IN THE CIVIC INTEREST

A LOOK AT THE PLACE WHERE GOVERNMENT AND GRASS-ROOTS INNOVATION (ARE STARTING TO) COLLIDE.

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COMING TOGETHER

The place where government interests meet community-minded activists holds the key to modernization. And it’s only becoming more sophisticated.

By Colin Wood

A MARKET OF THEIR OWN

Investor interest is helping to point a lot of startup energy at government. Does this mean there’s a place for innovation at city hall?

By Adam Stone

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Something interesting happened in Arizona in May. Gov. Doug Ducey vetoed a bill that would have legislated a cloud-first policy in the state. At first glance, the move would seem to go against Ducey’s pro-innovation agenda. He’s been vocal about embracing the sharing economy (and its economic development potential), and demonstrated support for technology incubators and the use of tools like crowdfunding, social media and data systems to support a broad swath of policy goals.

In actuality, Ducey’s move against that particular cloud-first proposal, which easily passed both houses of the Legislature, pointed to the additional layers of bureaucracy it required. It would in fact “stall needed advancements in technology,” rather than move them forward, he wrote in his veto message to the Legislature.

Among other provisions, the bill would have established a two-year refresh cycle for hardware, software and platform investments, and required agencies to report their progress toward migrating to the cloud for all IT and telecommunications investments twice a year. Several media outlets reported that penalties could include possible jail time for noncompliant technology officials.

The bill would have made Arizona the first state with cloud-first legislation on the books (a handful of others have adopted less formal and less far-reaching cloud-first policies). And while the veto sealed its fate, the broad support and momentum behind cloud technologies in the state surely signals continued migration to the cloud at all levels. This is just one example of the movement we cover in this issue toward a new way of doing business in government IT.

Whether you believe it was born of necessity due to shrinking budgets related to the recession or the influx of the civic-minded millennial generation making its way into the workforce (or both), new groups are exerting pressure on, and influence over, how the public sector operates. Coming Together (page 16) traces the evolution over the last several years of the public-facing hackathon movement embodied by groups like Code for America. They’re representative of the outside forces driving better government and becoming full participants in the process.

Our other major feature, A Market of Their Own (page 22) offers a look at the financial segments growing out of the civic technology phenomenon. While significant hurdles remain (procurement, anyone?), startup companies focused on the public sector are finding ways to offer real value to government and citizens, aided by venture capital from firms that now recognize the monetary value of the endeavors.

“People are starting to glom on, to self-identify or point to this broader movement to start to label it as a field, where [before] it was a bunch of ebbs and flows of seemingly distinct pieces of activity,” Jonathan Sotsky of the Knight Foundation told us. This sounds like a move in the right direction.
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FirstNet’s Aggressive Timeline

The First Responder Network Authority (FirstNet) is moving fast toward its goal of a dedicated nationwide public safety communications network. In May the federal agency updated its map of states’ progress in preparing for the network, which is expected to launch within the next couple of years. Every state but Mississippi has had an initial consultation with FirstNet, and all but New Jersey and Mississippi are included in the data collection process. FirstNet’s current phase is to consult with state governance bodies, which 12 states have completed. The meetings center on awarding a 25-year vendor contract for the network by November (having only issued the RFP in January).

Simplifying Small Procurement

Philadelphia contracted with the Department of Better Technology to develop an open source procurement portal for projects under $32,000. The tool, Dispatch, will give vendors a cleaner interface, clear instructions on how the process works and new functionality that could help solve some of government’s procurement woes:

- Dispatch will replace a similar existing portal — BigRoadPh4.com — that was developed in-house by the city’s open source team several years ago. While BigRoadPh4 lets vendors browse small contracts offered by the city, the new Dispatch tool also will notify users when new contracts are available and let users submit proposals online via the portal.

WHO SAYS?

“There’s been a lot of buzz in 2016 about chatbots — the idea of applying some of this natural language understanding in a deeper way to robots that are going to maybe chat, in our case, with citizens.”

www.govtech.com/quote-July16

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#1 Michigan is considering legislation that would make it the first state to formally legalize driverless cars.

All these government agencies are talking about open silo data. You cannot have open data if the data is only belonging to one agency and there is no standard whatsoever across agencies in different states. These are what we call ‘open silo data.’ Any companies helping these government agencies to do it this way [are] not doing it in the best interest of the taxpayers. The right way to do this is to put all data from all government agencies across all states in a cloud … with a data catalog that is indexing the data and flagging the content of the data for ease of discovery. The data, together in one place in that universal cloud, would allow everyone to access the data and to compare data between agencies, crossing state boundaries and political agendas.

Birth Can in response to Pennsylvania Announces Open Data Portal

The laptop is definitely not dead. The desktop might be somewhat dead though. I cannot see any programmer coding and testing on a smartphone or even a tablet. Maybe if they could be hooked up to at least two monitors and an external keyboard. There still is the issue with hard drive space because compiling in the cloud would just be too slow and prone to connection issues. Eric in response to Will a Smartphone Replace Your PC?

Consumers are not comfortable about a third party repurposing the actions they think they are making with some sense of privacy — although 90 percent of us fail to read privacy statements before diving into using a technology or downloading an app. A valid concern here is that we expect state lawmakers are astute or at least informed when it comes to understanding the use of the technologies they are voting to approve. Evarly in response to Connecticut’s Facial Recognition Bill: A Model for States
ArchiveSocial automates the capture and retrieval of records from social networks including Facebook, Twitter, YouTube, Instagram, and LinkedIn for compliance with state and federal public records laws.

http://archivesocial.com/respond
Rethinking the Public Servant

The next generation of government employees must have an understanding of both policy and data.

No longer laugh at the joke in a meeting with public officials when someone says they need to go get their teenager to help them with technology. The fact that we have dramatic new tools often licensed by a city yet only a few individuals truly taking advantage of them is a public-sector crisis. For newer and more powerful software, vendors wistfully aspire for the tools they have designed and sold to cities to be more fully utilized. From predictive analytics to performance measurement, new data and tech initiatives have the power to reinvent every part of city hall. These tools and initiatives are allowing cities to better understand how their work is improving residents’ lives, discover previously hidden problems and streamline their internal processes.

But technology is still only a tool and cities will not be able to evolve unless their employees do too. One of the most important skills the next generation of public employees can have is an understanding of both policy and data, enabling them to understand the social context, deploy the necessary analysis and craft targeted solutions for the most pressing civic problems.

