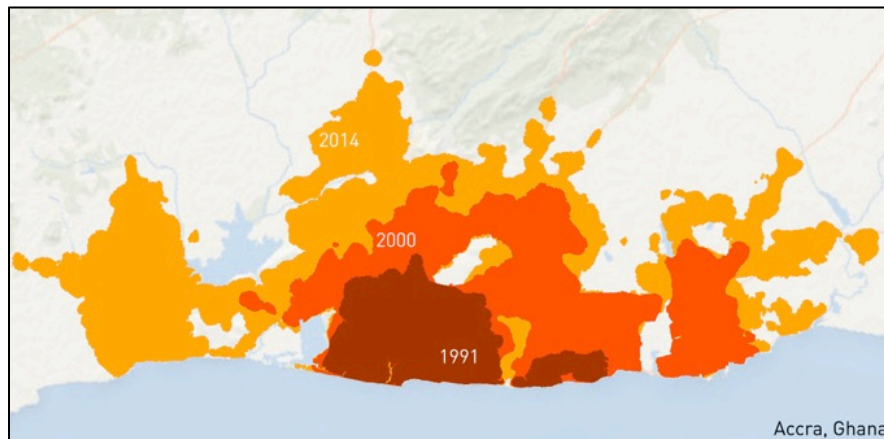


Figure 2: The population of Accra, Ghana increased four-fold between 1991 and 2014. Its urban extent grew eightfold.

The share of the population living in cities:

The share of the world's total population living in cities increased from 30% in 1950 to 50% in 2007, and to 54% by 2015. It is now scheduled to increase to 66% by 2050 and possibly, as noted earlier, to 75-80% by 2100.

The share of the urban population in less developed countries:

The share of the world's urban population living in less developed countries is increasing rapidly: It amounted to 40% in 1950, 69% in 2000, and 75% by 2015, and it is now expected to increase to 82% by 2050 and possibly to 86% by 2100.

Urban population growth, 2015-2050:

Between 2015 and 2050, 2.25 billion people will be added to the urban population in less developed countries, compared to 130 million that will be added to the urban population in more developed countries (of which 85 million will be in the U.S.).

The 18-to-1 ratio:

In other words, between 2015 and 2050, 18 persons will be added to the urban population in less developed countries for every single person added to the urban population in the more developed countries.

Two regions will absorb almost 60% of urban population growth, 2015-2050:

Urban population growth in the coming decades will be concentrated in two world regions: One third (32.6%) in Sub-Saharan Africa and one quarter in South and Central Asia (25.6%), most of it (24.7%) in the Indian Subcontinent (figure 3).

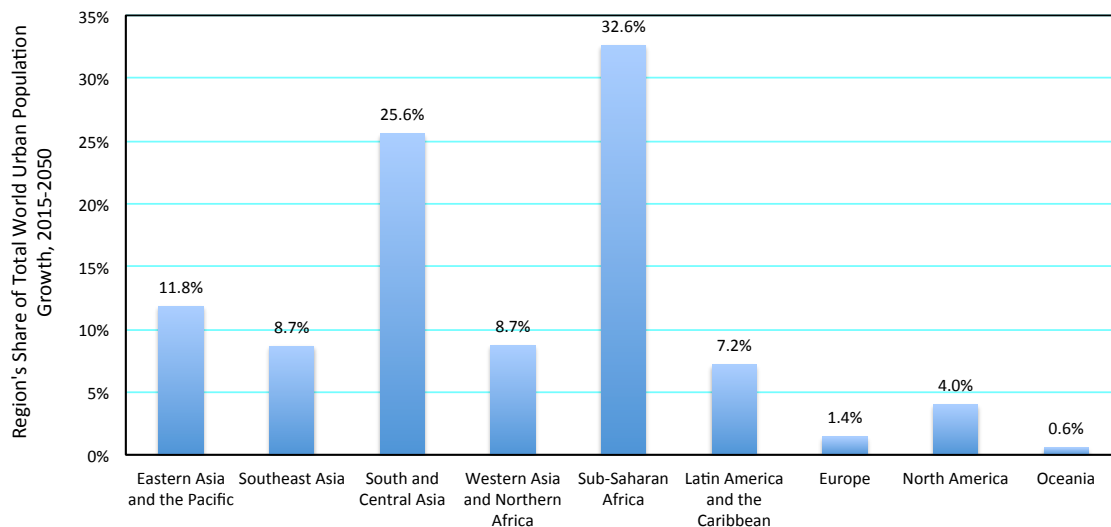


Figure 3: The share of each world region in the world's urban population growth between 2015 and 2050, now estimated at 2.38 billion.

