What is a Smart City and How Can a City Boost Its IQ?

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Earlier this month, the World Bank hosted a Smart Cities for All workshop in Washington, DC which convened experts from the United Nations, academia, government agencies, non-profits and industry. The purpose of the workshop was to share insights and experiences of equipping cities with the tools for intelligent growth. Additionally, the forum established a public-private partnership for collaboration in pursuit of shared goals for global sustainability. But what does it mean to be a "smart city"? Is this distinction only reserved for cities starting from scratch? Can an established city boost its IQ?

First, we must take a step back to reflect upon what it means to be a "smart city." While there is no official definition, many have contributed to this debate. Industry leaders, such as Seimens and IBM, believe that stronger use of technology and data will enable government leaders to make better informed decisions. Whereas others, including the Sustainable Cities Blog's very own Dan Hoornweg, consider the social aspects as a component of what it means to be a smart city. In his blog, "Smart Cities for Dummies," published last November, Dan contends: "At its core a smart city is a welcoming, inclusive city, an open city. By being forthright with citizens, with clear accountability, integrity, and fair and honest measures of progress, cities get smarter." Though I agree with both the data-driven and socially-conscious approaches, I'd like to propose my own definition of a smart city.

At its most basic level, a city is comprised of a government (in some form), people, industry, infrastructure, education and social services. A smart city thoughtfully and sustainably pursues development with all of these components in mind with the additional foresight of the future needs of the city. This approach allows cities to provide for its citizens through services and infrastructure that address both the current needs of the population as well as for projected growth.

Many of today's largest metropolises are an organizational and infrastructural nightmare. Take the city of Atlanta, for example. The greater metropolitan area of Atlanta supports a population of about 2.5 million people and spans 137 kilometers between its two furthest points. By 1990, this sprawl had established a density of six people per hectare. Now, compare Atlanta to a city with a similar level of population, Barcelona. The furthest distance of built up area in Barcelona is 97 kilometers with a density of 176 people per hectare (World Development Report 2009, 211). The contrast between the densities of Atlanta and Barcelona can be observed in the diagram left from Alain Bertaud, 2002. The respective densities of Atlanta and Barcelona greatly affect the cities' ability to serve their citizens. For example, in order for Atlanta to accommodate as many people as Barcelona's public transit system, Atlanta would need to build an additional 3,400 kilometers of track and about 2,800 new metro stations. Atlanta could then support 30% of trips through mass transit which Barcelona accomplishes with only 99 kilometers of tracks and 136 stations (World Development Report 2009, 211).

Of course hindsight is 20-20. It's easy for us to tell the City of Atlanta should have predicted its population boom and planned for it appropriately. But it's not as easy as it sounds.

Are well-established cities, like Atlanta, doomed to fail in the race to be a smart city? How can a city boost its IQ and make the decisions of a smart city moving forward? City governments should create policy incentives for developers to build high-density housing with a small building footprint. In the U.S. many local governments have a similar policy, awarding developers of LEED certified buildings a height or density bonus as an incentive to build sustainably. This is a positive first step but we need to go one step further in order to combat urban sprawl in our cities around the world. In order to plan for population trends in a city, data and technology play a critical role in understanding and predicting the needs of its citizens. Knowledge and data-sharing platforms, including the World Bank's Urban Knowledge Platform, are empowering cities and citizens, alike, to change their consumption and development patterns in favor of smarter and more sustainable habits.

As for Atlanta, the USGBC Atlanta Branch of the Georgia Chapter has done a stellar job on this front, including facilitating the passage of a LEED green building policy for public sector buildings. The City of Atlanta has since signed up to be one of the three pilot cities for the President's Better Buildings Challenge, which charges cities to make commercial buildings 20% more energy efficient by 2020 and to accelerate private sector investment in energy efficiency.

Of course it's easier and more cost effective to "go green" and develop intelligently from the get-go. Emerging economies and developing countries have that advantage. However, it is not only doable for an established city to rise in the ranks of smart cities, but it's already been done, and cities like Atlanta are paving the way.

Read the full post on WB Sustainable Cities.