Cities need to attract and cultivate a workforce of tech-minded employees who can fully leverage new technologies and data initiatives to promote change and create public value. This requires both discovering how to hire new tech talent and better cultivating and training existing workers. Correcting the gap between capacity and use requires cities to rethink their recruitment and development processes to better attract suitable talent. This gap can be in part closed by cities changing their hiring methods: What standards they impose, how quickly they can offer jobs, where they recruit, and even the description of the job itself.

A stellar example is New York City’s revamped NYC Tech Jobs website, part of its current effort to attract more tech-minded applicants. Internship and fellowship programs also provide another solution and a clear path into city government for motivated students or recent graduates. Increasing and publicizing these programs can help cities or recent graduates. Increasing and publicizing these programs can help cities boost the number of tech-minded recruits.

New dual-degree options, such as the University of Chicago’s master’s in computational analysis and public policy (awarded jointly from the Department of Computer Science and the Harris School of Public Policy), provide a solid background in both areas and could be a great source of talent for cities searching for the next generation of employees.

Cities can also turn inward and focus on developing the tech skills of their current employees. For example, San Francisco’s Data Academy offers a broad range of short technical classes to current government employees, with the goal of helping them understand and incorporate data and tech skills into their everyday work. These programs leverage the invaluable years of experience employees have in their fields and help unlock hidden potential with the addition of technology or data analysis.

But just attracting or developing new talent is not enough. Technical skills are only useful if they intersect the work and catalyze the imagination of a person who has substantial responsibilities. In order to fully leverage these new skills, cities should distribute skilled workers throughout government and empower them to work across departments, instead of keeping them siloed in a solitary department. This can help ensure that tech-minded employees are thought of as partners in building better government.

Building the new generation of public servants is essential to allow governments to continue to evolve. New data and tech initiatives hold great potential for local governments, but they can only succeed if cities have well trained and motivated employees capable of running them.

Stephen Goldsmith

A professor at Harvard/John F. Kennedy School of Government and director of the Innovations in Government and Data-Smart City Solutions. The former mayor of Indianapolis, he wrote books – The Responsive City: Engaging Communities through Data in City Governance.
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How would you describe the current threat landscape?

The threat landscape has changed so much in the last five years, from the explosion of the Internet of Things to the adoption of the cloud. In addition, our end users are becoming more targeted by our adversaries. They understand the potential weakest link in any government is going to be that end user, so they’ve been going after them extremely hard with sophisticated phishing attacks.

1

What does your internal cybersecurity training program look like?

We run a monthly internal awareness program, about 15 to 20 minutes long, and each lesson covers a different topic. We have seen heightened awareness throughout our enterprise because of this program. One of our best intrusion detection systems has become our end user because we know whatever they’re seeing has made it through our advanced security stack. We’ve made a lot of great investments over the years, but still, the most advanced will make it to the end user, and we’re able to take action on that because of all the awareness that we’ve been doing.

2

What is Missouri’s approach to filling cybersecurity positions?

We’ve had zero percent turnover in the last seven years, and I attribute that to the team environment that we’ve created. I’ll admit that being in government, we can’t compete with the private sector. That is a big obstacle for anyone in my position. We institute job rotation, which I think helps. It helps with burnout; it helps with quickly onboarding new employees. That has been a key factor in keeping our retention as high as it is.

3

How will you recruit new cybersecurity talent when turnovers do start to happen?

As we expand our team and bring on new staff, I do weight internal employees higher than external. They understand the organization. They understand who to quickly communicate with, so the onboarding process is much quicker. We do hire externally, but I look internally first. Do they come with a cybersecurity background? Not necessarily … Our end-user support team that handles tech support issues daily, they tend to have all of the key traits I’m looking for. They’ve become great communicators, and their ability to troubleshoot is high, especially the ones who are more experienced. Those same troubleshooting skills can cross directly over to cybersecurity in many ways.

4

Michael Roling
Chief Information Security Officer, Missouri
GOVERNMENT NETWORK DEMANDS ARE GROWING.

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Wisconsin is rolling out one of the largest trail camera projects in the U.S. as part of an effort to create a comprehensive cache of wildlife data. Through a partnership with NASA and the University of Wisconsin-Madison, the state’s Department of Natural Resources will deploy 4,000 to 5,000 motion- and heat-activated cameras to capture photos of animals like bears, deer and elk.

The wildlife monitoring initiative, called Snapshot Wisconsin, will supplement programs that track the population sizes of different species while also providing researchers with new ways to observe trends.

And the public can get in on the effort. The photos are posted on the Zooniverse.org website, where anyone can play zoologist by helping identify the type and number of animals in each image. As of May, 500 cameras have been deployed, and Wisconsin estimates that by 2017 the cameras will be producing millions of photos each year — enough for thousands of volunteers to participate in the program.
Seattle in Progress
Founder Ethan Phelps-Goodman
Government and technology are far apart as cultures. Government is deliberate. A wise leader does not subject his roads, power grid and economy to whim. He plans everything. Technology is experimental. Technology is Leonardo da Vinci taking a half-dozen naps each day. Technology is making things work now and worrying about the consequences later. Government creates lists, policies and protocols to ensure the bathrooms are stocked with the correct number and type of shampoo, towels and soap. Technology doesn’t like taking showers. Technology is Steve Jobs wearing the same thing every day and only eating fruit. Technology wears an unruly beard. Government wears a tie that’s approved by a policy that was written by a committee following six years of research.

The place where government interests meet community-minded activists holds the key to modernization. And it’s only becoming more sophisticated.

By Colin Wood
COMING TOGETHER

They involve a broader scope than just engineering itself. These are really hard problems. Yet, he shares government’s mission. To improve education? How do you improve transparency, how do you make things more changeable,” he explained. “Engineering tends to do that. The existing procurement process is not at all built around one or a small team of people with an idea. If you want to just sell your idea to the city, there’s no real model for the government purchasing outrage technology it didn’t build. Even if you want to give your technology to the city, there’s no real model for the city even accepting something for free.”

“So much of civic technology is strongly related to e-government-type things and that means partnering with the government directly. And that’s still very difficult,” Phelps-Goodman said. “I’d say we still have almost no models for how to do that. If somebody comes up with a great idea at a hackathon and the city likes it and the civic tech person wants to work with the city, it’s really unclear how to go about that. The existing procurement process is not at all built around one or a small team of people with an idea. If you want to just sell your idea to the city, there’s no real model for the government purchasing outrage technology it didn’t build. Even if you want to give your technology to the city, there’s no real model for the city even accepting something for free.”