Explaining the share of the population living in cities:

The share of the population residing in cities is associated with higher levels of economic development, with smaller household sizes, and with better health outcomes, including increased life expectancy and decreased child mortality.

GDP per capita and the level of urbanization:

A country's level of development, measured, say, by its GDP per capita increases with its level of urbanization: A 10% increase in the level of urbanization is associated with a 75% increase in GDP per capita (figure 4).

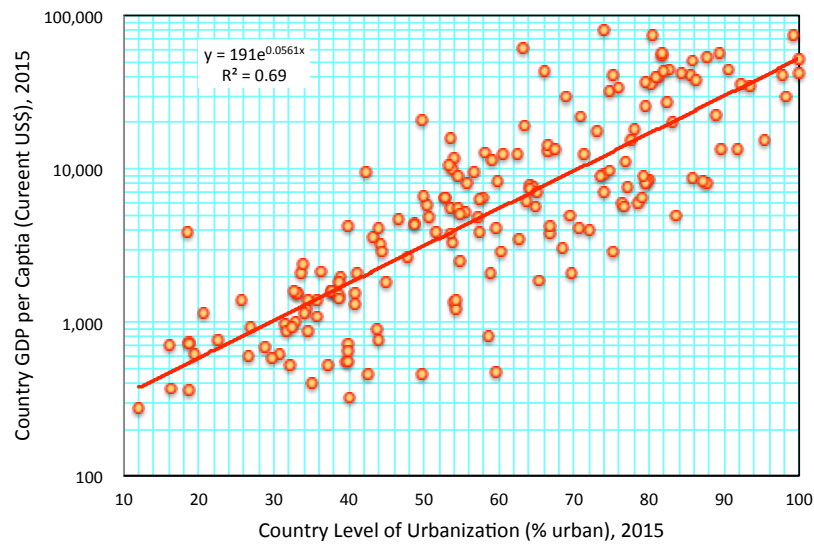


Figure 4: The relationship between the level of urbanization and the level of economic development in 143 countries that had more than one million people living in urban areas in 2015.

Urbanization and economic development:

This relationship also persists over time. As the level of urbanization in all world regions increased between 1960 and 2015, so did all the regions' levels of economic development, including that of Sub-Saharan Africa (figure 5).

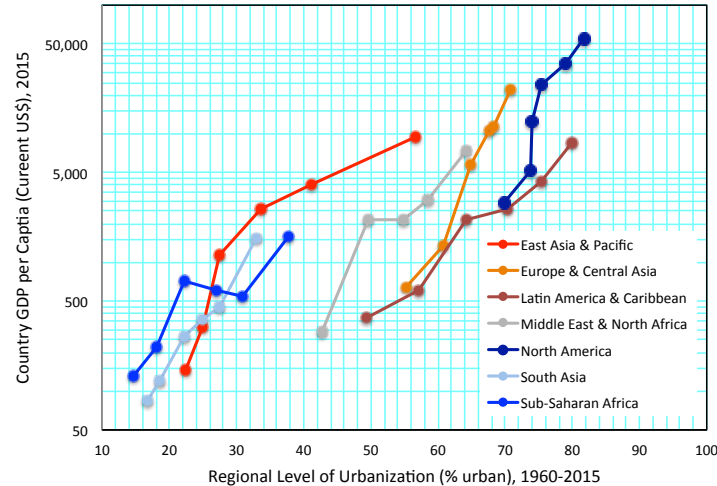


Figure 5: The relationship between the level of urbanization and the level of economic development in 7 world regions over time, showing values for six dates: 1960, 1970, 1980, 1990, 2000, and 2015.