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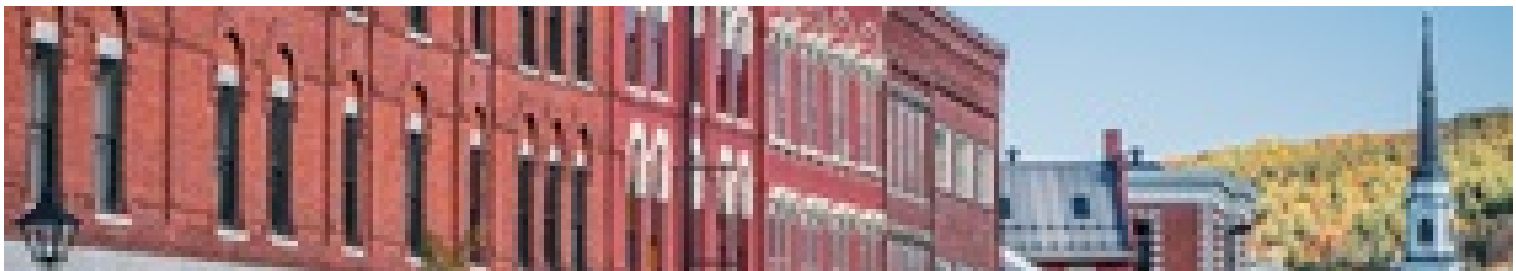

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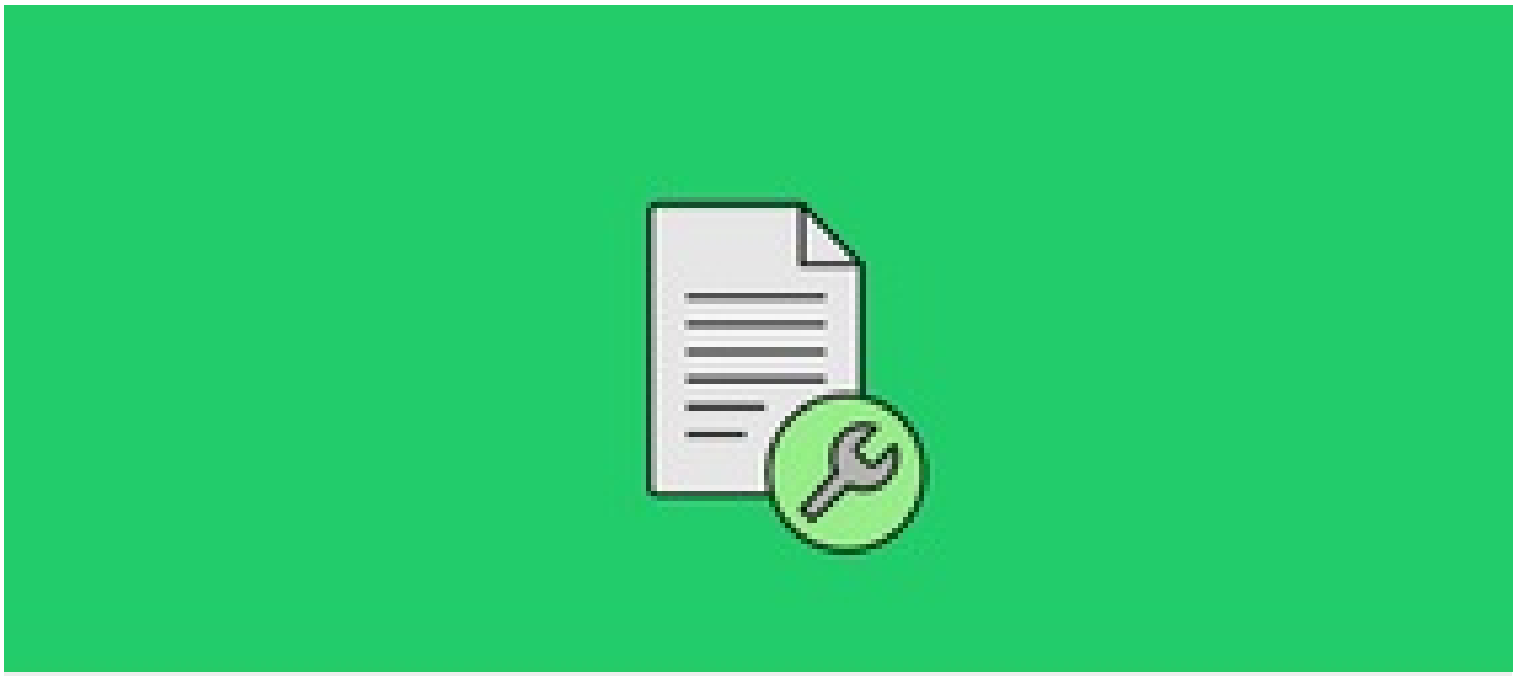