Phelps-Goodman conceded that Seattle’s attitude toward civic tech has improved the last couple years. An executive order signed in February created a thorough open data policy that arrived alongside a showcase of local civic tech talent. When bombarded by requests for every video it had on record, the Seattle Police Department brought the requesters in for training directly. And that’s still very difficult. Phelps-Goodman said: “If somebody comes up with a great idea at a hackathon and the city likes it and the civic tech person wants to work with the city, it’s really unclear how to go about that. The existing procurement process is not at all built around one or a small team of people with an idea. If you want to just sell your idea to the city, there’s no real model for the government purchasing outrage technology it didn’t build. Even if you want to give your technology to the city, there’s no real model for the city even accepting something for free.”

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The city is committed to nurturing its civic hacker community, said Mattmiller, and that’s evident from its recent efforts, but even civic hacker community, said Mattmiller, and to the point where they’re truly useful.”

“We don’t have a path of a civic hacker working on a project to someone at the city of Seattle using it, and part of that has just been we’re all volunteers,” Vincent said. “We have a lot of companies support the events that we hold, but what we don’t have yet is some way to fund all of the projects people are working on, or even a couple of the projects people are working on, to get them to the point where they’re truly useful.”

The city is committed to nurturing its civic hacker community, said Mattmiller, and that’s evident from its recent efforts, but even a private company would have a hard time buying someone’s idea on spec. And to make things more difficult, many of the problems being solved by civic tech aren’t sustainable businesses. That’s why those problems fell to government in the first place.

Though the gov tech market is growing — Government Technology’s parent company, e.Republic, cites $1 billion in capital investment in the space — much of the sector is made up of small startups whose leaders struggle to identify a clear path forward. For every successful civic tech startup, there are 1,000 developers building weekend projects who understand their efforts to be novelties, not budding empires.

But the market’s immaturity is matched by its enthusiasm and optimism. With dozens of new companies launched each year, the field is growing at an annual rate of 23 percent, according to a 2013 study by the Knight Foundation. Many projects centered around open government missions thrive, like those fueled by Socrata and SeeClickFix, but the best-funded and fastest-growing segment of civic tech consists of privately funded companies that use crowdsourcing and peer-to-peer transactions like Waze and Airbnb.

The Knight Foundation’s current research, done in collaboration with the Rita Allen Foundation, seeks to understand how the more philanthropic-minded civic tech startups with less obvious income streams can adopt models that will allow them to scale up and become mature businesses. “The purpose is to be a lot more intentional about the way we structure our funding to startups in this space, with an acknowledgment about the path to more sustainable operations, looking toward building repeatable and reliable revenue and examining the types of capacities that need to be invested early on in order to achieve those aspirations,” explained Jonathan Sotsky, Knight Foundation director of strategy and assessment.

OpenGov, a financial transparency and analysis platform, is a prototypical example of a company showing increased sophistication in the civic tech space, Sotsky said. OpenGov continues to partner with and buy other companies to expand its offerings and attract new rounds of investment. But this isn’t happening everywhere in civic tech.

“There’s been a lot more success in the B2G organizations and on the data portal side of things than there has been on business-to-consumer or consumer plays that are trying to promote civic engagement,” Sotsky said. (For more on the evolving civic tech marketplace, read A Market of Their Own, page 22.)

Despite the economic challenges facing civic tech, participants continue to gather from all over. “I think it’s the tail end of the technology wave disrupting different verticals,” Sotsky said of the market’s growing popularity. “In some ways, the way technology is doing that to civic life and within government is trailing a few other spaces where we’ve seen that disruption play out more vividly in the last five to 10 years. And part of it is an issue of vocabulary. People are starting to glom on, to self-identify or point to this broader movement to start to label it as a field, where [before] it was a bunch of ebbs and flows of seemingly distinct pieces of activity… I think the more that people can self-identify, that improves the ability to learn from peers, to collaborate with others and to ultimately achieve the type of impact folks are striving for.”

While the Knight Foundation keeps an eye on the future, today’s technology chiefs keep the front doors of their city halls propped open. Minneapolitans are capitalizing on the type of impact folks are striving for.
CIVIC TECHNOLOGY CROSSES STATE LINES

HACKATHONS ARE THE STARTING SPOT FOR MANY CIVIC TECH EFFORTS. They bring developers together, establish new relationships with the public and germinate ideas. Most hackathons are either local, single-city events that target issues ranging from homelessness to marine ecology, or broad events like Code for America’s National Day of Civic Hacking (held June 4 this year). But last year, Texas and Indiana pooled talent across state lines with the help of Web portal partner NIC. The #hackINvTX Challenge appealed to state pride to attract participants, who ployed their coding talents against state government challenges. For example, Indiana’s Department of Environmental Management wanted a platform to streamline the permit application process, and the Texas Department of Family and Protective Services wanted a map-based tool that showed where families could find facilities and services. A father-son team from Indiana won the competition with the creation of a Web form that directs citizens to the proper agency or nonprofit during an emergency. It would have been nice if Government’s relaxed posture is letting more people in and also changing how its partners operate. When nonprofit Code for America (CfA) launched in 2010, its early brigades and accelerators had more of an experimental feel. Its members worked on big problems, and they got people excited about new ideas for government. But cities sometimes kept the group at arm’s length, and the social impact of the projects wasn’t always evident. Today the group’s efforts are more substantial. Last year, California invited CfA to advise on procurement of a child welfare services system. Working with California’s Office of Systems Integration and departments of Social Services, Technology and General Services, with consulting help from 18F, CfA convinced the state to trade its plan of a traditional monolithic procurement for an iterative development process. The group predicted the state’s original plan would likely have run late and gone over budget. If CfA was right, the nonprofit’s intervention will save taxpayers millions. “The thing we took away from it … was that these people were embracing change. They were owning the change,” said CfA Founder Jennifer Pahlka. “They were excited about the work that they could do, and it was their willingness to take on big problems, and they got people ready to come to the table around this issue, which set us up for the work we do today.”