Urbanization and public health:

As the level of urbanization in all world regions increased between 1960 and 2015, life expectancy at birth, a key public health indicator, increased systematically in all regions, and by as much as 27 years in the Asia and Pacific region (figure 6).

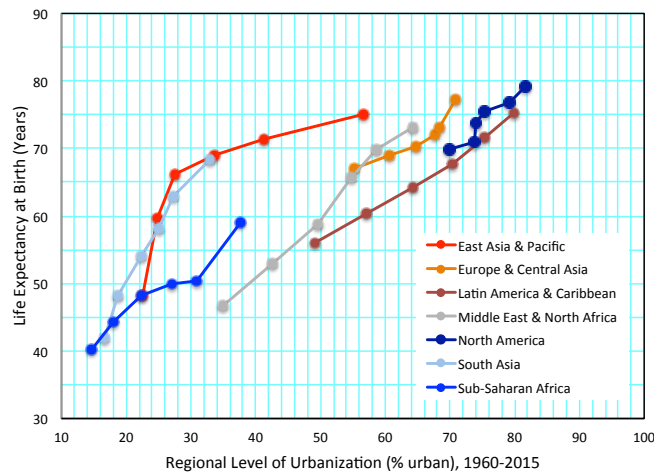


Figure 6: The relationship between the level of urbanization and life expectancy at birth in 7 world regions over time, showing values for six dates: 1960, 1970, 1980, 1990, 2000, and 2015.

What is a city?

We define a city by the limit of its built-up area, referred to in ancient Rome as its *extrema tectorum*. A city is defined by the set of enumeration districts that encompass its contiguous built-up area and the open spaces within it (figure 7).

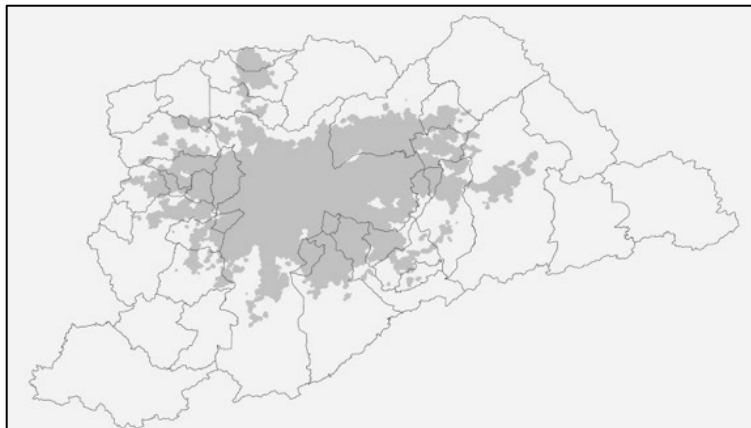


Figure 7: The contiguous built-up area of São Paulo, Brazil, in 2014, stretching across 31 municipalities, is considered by our definition to be a single city.

The universe of cities:

Given this definition of a city, there were altogether 4,231 cities in the world that accommodated populations of 100,000 people or more in 2010. We refer to these cities, taken together, as the *2010 Universe of Cities* (figure 8).

