

How to Invest in Smart Cities

As cities become more connected, there are more avenues for investing.

(Getty Images)

By [Dawn Reiss](#) | Contributor

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As smart cities apply technology using analytics and software to better manage their operations, urban development is becoming increasingly more connected, integrated and technologically advanced via the [Internet of Things](#) movement.

At the same time, mayors and city planners across the U.S. are grappling with how to be more efficient and effective with their shrinking budgets and growing urban populations. Coupled with millennials searching for more walkable, transit-friendly cities, many agile startups are developing innovative "smart city" solutions that are being sought out and gobbled up by Fortune 500 companies and other investors.

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In March, General Motors Co. (ticker: [GM](#)) purchased San Francisco-based Cruise Automation – a company that turns certain types of cars into [autonomous vehicles](#) – in a deal some industry experts say that was more than a \$1 billion in cash and stock options. Only two months earlier, GM invested \$500 million in Lyft's riding sharing service to create an on-demand network of self-driving cars.

"Cities are becoming smarter, but at a slower rate than homes and still lag behind them in technology," says Jake Chapman, partner at Gelt Venture Capital in Berkeley, California. "City budgets are getting crunched and they need to find solutions. Just like businesses, there's always this pressure to become more efficient or be left behind."

It is part of the reason the U.S. Department of Transportation and Microsoft Corp. ([MSFT](#)) billionaire Paul Allen agreed to give \$50 million to a mid-sized American city (200,000 to 850,000) via its Smart City Challenge to improve safety, enhance mobility and address [climate change](#). San Francisco-based Grand View Research estimates the global smart cities market will hit \$1.4 trillion in 2020 – nearly triple the \$567.4 billion market in 2013.

The seven finalists in the competition are Pittsburgh; Columbus, Ohio; Austin; Denver; San Francisco; Kansas City and Portland, Oregon.

"It's the wild west right now and no one knows what's really going to work," says Ed Skoudis, founder of Counter Hack, an organization in Wall, New Jersey, that builds cybersecurity challenges. "A bunch of places are doing it in different ways and many are going to fail. If everyone was doing it the same way, it would kill this exciting new technology."

Here are a few smart city trends to keep on your radar as technology evolves.

Look for companies that understand how to navigate the hyper-local nature of smart cities, says David Cummins, senior vice president of mobility solutions for Xerox Corp. ([XRX](#)). "This isn't a one-size-fits-all process," he says. "Every city is unique and very siloed. To assume you can come in and overlay some technology is a bit of a fantasy."

There's also growing convergence and a recognition that the private sector is filling in for what the public sector used to do, Cummins says.

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Everything is getting sensors. Cities like San Diego and Jacksonville, Florida, have partnered with General Electric Co. ([GE](#)) to embed smart street lights with LED bulbs that have dimmers and include motion sensors, wireless transmitters and cameras. San Jose, California, installed integrated LTE wireless in LED street lights via its SmartPole program in partnership with Koninklijke Philips ([PHG](#)) and Telefonaktiebolaget LM Ericsson ([ERIC](#)). ShotSpotter partnered with GE in more than 90 cities to embed its sensors in streetlights to help triangulate and pinpoint gunshots by using embedded surveillance technology.

Even waste management operations are getting sensors.

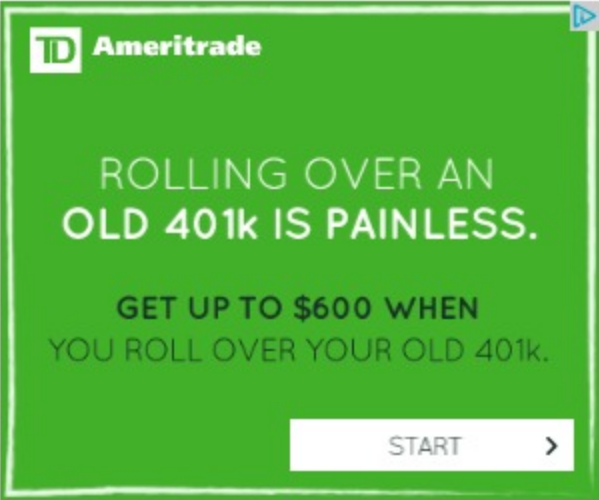
ParkerGale, a technology-focused private equity firm in Chicago, invested in OnePlus Corp., a remote intelligent monitoring system where sensors using hydraulic pressure and SIM card gauge the fullness of a trash compactor. The sensor then monitors when and where the trash needs to be picked up in cities like Sydney and Nashville, Tennessee, says Kristina Heinze, co-founder and partner at ParkerGale.