The Sunlight Foundation, a nonprofit founded in 2008 that focuses on government transparency, hasn’t diverged from its mission either, said Kat Duffy, the group’s Labs director, but its relationship with government has changed. “We’ve had a dialog with government for a while,” she said. “But over the past couple of years we’ve seen an expansion in the government’s promotion of civic tech, particularly bringing technologists into the space through mechanisms like
at organizations like Uber, what makes Uber successful is they’re leveraging an existing workforce on a part-time basis,” he said. “We figured this could be a similar approach. What would make it successful would be to make data sets available to a public environment and then broadly communicate out and see if we can get groups to participate in a contest environment to develop these applications for us. So that’s what we did.”

Two states was nice, Kimbriel said, but he wants to partner with other states to do something bigger. Maybe they can do a five-state competition next time, he suggested.

“The problem on the Texas side was we didn’t have the resources available to build these applications and yet we had a belief that these mobile apps would be well received by the public. I think the approach provides a great opportunity to innovate, to fail fast, to solve urgent problems and build strong citizen engagement.”

Civic tech is growing because of a willingness by both the public and government to accept events like hackathons so reasonable propositions, where in the past they might have seemed like crackpot schemes. “Generally, IT in the public sector, just like IT anywhere else, is starved for staff and we can’t pay the same salaries to be competitive with private sector, so we’re always struggling to attract and retain quality developer teams and support teams,” Kimbriel said. “The big change for me is going to a more hackathon-type approach and being more transparent and saying, ‘You know what? We’ve got this great idea, we’ve got this data, for a project, who’s in it?’”

New York has a digital services inside their Health and Human Services Depart-
Investor interest is helping to point a lot of startup energy at government. Does this mean there’s a place for innovation at city hall?

By Adam Stone
When SeamlessDocs came to life in 2012, “there was no such thing as government-focused investors,” recalled CEO Jonathon Ende.

In its most recent round of funding, the company, whose products help government implement electronic forms management, raised $7 million from investors including Govtech Fund, 1776 and Motorola’s public-sector investment arm, Motorola Solutions. All these funds play specifically in the government arena.

“It shows that people see us not just as a great gov tech business, but as a great business. We and others have been showing that you can build a real business, a strong business, that is focused solely on government,” Ende said.

The rise of gov tech is evident in the numbers. Govtech Fund estimates a $400 billion market for products that help make public agencies more effective, while helping citizens interact more efficiently with government.

What’s happening to drive the rise of gov tech? What kinds of companies are leading the pack? What are investors looking for?

And what should government IT leaders be doing in the face of this rising tide?

Driving Forces
The rise of gov tech is being driven in part by the usual concerns of government: the need to provide services while acting as responsible stewards of public funding. But there’s more to it than that. For one thing, the rise of new consumer technologies is helping drive the train.

“At least here in California we are all surrounded by technology in our daily lives, so that now it is permeating all the thinking of government leaders,” said Kish Rajan, chief evangelist at technology and innovation advocate CALinnovates.

Popular technologies are boosting citizen awareness and expectations, while spawning a new generation of government professionals who already accept technology as a solution to many woes. “There are more and more people coming into government who have that blended background of technology and public service, who are accustomed to seeing technology as a driver of change,” Rajan said.

Chief data officers, innovation officers, digital officers—all these are “bringing that kind of talent and innovation in city government, so that it has changed the way cities think about technology and the kinds of firms they want to partner with as they deploy that technology,” said Rajan.

What kind of firms are we talking about?
From the investors’ point of view, they are the companies that can make money.

Likely Leaders
Omidyar Network has invested $1 billion in gov tech over the past decade. As demand for these products has swelled, Omidyar’s criteria have remained largely the same. The network backs companies that have a big potential market, a reasonable sales cycle and the ability to scale.

As to potential volume, “the sky is the limit,” said Omidyar Investment Partner Stacy Donohue. Government is vast, with endless areas of activity in which technology could move the needle.

Vertical needs. Beyond sheer scale, Omidyar also has begun to look at more vertical niche markets within government. “There are a lot of solutions coming to market in human and social services, for example,” Donohue said. “There are incredible inefficiencies in things like food delivery...
efficient use of their resources. The company aims to use artificial intelligence to perform analytical assessment of a disaster and to estimate the scale of damage. Driven by metrics, the platform can generate recommendations for first responders to help them decide where and when assistance may be most effectively deployed.

**WHO'S USING IT?** The company is seeking early adopters.

**ProudCity** offers an out-of-the-box, enterprise-level website platform to small- and medium-sized cities that want the latest technology, but don’t want the price tag that comes with a large Web design firm. Founders say they were responding to cities’ frustrations over paying too much, up front, for IT products. ProudCity offers instead a "try before you buy" option intended to let governments test drive the product both internally and with external stakeholders. Cities can access cutting-edge Web design tools for free, without having to devote a big piece of the budget to something they haven’t had a chance to try.

**WHO'S USING IT?** Pilot cities include West Mead Township, Pa.

**SABR.IO** has set out to prove that virtual currency need not be fraught with risk. The company’s product aims to remove any potential criminal element associated with bitcoin-type currencies. The strategy is to monitor multiple block-chains in order to spot discrepancies or strange behavior. Beyond gathering data on activity among users, the company produces simple, easy-to-understand reports that take away the need for any pre-existing technological knowledge. By generating clear reporting around activities within multiple block-chains, SABR proposes to work with law enforcement to ensure virtual currency remains safe and legitimate.

**WHO'S USING IT?** The company is targeting law enforcement agencies.
One of the top items on any government budget is labor, including contract labor. So anything that can reduce the labor requirement has a large attraction.

[Footnote: Local awareness. At CALinnovates, Rajan said that some of the strongest firms in the gov tech world are those that have their solutions to meet specific local needs. “There are so many huge public problems, health and water and transportation,” he said, “but when you are on the city council it becomes potholes and parking, the truly local issues.”]

[Footnote: Automation. At consulting firm PricewaterhouseCoopers, U.S. Public Sector Technology Consulting Leader Jeff Kaplan said the gov tech market increasingly favors companies whose offerings help government to go hands-off on certain tasks. “One of the top items on any government budget is labor, including contract labor. So anything that can reduce the labor requirement has a large attraction.”]

Breaking In

As hard as it may be for gov tech investors to separate the wheat from the chaff, companies themselves have an equally high hill to climb in their efforts to hawk their wares in the municipal marketplace. Contrary to conventional wisdom, just because the tide is rising, that doesn’t mean all boats will float.
“When we think about all the many problems we’re facing in society, we at City Hall can’t do it alone — we need to work across sectors,” Nath said. “We need to be collaborative, and we need to be open.”