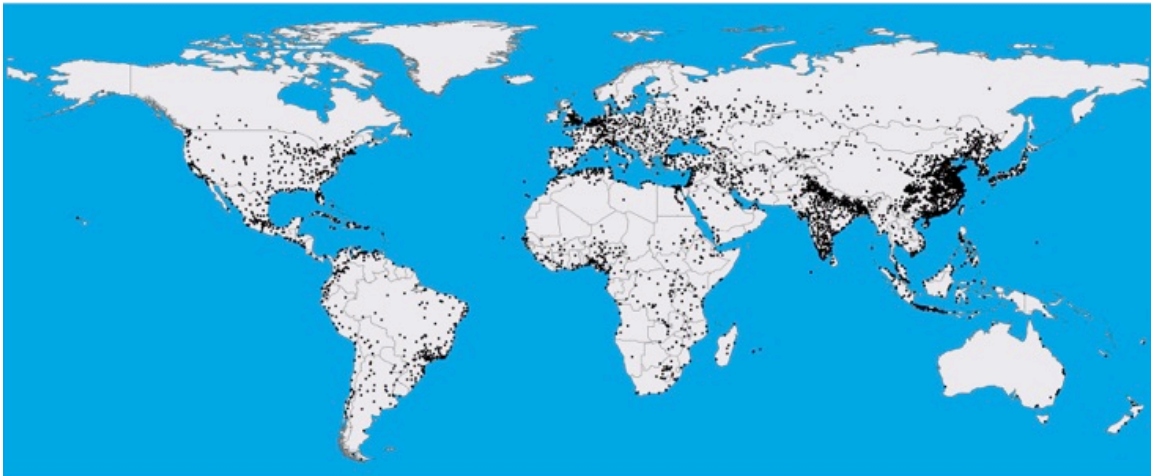


Figure 8: The 2010 universe of cities, containing all 4,231 cities that had 100,000 people or more in 2010.

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All city-size ranges contain similar total populations:

If we arrange the cities in the Universe of Cities into population-size ranges, where the higher limit of the range is twice the size of its lower limit, we find that the total population in each size range is not that different from that of others (figure 9).

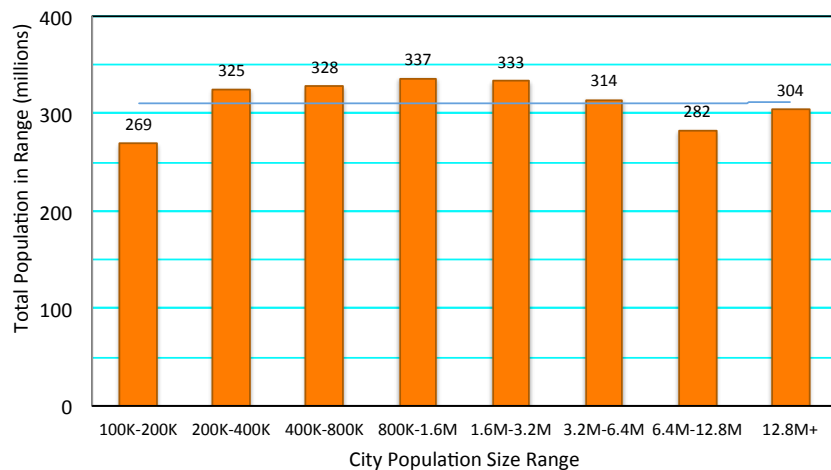


Figure 9: The 4,231 cities in the 2010 universe of cities, arranged into size ranges, with the higher limit of a range twice the population size of the lower limit, showing that all ranges contained similar total population.

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Cities of different population sizes are growing at the same rate:

Gibrat's Law postulates that the populations of cities of different sizes should, on average, grow at the same rate. They do, as figure 10 shows. The growth rates shown are individual city growth rates net of the national average city growth rate.

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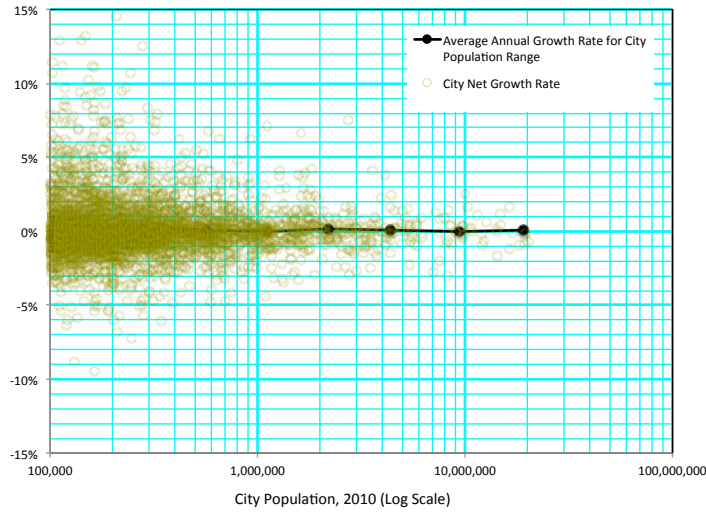


Figure 10: Individual city population annual growth rates, net of the national average city population growth rates, for all 4,231 cities in the universe of cities for 2000-2010, and the average annual population growth rate for different city population ranges for the same period.