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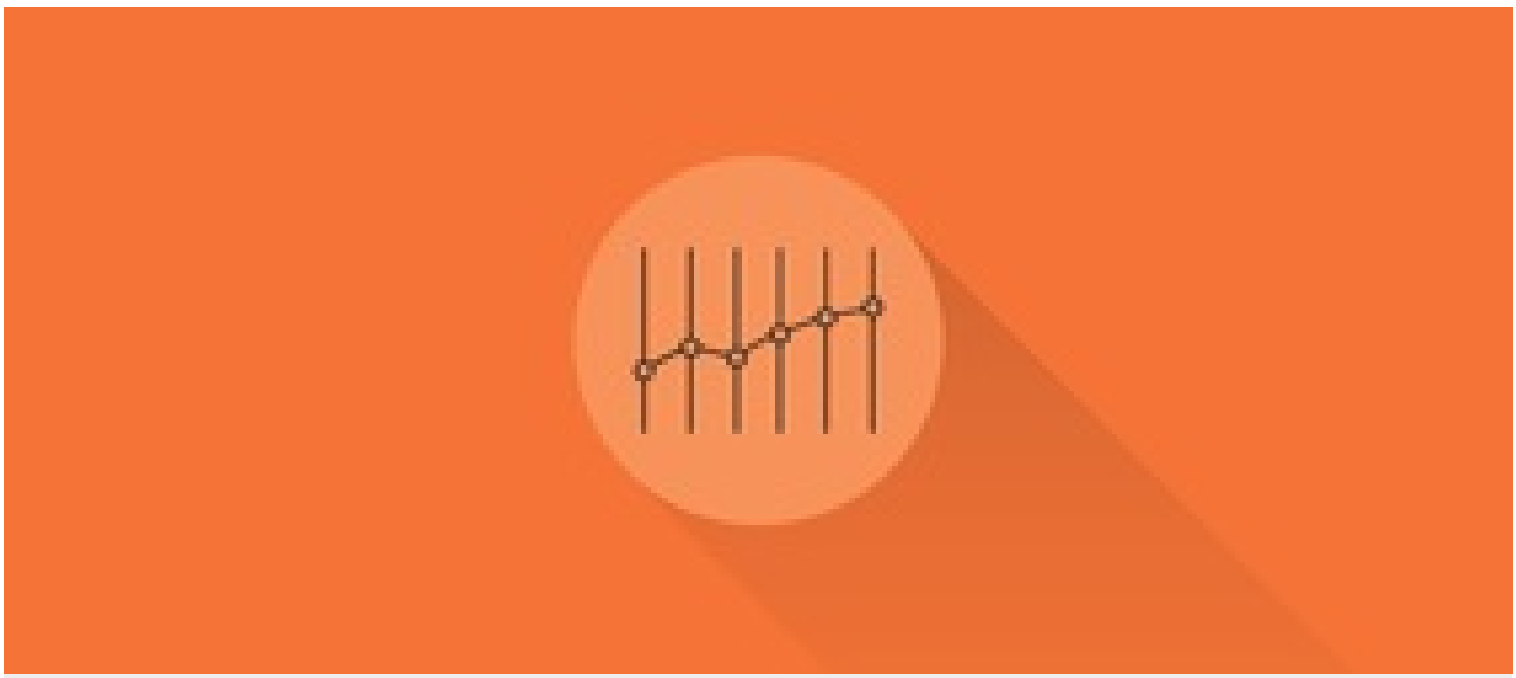

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