At its inaugural launch in 2014, the city received an overwhelming response from entrepreneurs of all sorts. Nearly 200 startups applied from 25 different cities and countries, and six were chosen.

This year, 14 startups were chosen from a number of industries, such as analytics startup Decision Patterns, which is developing a tool for officials in San Leandro to analyze budgets and city performance data.

San Leandro IT Manager Tony Batala said he thought the joint effort would be groundbreaking and serve as a springboard for collective city-to-city finance and performance analysis. “To me that’s a huge opportunity to standardize [performance metrics between cities],” Batala said. “We can come in and create a standard where one doesn’t exist.”

The program is fueled by a $10 million, three-year grant from the U.S. Department of Commerce, out of which the Commerce Department has allocated more than $474,000 for STiR. Jeremy Goldberg, STiR’s program coordinator, said the funding ensures that STiR will last for at least three more years.

**THE 2016 STiR AGENDA**

**LENS** will work with the San Francisco Fire Department Neighborhood Emergency Response Team to design a platform to manage information about community volunteers.

**KARFARM** will work with the San Francisco Office of Contracts to improve city vehicle procurement with a digital solution to generate RFPs.

**SPIRALSCOUT** will work with San Francisco Public Works to create a mobile app and database for officials to collect damage assessment data after a major disaster.

**SPOTERY** will work with the San Francisco Recreation Department on a mobile app or software solution that allows users to reserve recreation facilities and participate in online lotteries for youth athletic programs.

**COMMUNITYLOGIQ** is working with the San Francisco Office of Economic and Workforce Development to design software that would allow staff members to visualize, map, and track changes to land parcels in industrial zones.

**BINTI** is working with the San Francisco Human Service Agency to create a mobile app for potential foster care parents that guides them through the certification process.

**LOTADATA** is working with San Francisco’s Recreation and Human Services Department on an analytics app and user ID card to visualize recreational facility usage patterns.

**BAYES IMPACT** is working with the Oakland Police Department to create an analytics solution to assess highly demanded information and services.

**PRESCHOOL2ME** is working with the Oakland Human Services Department to create software to support Head Start outreach, enrollment and administration.

**SYNCFAb** is working with the San Leandro Office of Workforce and Economic Development to create a regional procurement platform that highlights San Leandro’s factory and supply chain resources.

**DECISION PATTERNS** is working with the San Leandro IT Department to engineer an app that analyzes city budget and performance data.

**RAXAR TECHNOLOGY CORP.** is working with the West Sacramento Fire Department to build a platform that would allow firefighters to report on incidents from the field.

**MOSAIQ** is working with the West Sacramento Police Department to craft a digital solution for police to manage, analyze, record and report on cases in real time and from the field.

**APPLEDORE** is working with the West Sacramento Police Department to create a mobile app to assist officers in screening homeless citizens and pair them with social service resources.
The public-sector business is a long game. Many investors may not have the patience or the resources to play out that game.

First there is the matter of access, something not easily achieved in the meandering corridors of city hall. “You still have to get to whoever the top technology and information officers are,” Rajan said. “The heads of administration, the politicians, they may all be very interested in telling a technology story. That’s becoming more politically attractive. But the technology leaders still have to be engaged.” After all, they will be the ones to implement.

Even with a foot in the door, closing the deal remains a significant challenge. For many gov tech startups, “the main theme right now is the procurement issue, the long and arduous process of contracting with government,” said Lawrence Grodeska, founder and CEO of CivicMakers, a technology and consulting services firm working with both gov tech vendors and municipalities.

Besides keeping promising technology from getting into play, these procurement issues may in fact be stymieing the development of more and better products for government. “That barrier right now prevents younger, more nimble companies from being able to develop creative solutions,” Grodeska said.

In response to the problem, some governments are aiming at reform, trying to streamline processes while still safeguarding public funds. Many tech firms in the meantime are simply trying to get in below the radar, pricing products low enough to avoid meeting the threshold that would require an RFP. “Instead of a fixed-price contract they will do a seat-based license, where you pay for only what you use, so that it can be paid through petty cash or credit card expenditure,” said Grodeska. “That way it can be spent across different budgets and different line items.”

Even as they try to enter the marketplace, many startups are working on the back end to secure venture backing. Here too it’s a tricky business. “The public-sector business is a long game. Many investors may not have the patience or the resources to play out that game,” Kaplan said. Tech startups need to make their case, especially among investors unfamiliar with the gov tech market. “Yes, it is a long process. But the payout of capturing a public-sector technology market can be tremendous.” Investors must vet prospective firms. Startups must beat at the doors. Who’s missing? Government IT leaders, the ones who will be tasked with putting all the pieces together—and they are going to need backup.

“The demands on IT are only going to grow, and they are going to grow rapidly over the next five years,” said Rajan. “To weather the storm, ‘you need trusted partners, you need existing relationships with trusted consultants, you need systems integrators, you need a technology roadmap that is well thought out and well underway.” Given the relative novelty of the gov tech space, some say IT leaders would do well to look for guidance from those who have taken the first steps. “They can seek the support of colleagues and peers who are blazing these trails,” said Donohue.

“There are people on the front lines of innovation in city government. There are cities that are well known for creating these innovation offices. It can be extremely helpful to reach out to some of those cities and to share what everyone is learning.”

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PROTECT YOUR IDENTITY
BY PRACTICING SAFE HABITS ONLINE.

STOP other people from accessing your information by using strong passwords. THINK before you download apps you aren’t familiar with. CONNECT with friends safely online by checking your privacy settings regularly.

Visit www.dhs.gov/stopthinkconnect for more information on how to get involved with the Stop.Think.Connect. Campaign.
Tom Clark, of the Brandeis University Prescription Drug Monitoring Center of Excellence, finds that prescription drug monitoring programs and the data they produce are an essential tool in the fight against the misuse of prescription opioids.
Is data the answer to getting a handle on prescription drug abuse?

Diagnosing an Epidemic

By Eyragon Eidam
For years, those on the ground level at addiction treatment facilities saw a problem boiling up among their patients: prescription opioid addiction. As the issue became increasingly commonplace, law enforcement and medical examiners also began to see increasing evidence of the situation in crime statistics and on the morgue slab.

