

# The Tech That's Changing How Cities Help the Homeless

*Sarah Holder Linda Poon May 31, 2018*

A photo illustration shows a homeless encampment in Seattle.  
Madison McVeigh/CityLab/David Ryder/Reuters

## From mapping apps to the blockchain, new tools are intended to give cities the information they need to address this growing challenge.

Every day, a team of community health paramedics in Austin, Texas, fans out across the city to provide aid to the growing number of people on the streets. Finding the homeless isn't always easy—Austin's annual homeless census found that at any given time, more than 2,500 people are unsheltered; in a year, that number exceeds 7,000—and those are just the most obvious, countable cases. Harder still is finding their papers.

“It's a great anomaly to find someone who has all their identity documents,” said Jeremy Davis, an EMS with Austin's community health paramedic program. “To get them properly connected to homeless services, you need their birth certificates, social security cards, health insurance records—all those are interdependent.” And often, Austin's homeless don't have any of them.

Soon, though, that could change. In May, Austin began piloting a project to give the homeless a portable, digital identity, hosted on blockchain technology. It's funded by a \$100,000 grant to test the idea, and in the running for a \$5 million program grant from [Bloomberg Philanthropies' Mayor's Challenge](#). For those whose lives are characterized by impermanence, the city hopes to provide a digital footprint in a system that will exist online—one that can't be deleted, lost, or stolen. One that the individuals can control themselves, and that can be used by homelessness service workers to provide better, more informed aid.

With homelessness on the rise in many U.S. cities, even counting and identifying this population can be a major challenge. That's where a handful of new digital tools come into play, allowing cities to help the homeless control their information, enabling faster and more accurate counts of people on the street, and mapping where they are to ensure they have access to services. Efforts being piloted in Austin, Spokane, Houston, and elsewhere aim to equip local governments with the knowledge they need to address the challenges of homelessness in their communities.

In Austin's case, developers hope the blockchain concept can offer homeless residents a path off the streets. “We sort of take for granted this notion of identity,” said Tim Mercer, director of global health at Dell Medical School, which is partnering with the mayor's office to integrate the blockchain product with medical services. Most people have physical copies of their drivers' licenses or passports in their wallets or tucked away at home. But for those experiencing homelessness, documentation can be easily misplaced, weathered in the rain, stolen, or even lost during an arrest. Sometimes city agencies do street cleanups, picking up seemingly discarded papers and throwing them away. “When that stuff gets [lost], they just have to start over,” Mercer said. “They need to get

a new ID and new birth certificate, which sets them back on their pathway to recovery, broadly defined.”

Having identification doesn't just provide proof of existence. You need Social Security cards, birth certificates, or drivers' licenses (and often, all three) to get housing, to be seen in a health clinic, to sign up for food stamps, or to get disability services. Some jobs ask for photo IDs in the same breath as your resume. Most doctors need to know medication history before prescribing new pills. Social Security cards are free to replace, but new ones have to be mailed to a street address, and the Social Security Administration [will only issue 3 new ones each year](#), and only 10 per lifetime. “If you lose your identity, it's like you're a ghost in the system,” said Mercer. And it's hard for a ghost to navigate the bureaucracy.

That's where blockchain—a technology known best for its association with cryptocurrencies like Bitcoin—comes in. Hosting information “on the blockchain” just means it is incorruptible and easy to access, stored on a decentralized server. Instead of paper identification documents, personal records of Austin's homeless will be encrypted and digitized. While city officials are the ones facilitating the recording of this information, individuals themselves will have access to their own records, and control over who can see it.

In addition to being securely stored, identity records would also be verifiable, activated by homeless individuals on mobile phones using biometric data, passwords, or photo recognition. For those without SMS access, the portal will also be accessible online, through library portals. When a homeless service worker like Davis approaches someone on the street, he'd be able to find their identity records without having to bring them into an office and find a physical file folder.

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Transferring medical records between health care providers is already a complicated process, even for those with fastidious filing habits. But for the homeless, the stakes are fundamentally higher. “I sit in clinic and see my patients and I can access my own record system [of their past medical history], but I can't access the mental health providers' record system, and I can't access the government databases that tell me when this person's food stamps are going to expire,” Mercer said. “At the end of the day, the burden falls on the patient who's already totally overwhelmed by life.”

To shape the city's design and implementation process, the team put together a test group of about 50 homeless individuals, and ran tests at “pop-up clinics” around the city. “Once the value starts to be seen, folks experiencing homelessness will seek us out,” Davis said. “Part of the hope is we'll be able to start with the most easily identifiable individuals, gain their trust, improve the viability of project, and then info will spread through natural processes and then it'll become a requested service.”

While blockchain technology is inherently decentralized and less susceptible to manipulation, the collection of personal data opens up some privacy concerns. Medical information-sharing, especially, needs to be done delicately to abide by federal health privacy rules. And however helpful it might be for doctors to have access to medical records, it could be just as damaging in the hands of a potential employer or a housing approver. “I just see so much greater potential for good in information-sharing that I would hate for us as a society to prevent this kind of integration because we're concerned about privacy,” Mercer said. “We can figure that out, and implement technological

safeguards and policies.”