There are discrepancies between country definitions of ‘urban’:

Given the earlier results, we expect the total urban population of a country be a fixed multiple of the total population of its cities with 100,000 people or more. A comparison with UN urban population data shows serious discrepancies (figure 11).

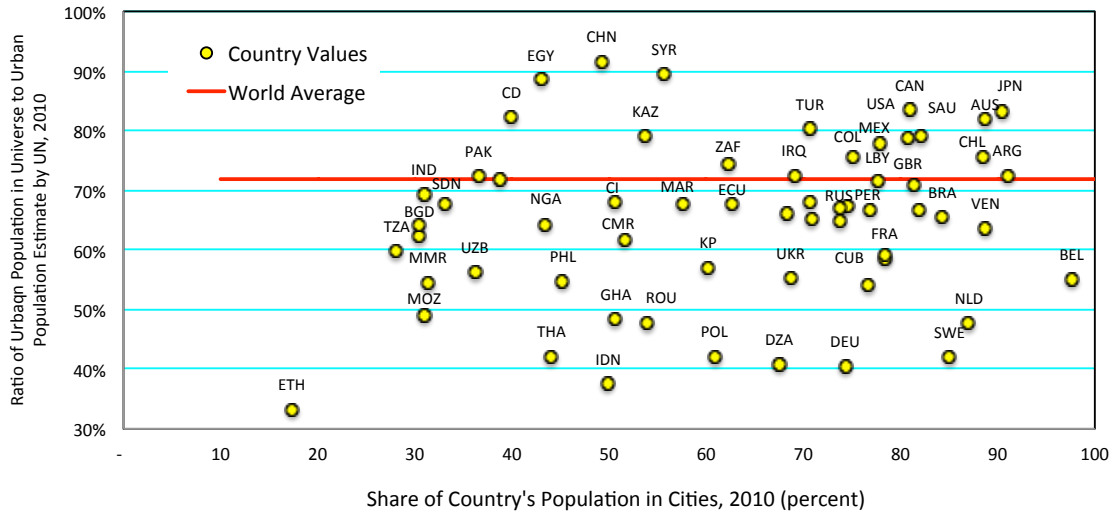


Figure 11: The ratio of the urban population in cities of 100,000 or more in 2010 and the UN Population estimate of the total urban population in the country for 61 larger countries that had 10 or more cities of 100,000 people or more in 2010, arranged by country level of urbanization in 2010.

Explaining differences in what constitutes ‘urban’:

Much of the data gathering on cities does not have a rigorous spatial framework. In the near future we will be able to estimate urban population at all city sizes with a consistent definition for all countries that may yield more reasonable results.

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Shifting the focus of the urbanization project from 'people' to 'land for people':

Discussions of urbanization often begin with numbers of 'people' and go nowhere from there. We must shift the focus from 'people' to 'land for people' because when it comes to land, urban land, there is much we can do for the people inhabiting it.

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The Urbanization Project is both inevitable and desirable:

When people are free to move, as well they should be, they come to cities. When cities are productive, inclusive, and sustainable they attract more people, as well they should. This, in the final analysis, is a virtuous circle, as well it should be.

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The risks that the Urbanization Project entails are asymmetrical:

It is better to prepare our cities for their inevitable and massive expansion than to deny it or to try to prevent it and fail. If a city ends up growing slower than expected, little harm is done; if it grows rapidly in a disorderly manner, much harm is done.

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Preparations for urbanization are falling behind:

In comparison to areas built before 1990, the areas of cities built between 1990 and 2014 had a smaller share of the land in streets, more lands occupied before they were laid out, and a lower density of arterial roads than can carry public transport.

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Urbanization without fear:

The Urbanization Project is the greatest human experiment of recent history, bringing millions of us strangers together into cities to invent new undreamt futures. It is to be celebrated, not feared; prepared for, not run away from.

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