But larger governments, despite vast connections into communities, were slower to realize the full gravity of opioid addiction in America without hard data and analytics systems in place. The problem now maintains a full boil, fluctuating between the successes of state and local programs and spikes in prescription drug use.

While many hear the phrase “opioid addiction” and immediately conjure mental images of crime-addled streets and pill-popping junkies, what’s not often understood is how unintentional overprescribing at the hands of busy and under-informed doctors is contributing to its rise. And while illicit drug use is a very real problem, spotting it has proven just as vexing.

To date, getting the health-care professionals behind the prescriptions the information they need about their patients has been an uphill battle. To determine whether a patient has a legitimate need or is just doctor-shopping to feed an addiction has meant digging into often incomplete records spread across a host of platforms and maintained by various state agencies.

Tom Clark, an associate researcher with the Brandeis University Prescription Drug Monitoring Center of Excellence, studies how states and agencies are approaching their respective prescription drug monitoring programs (PDMPs) and common prescribing habits. From his perspective, PDMPs and the data they produce are an essential tool in the fight against the misuse and abuse of prescription opioids. State and national monitoring systems allow public health agencies to keep a pulse on the trends of controlled substances. For example, a rise in so-called “treatment drugs,” like buprenorphine, coupled with a decrease in powerful prescription opioids, like oxycodone or hydrocodone, could signal a shift in the right direction for a jurisdiction’s policies and practices.

Dr. Peter Kreiner, a senior scientist with the Brandeis University Institute of Behavioral Health
“It’s important to realize that it’s a fairly new problem over the last 15 years that opioids have become so prevalent,” Clark said. “And that’s because the pharmaceutical industry marketed them so heavily and changed norms among prescribers such that pain became what they called the ‘fifth vital sign.’”

When governors took to their respective podiums earlier this year during State of the State addresses, the call for better drug monitoring was hard to ignore. In the northeastern U.S. and down the Eastern Seaboard, tackling opioid addiction has been a serious challenge over the last several years. The closely clustered states are prime targets for border-jumping doctor-shoppers, who travel from doctor to doctor in search of prescriptions.

With state systems often operating independently of one another, verifying the validity of patients’ dosage needs or the legitimacy of their condition is a systematic gap many are working to close. At a more widespread level, the National Association of Boards of Pharmacy (NABP) is working to connect state programs and jump-start data sharing.

Dr. Peter Kreiner, a senior scientist with the Brandeis University Institute of Behavioral Health, and his colleagues have been working extensively with state and federal partners to improve public health surveillance tools in the prescription drug space since 2011. Kreiner said the reliance on old data streams put the Centers for Disease Control and Prevention (CDC) and Food and Drug Administration (FDA) substantially behind when it came to identifying trends playing out nationwide.

“They noted that death certificate data and hospitalization data takes a minimum of one to two years to become available. So by the time you see what might be happening … you’re already a year or two behind what is actually happening, whereas PDMP data are basically available right away,” he said. “From the CDC and FDA perspective, such a tool could serve as an evaluation tool to look at the effects of state policy or law changes or sub-state initiatives.”

The Prescription Behavior Surveillance System, a longitudinal database that uses de-identified patient data, is updated quarterly and produces a report with 43 descriptive measures and risk indicators, which are then distributed to the program’s 12 partner states. Kreiner said although data is not directly attributable to a patient by name, the unique identifying number they are assigned within the system allows researchers to build and examine patient profiles and point to the risk factors in their prescription drug behavior.

For Kentucky, a state bordered by seven others, the close proximity and ease of access to doctors across state lines posed a substantial hurdle to accurate tracking of the signs of prescription drug abuse. Dave Hopkins, with the state’s Office of the Inspector General, said the enhanced Kentucky All Schedule Prescription Electronic Reporting (eKASPER) system and policies have helped fight the epidemic. Kentucky has seen a nearly 5 percent decline in controlled substances, he said, with some opioid painkiller prescription rates dropping as much as 24.6 percent in a study that examined 2011-12 data against 2014-15 data. The original KASPER system was launched in 1999 and then reworked in 2005 to handle an increase in report requests.

“State PDMPs are a very valuable prevention tool,” said Hopkins. “If we can get the information to our prescribers and pharmacists, and they can identify the patient that is at risk earlier on, there is a much better chance of getting them into treatment.”

The data goes beyond profiling a potential pill shopper — it also speaks volumes as to who is being put in danger because of mixed medications from multiple prescribers and other vital parameters needed to assess risk to an individual. A prime example is the combination of benzodiazepines and opioid painkillers, which has proved time and again to be deadly.

By mandating that prescribers maintain, report and query eKASPER under certain conditions, Hopkins said the
interaction with other state data systems through the NABP multi-state Inter-Connect system is providing more accurate patient and prescriber information. Kentucky plans to test and implement the national hub in the near future. "It’s really helping us to give our health-care providers who use these systems a complete and accurate picture of what a patient might be getting," he said.

Six of Kentucky’s surrounding states share monitoring program data access through InterConnet. Missouri, which borders Kentucky to the west, is the only state in the country without a PDMP.

Maryland’s PDMP manager, Kate Jackson, said the state’s analytics are not showing an abundance of “pill mills” or careless prescription practices, but rather what are referred to as “multiple provider episodes” — essentially doctor or pharmacy shopping. “The takeaway from some of our initial work is that…we don’t in Maryland have a ton of pill mills operating, or prescribers who appear to be willfully skirting best practices and putting their patients in danger," she said. “A lot of what we see is an individual patient-provider interaction that is probably completely legitimate and within clinical standards absent having looked at the PDMP.”

Maryland’s program joined the InterConnect hub in August 2015, but Jackson said, like in so many other states, there are limits to how the sensitive prescription drug data is shared from a legal/policy and tech standpoint. In addition to the challenges facing PDMPs from an implementation and data sharing perspective, the question of which data belongs to whom poses opportunity for inaccuracies and the potential for missed risk factors at the clinical level. Maryland uses what Jackson called a “conservative” probabilistic algorithm to match patient data with appropriate profiles in a Master Patient Index. Kreiner said California leverages a similar algorithm. Even with misspelled names or addresses, these tools can match information based on probabilities or create a new user profile for the patient. This process greatly cuts down on mismatched records and missing patient information.

