Why Smart Cities Are the Path to a Sustainable Future

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Overflowing public trash cans: Gone. Trudging to City Hall for a license: Done. Circling city blocks to find parking: Don’t have to worry about that, either.

All of these examples are potential benefits of smart cities — that is, cities that use technology to improve efficiency, growth and well-being for individuals and organizations. These cities, which are already developing globally, are necessary to achieve an economical, convenient and more sustainable future.

How smart cities can help people meet sustainability goals

One of the biggest hurdles to sustainability is manual upkeep or fulfillment. Suppose you had to collect garbage for your city. Because you can’t tell which cans need emptying, you have to drive to all of them to check how full they are. That wastes both time and gas and puts more wear and tear on the garbage truck.

But what if the trash cans had sensors? Now you can tell which cans are empty and, based on data over time, get a sense of which routes don’t need you to drive by as often.

Smart cities can reduce the need for manual work in dozens of areas besides trash. They can use collected data to improve processes and focus manual work where it’s needed most. The

improvement and focus mean that people might be more likely to engage with services or complete tasks, such as attending meetings more often because they can participate virtually and don’t have to combat traffic.

In addition to improving sustainability through directing labor and resources, smart cities can provide real-time data people need to stay safe and have a good quality of life: An emergency response system can alert you to bad weather or accidents. Sensors and imaging can alert you that something within your infrastructure (e.g., a bridge) needs maintenance. Data also can result in increased accessibility that influences health and well-being, such as telehealth connections.

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Smart cities are here — we just need way more of them

As in other areas of business and investment, many people want to see some proof of concept before they’ll put money behind something. Smart cities are no different. But thanks to forward-thinking leaders, we now have multiple examples of what sustainable living can look like in real life.

Consider Copenhagen, Denmark, which is slated to be the first carbon-neutral city in the world by 2025. Because the city naturally gets a lot of wind, it’s built enough wind turbines to power 22% of its electricity and has plans to boost that to 50% in the next three years. Copenhagen is also rethinking infrastructure and heating, mandating that vegetation and soil be part of architectural planning (i.e., green roofs), using waste heat from power plants and other sources, and establishing transportation lanes that allow 62% of residents to commute by bike.

Other cities aren’t far behind. Zurich, Switzerland; Madrid, Spain; and Canberra, Australia, are all making massive strides toward carbon neutrality. In the United States, California is known for its climate efforts, with cities like Berkeley, San Diego and San Jose all making pledges related to electric vehicles, emissions and energy. But there are smart cities across the entire country.

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The three main players in the smart city movement

Businesses play one of the most important roles in supporting smart cities. They can create and implement new technologies and processes so their operations are less wasteful and more environmentally friendly. They can provide repeated exposure to sustainability values and get people used to considering how their habits influence the environment and their own health. The way they design campuses to fit within the larger community can also influence thinking and behavior. And businesses get benefits back, including reduced business costs, improved reputation with customers that value going green and better strategies that boost profit and competitiveness.

Non-profits are also heavyweights in making smart cities a reality. They can provide sustainability education and training and raise awareness about violations and potential in the community. This includes teaching individuals and organizations how to adapt to new environmental conditions.

Government is the third sustainability player. Representatives can introduce legislation to control what individuals and organizations do, such as with Copenhagen’s green roofs mandate, and they can provide incentives or rebates for using tools like solar power or automation. This work can stabilize

the sustainability efforts people, businesses and non-profits try to make.

Ultimately, all three of these players have to cooperate if smart cities are going to be built effectively. To collaborate well, each player has to understand the needs and requirements of the other, such as the local government seeing that forcing people to come to city hall to pay a bill is counterproductive. Solutions also need to be built based on real problems people have. But because governmental regulation can determine what people adopt, the foundational work is to help representatives understand why smart cities are a good direction to go in.

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Ultimately, the choice is yours.

Smart cities that can pave the way for sustainability are no longer a far-off dream – cities like Copenhagen provide proof of concept and show that people can protect the planet in practical ways. But Copenhagen has succeeded only because people made a deliberate choice about their values and how they wanted to live. To bring a smart city to where you live, you need to make a choice, too.

Once you're committed to sustainability, be an advocate. Get involved in a non-profit or bring sustainability ideas to your manager or board. Most of all, come together with others and let your representatives know that smart cities are something you want. When they realize how important the citizen experience is and see how new data and tools can improve their own efficiency, they'll start putting their clout behind development to support real change.

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