## Getting a better count

It's not just identity systems that need a technological upgrade. Figuring out how many people live on the streets is a massive undertaking each January, when communities across the U.S. embark on the annual Point In Time count of the homeless population. It's a process that's required by the Department of Housing and Urban Development in order for cities to receive federal funding, and it's intended to provide a snapshot of cities' progress in fighting homelessness.

Federal and local governments rely on these counts to understand the size of the problem, and to shape policies to address it. But the details are murky at best. “We start with the assumption that the unsheltered count is probably going to be an undercount,” said Steve Berg, the vice president for programs and policy at the National Alliance to End Homelessness. “How much of an undercount, it's nearly impossible to say.”

Volunteers are pictured conducting a Point in Time count of the homeless population.  
Volunteers conduct a Point In Time count. (Lynne Sladky/AP)

Certain homeless groups like students and LGBT youth are [especially hard to find](#), as are those who stay in motels or at someone's house. The fact that the two-, sometimes three-day PIT counts are confined to certain areas, depending on how big the volunteer force is, means entire clusters of individuals can be left out of the count. And cities hope that by going digital, they can at least begin to tackle that problem.

Since the counts began in 2005, the methodology hasn't changed much: Paper forms in hand, volunteers set off into groups at night into different parts of the city, where they canvas alleyways and parking lots, under bridges and outside of storefronts, as well as inside shelters and temporary housing.

In recent years, though, more cities are trading in pen and paper for smartphones and tablets, following in the footsteps of New York City; Aurora, Colorado; and Houston, Texas.

During this year's count in Spokane, Washington, as volunteers fanned out around downtown to survey the city's homeless population, David Lewis watched from his office as dots filled a map on his computer screen. Each represented a member of one of America's most vulnerable groups. Instead of waiting months for the numbers to come in, Lewis, the city's head of homeless data systems, saw the big picture in real time.

This year's count marked the first time that Spokane tested the “Counting Us” app, which lets volunteers input survey answers via smartphones and send them straight to the command center. Companies like Simtech Solutions, developers of the Counting Us app, and Esri, which provides a similar service through its Survey123 platform, tout that the use of GIS technology allows volunteers to pinpoint the exact location the information is gathered, and in real time.

“It would take us so much time to get to where we had meaningful data that the data itself wasn't as useful as it could have been if we had it more readily available,” said Lewis, who has conducted Spokane's PIT count with pen and paper for the past eight years.

Since switching over to the Counting Us app in 2016, Houston has used the data to expand its search outside of major encampments to smaller clusters in and around the downtown area—something that Marc Eichenbaum, special assistant to the mayor for homeless initiatives, said couldn't be done before, because data was sorted only through ZIP codes, and “neighborhoods are not done by ZIP codes,” he said.

The GIS feature came in handy in this year's count when volunteers alerted Ana Rausch, project manager for Houston's Coalition for the Homeless, to two new encampments in the northeastern part of the city. She pulled up the map, and sure enough, saw two clusters of dots in those areas. Rausch said her group planned to send outreach teams there.

In Spokane, since data can be analyzed in days rather than weeks or months, the city plans to conduct a second count this year. "We want to do a seasonally adjusted count, and see what sorts of variations there will be," he said. "We have local policy experts, for instance, who tell us we should expect to see a bump in the youth count because that population travels in different circles and spends more time doubled up with friends during the colder months."

"The real question is, what do you do with that finer geographic information?" said Christine Jocoy, a geography professor at California State University, Long Beach. She's long been a critic of PIT counts, [telling CityLab in 2012](#) that with the "culture of quantification," cities are spending too much time and resources counting the homeless and not enough on actually putting the results to good use. And while she agrees that going digital is a timesaver, Jocoy worries that cities are overpromising its potential. In talking with outreach workers, she found that many reported only subtle benefits. "The experienced outreach workers will often say, 'Well, we really already know the general areas, so it's not like we need the extra preciseness to help,'" she said.

But Lewis said more precise information can only help. He planned to incorporate some of the data in Spokane's official filing to HUD. Some of the data will also go into separate reports that any organization can access through the app.

Officials in Houston hope to study the impacts of Hurricane Harvey—how many were left homeless by the storm, for example, and whether new hotspots have popped up as a result. "We can start looking for patterns, [and figure out] if they are in these locations because that's where people became homeless, or because of external factors such as the availability of services or housing," Eichenbaum said.

Spokane worked with several local nonprofits to launch a project called Hope Works, which offers daytime employment opportunities for the homeless as an alternative to panhandling. That means mapping where panhandlers tend to hang out, and sending outreach workers to offer temporary job opportunities with the city. According to the website, folks who accept are given a free ride to the worksite and a stipend at the the end of the day, along with information about where to find additional services.

In dealing with a population that moves around, Lewis said their services need to be mobile, too. "Transportation, quite frankly, is a barrier for a lot of people," he said. "So we're trying to meet people where they're at instead of [operating] stationary buildings."

*CORRECTION: An earlier version of this story misstated the funding Austin's blockchain test. The recipients of Bloomberg Philanthropies' Mayor's Challenge grants have not yet been decided.*

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