Once entered into state monitoring systems, data goes on to play several roles throughout the prescription process. On the front end, patient data can be compiled into solicited and unsolicited reports for physicians making an initial decision about who gets a particular medication. On the back end, the data can be de-identifiable and shared with researchers or used to track trends in the larger population.

In Virginia, PDMP data has been effectively as a tool for the Office of the Chief Medical Examiner in determining cause of death. It provides valuable information such as doctor interactions and prescription medications, and helps to interpret toxicology results, according to Dr. Amy Tharp, assistant chief medical examiner.

By the Numbers

Four out of five heroin users started out by misusing prescription pain relievers.

1.9 million Americans age 12 and older had a substance use disorder involving prescription pain relievers in 2014 and 560,000 had a substance use disorder involving heroin.

Four times what they were in 1990.

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“We use it most importantly in interpreting toxicology results — the level of a drug that may be lethal in someone who is not tolerant to the medication can be very similar or equal to the level that is expected (not lethal or therapeutic) in someone who has been prescribed the medication for a long period of time and is therefore tolerant to its effects,” she said via email.

Throughout the larger PDMP space, the call for greater connectivity and real-time reporting access is prominent, and the need for better information sharing among states and prescribers seems clear. Officials, like Jackson, said putting the information in the hands of prescribers through the electronic health records platforms they use on a daily basis would be a progressive step in the right direction.

Indiana’s Drug Dashboard visualization tool is a nod to PDMP tracking systems around the U.S., but pulls data sets from state crime labs, not clinical sources, to paint a picture of where drug activity is taking place and being treated.

“You can begin to see where the most drugs are coming in off the streets at the county level, where there is the highest percentage of deaths per capita related to drugs, where the treatment centers are available, and you can very quickly begin to look at where there are gaps in Indiana in terms of treatment and the amount of drugs coming off the streets,” said David Matusoff, executive director of the Indiana Management and Performance Hub.

State CIO Dewand Neely said the conversation around prescription drug abuse is one that has spilled over into a top state committee on counterterrorism and is a priority for state officials. Matusoff and Neely said integrating state PDMP, known as INSPECT, data into the Drug Dashboard would greatly widen the effect of what has already proven to be a valuable visualization tool in Indiana. Before that can happen, however, Matusoff said the legal mechanisms need to be in place to allow an agency access to information typically reserved for law enforcement and public health professionals.

Making the data and analytics tools available to more prescribers, pharmacies and public health professionals has been the goal of PDMPs all along, but it has taken valuable time.

As Kentucky, Maryland and other states move forward in their efforts, both Hopkins and Jackson said they are working to connect the state systems directly to the electronic health records platforms doctors use when working face to face with patients. Officials believe putting the information right in front of clinical users will help to improve the use and accuracy of these critical health systems.

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“Peak Performance is the liveliest, most entertaining book about improving public-sector performance I’ve ever read. On top of that, it’s full of wisdom you can use in your own organization. You can read it in two hours, and it will help you for years.”

– David Osborne, Reinventing Government

A fun, fast and surprisingly frank guide for driving greater efficiencies, cost savings and improved performance—and doing it all in-house.
Julia McCandless / Contributing Writer

If you’re like a lot of voters in the United States, the whirlwind of candidates, issues and proposed bills during election season probably makes you weary. It can be confusing and overwhelming to sift through the gobs of sound bites and headlines geared toward big-name candidates in the search for solid information that will help you decide who and what to vote for. But those days may soon be over as a new startup, called BallotReady, launches across the nation to help people make more informed decisions in the voting booth.

Designed with convenience in mind, the site aims to make it easy for voters to quickly tune into current issues and political candidates in their region. Users enter their address and are directed to the most current ballot in their voting district, compiled from the candidates and issues they will soon be voting on. From there, users can do side-by-side comparisons of candidates and where they stand on various issues, including budget, diversity, guns and technology. The site also includes a snapshot of each candidate’s experience (either professional or political), education, endorsements, personal information and professional memberships.

After reviewing the information, voters can make preliminary selections to refer to in the voting booth, either by printing them out or using their mobile phone. In essence, it works as an election-day cheat sheet so voters can make confident decisions on every issue on the ballot.

Founders Alex Niemczewski and Aviva Rosman were inspired to create BallotReady after a personal wake-up call on voter awareness. When Rosman was running for local office and asked Niemczewski for her vote, Niemczewski was shocked to learn that an election was taking place. Investigating the issue further, in part by conducting interviews with 150 voters, they discovered key insights into what people really care about when voting and how often they make informed decisions.

The findings illustrated a grim reality: Up to 30 percent of voters leave part of the ballot blank. During local elections, voters are most influenced by candidates’ gender, ethnicity and order on the ballot — candidates listed first typically receive 2 percent more votes than others. But do local elections really make that big of a difference in the long run? Actually, yes, especially when you consider that 96 percent of all elected officials are elected locally. Realizing a need for better local resources, Niemczewski and Rosman partnered with the University of Chicago’s Institute of Politics to launch a pilot website for the mayoral election in Chicago. From there, word quickly spread about BallotReady and the role it can play in filling the information gap for voters.

“We received additional funding from the Knight Foundation, National Science Foundation and Chicago Harris Center for Policy Entrepreneurship, which allowed us to launch last fall in Kentucky and Virginia,” Niemczewski said. “From there, we got a very inspiring response where our users rated us 4.4 out of 5 on ease of use and we got a ton of voters to the site.”

“Having information on candidates is important, so is knowing where that information is sourced,” BallotReady partners with university political science departments to gather and review information from every source possible, including candidate websites, Facebook pages, endorsing organizations, news media articles and interviews, and county clerks’ offices. For super-local candidates who do not have an online presence, BallotReady

Vote for Data
A new elections information website could provide a valuable data source for government.

Julia McCandless / Contributing Writer

teams reach out via phone or email to gather information. The source for each piece of information on the website is clearly noted to maintain transparency with voters. As Niemczewski pointed out, the site’s information collection and posting process helps to ensure that it remains nonpartisan. Voters will find data from diverse sources on the site—and in the end, it’s up to the voter to use that information to form a personal opinion. “We don’t say: ‘We think this candidate is the best,’ or ‘This candidate is lying here,’” she said. “Sometimes we’ll have candidates who say one thing on a website and another thing in a news interview. We put everything on the site and allow users to sift through it.”