That same technology can be applied to other bins, such as donation bins that might be overflowing, agricultural grain bins that need to be emptied or when to retrieve liquid waste such as cooking oil.

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Driverless cars will change everything. "This is going to have a bigger impact than even the smart phone," Chapman says.

How big?

Chapman points to how Uber decimated Carnegie Mellon University's National Robotics Engineering Center by poaching 40 or so researchers and scientists to build an in-house team to develop its driverless car technology.

Chapman also predicts a drastic uptick in subscriber-based driverless car plans. "That eliminates the need to park in a downtown area," he says. "You're going to see parking lots and gas stations go away and you won't need to park at home so garages might go away."

As families and landlords reclaim their parking spots, Chapman says apartments may turn their parking into rental units while garages maybe used for storage units or living quarters as adult children continue to live with their parents.

Fremont, California, which was one of the more than 70 cities that applied for the Smart City Challenge, is working on partnering with apps to "order-up mobility," that will coordinate various options including riding sharing and Zipcar options, says Hans Larsen, public works director. The city hopes to reduce parking and allow residents in their urban area to live "car-free" or "car-light," Larsen says.

Look for other places to invest in the shared economy that focuses on collaborative consumption, says Krishna Gupta, founder of Cambridge, Massachusetts-based Romulus Capital, who points to EquipmentShare, the Airbnb-style construction rental company that helps companies share and rent equipment.

Where to invest. Most cities are implementing "smart" technologies and in every vertical. Even robotic greenhouses that can grow and deliver vegetables via Alphabet's ([GOOG](#), [GOOGL](#)) [Google X drone delivery lab](#) are being tested and could impact city food deserts. Internet infrastructure, including Wi-Fi networks and Google Fiber, energy, mobility and security as well as subsectors like artificial intelligence and cloud-computing are all big categories.

Several vendors are trying to make a play in this space, including Cisco Systems ([CSCO](#)), International Business Machines ([IBM](#)), Oracle Corp. ([ORCL](#)) and Intel Corp. ([INTC](#)), says Skoudis, who is also an advisory board member to RSA Conference, which focuses on the security industry.

Or consider investing in the Russell 1000 index of [small-capitalization stocks](#), Chapman says, because it will include larger new companies that have higher growth. "I'm bullish on the American economy," he says. "Any good index fund with zero to low fees is a good investment right now."

Just avoid municipal bonds, Chapman says. "They aren't the best way to invest," he says. "Because even though some of that money is in smart cities, most of it is in schools and basic infrastructure repairs."

Look at investments in the B2B sphere. Both Gupta and Heinze say they focus on the business-to-business market instead of business-to-consumer. "Consumers can be fickle," Heinze says.

Instead of chasing [the trend of the moment](#), she says it's easier to get corporate customers who are addressing a more sizeable market that have a higher selling price to the customer. "Why would I want to sell a smart thermostat or light bulb at that price point if I'm selling compactor sensors at \$2,000 a sensor?" she says.

Just don't "fly too close to the sun," Heinze says. Instead avoid a space if it's "really hot" and private equity firms, and venture capitalist firms and other investors are flocking to it. "Companies became so expensive that way," she says. Instead think of what's not in the spotlight but has a big economic and sustainability impact.

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"It's such a big opportunity for everyone for the everyday investor," she says. "Technology has become so much cheaper than before, it has moved down from huge enterprises to the S&P 500 market, and now it's in our houses and cities."