In an effort to continue testing and developing strategies to best reach voters, BallotReady is in the midst of expanding into Maryland, Kentucky, Virginia, Colorado, Florida and New Hampshire. The team chose these six states because of their diverse demographics and geography to best understand the variance in election laws and voter preferences.

One of their biggest lessons learned so far? States can operate very differently. For example, BallotReady recently had to purchase a fax machine because a handful of jurisdictions still do not use email. From a local government perspective, there’s a huge need for the data aggregated from a site like BallotReady. According to Tim Nolan, senior applications manager for Collin County, Texas, a streamlined, easy-to-navigate resource could significantly improve the process for local voters. As a leader in the Collin County GIS department, Nolan is experienced with bridging the gap between local voter information and technology, having launched a Voter Line Wait Application to help reduce voter wait times. “Right now, it’s voter overload,” he said. “It’s hard to tell what everything is that you’re receiving, from brochures to mailers. It’d be nice to have a nonpartisan view of the facts to compare the candidates you prefer.”

Nolan hypothesized that BallotReady may serve as a useful tool to educate and engage voters with government-supplied election information. “The best way that governments can contribute, in my opinion, is to make our voter information available in a way that a product like BallotReady can consume,” he said. “Voter registration and ballot information needs to be part of every government’s open data suite. BallotReady becomes an easy user interface to the government’s voter data.”

In other words, BallotReady may fill the gap in government technology when it comes to being user-friendly or easily accessible. “The voter data will always start at the government level,” Nolan said. “BallotReady, and other applications like it, can prepare the data in a useful way. How governments make the data ready for other applications will be the best initiative. The government creates the data, BallotReady makes that information consumable, and the voter benefits.”

So why don’t governments have a system like this in place? “First, the challenge is the sheer volume of information you have to collect and how detailed the information needs to be. If you’re looking at a city council person in a rural area, it’s hard to capture that information. Each state and entity would need to have access to that at their local elections,” explained Nolan. “If BallotReady is deemed nonpartisan among all parties, it would be a fine partner. States have certain rules on how they run their elections, so as long as it meets their requirements, then it would be a great source.”

That’s something the founders of BallotReady hope to make a reality as they continue to scale and grow state by state. They expect the platform to be available in every state by 2020 and plan to establish the site as a resource for state and local governments in the future. As BallotReady continues to collect aggregate data on what issues voters in specific districts care about, the company plans to collaborate with governments to share that information in the most useful way possible to each agency. The data will be sold to the public sector as a way to generate revenue to ensure that the website’s information remains free for voters.

“Democracy takes two sides: candidates and elected officials who are reflecting their constituents’ values, and voters. We are collecting data on what people care about and in a way to be used by local governments or campaigns themselves,” Niemczewski said. “Having a better idea of what constituents care about and value for their communities will help elected officials represent them better and make our communities significantly better.”

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Making Room for the Neighbors

Oakland, Calif., prepares for more tech within its borders while working to preserve the city’s diversity.

By Jason Shueh / Staff Writer
Locals worry the new tenant, while a boost to the economy, will inflame an already overheated housing market. Residents fear an aftermath of impoverished living costs, supplanted culture and displacement of longtime residents.

The California Housing Partnership Corp. estimates that Oakland requires nearly 60,000 more homes to reduce prices and accommodate low-income and very low-income families. The rental search site Zumper said the deficit has elevated Oakland rents to the fourth highest in the San Francisco Bay Area.

But as one faction of the tech industry is poised to move in, another element aspires to fight gentrification at its roots. This subset belongs to the socially minded civic technology lot, a group of digital do-gooders molting to pit 21st-century ideas, apps and services against municipal ills.

Mapping the Invisible Issues

The work of U.C. Berkeley’s Urban Displacement Project illustrates civic tech’s potential on the issue. The project is led by Miriam Zuk, an Oakland resident and director of Berkeley’s Center for Community Innovation. Zuk and her research team have produced a pair of maps documenting urban gentrification. The group crunched data from the U.S. Census Bureau and regional sources to help visualize the Bay Area’s harsh housing market realities.

The first map identifies where outbreaks are happening, and the second charts affordable housing policies by city. The geographic patchwork of oranges, purples and blues show hot spots on Oakland’s north and northeastern borders closest to San Francisco. A flood of shaded housing tracts indicates gentrification’s spread across the entire city—neighborhoods either exhibit signs of, or are already experiencing, spiked real-estate costs and rampant displacement.

The plight is similar across the Bay Area, where a dearth of affordable housing policies—as the project’s second map attests—has left building developers and landlords free to capitalize on demand. Even so, the policy map reveals Oakland is among the Bay Area localities with the most affordable housing regulations. Oakland has an annual 2 percent cap on rent increases, inclusionary zoning ordinances, a housing trust fund to create more affordable housing and many more policies.

Zuk said the vision for the maps is to spur community dialog and thoughtful action.

“We’re hoping that by making this information public, and by allowing people to explore the maps—and kind of dig in—it will help them learn about what’s out there and what other people are doing,” she said.

The other ambition at the Urban Displacement Project is to add credible academic analysis to gentrification data. In Oakland, statistics show African-Americans have borne the brunt of the city’s rising home prices.

Census data provides evidence of a decades-long migration out of Oakland, beginning in the 1980s when the percentage of African-American residents was at its peak: at 47 percent of the population. Since then, the percentage has only fallen. By 2010, black residents had dwindled to 28 percent of the population while whites represented 34.3 percent. The trend has continued in recent years. In 2014, the American Community Survey estimated the African-American community at just 26.1 percent and whites at 39.7 percent.

A Battle for Balance

The seismic shift in numbers isn’t lost on Oakland Mayor Libby Schaaf. In response to the Uber announcement, her administration is in the middle of a major gamble to construct 17,000 affordable housing units while protecting another 17,000. The project and policy measure are part of a two-pronged play to reduce gentrification’s negative impacts. The city limits and diffuses market prices while encouraging community commitments from technologists and tech companies. Schaaf coined the term “techquity” to represent this harmony between business goals and resident interests.

Shortly after Uber’s announcement, Schaaf outlined her stance while speaking to a crowd of civic technologists at the 2015 Code for America Summit. “Techquity is using the power of government to have a very intentional conversation with our tech business community about being diverse, inclusive and more mission-driven,” she said.

Apart from passing targeted legislation on transportation network companies, Schaaf
said there are no quick tools to compel action. “[Uber] did not ask for tax breaks, they did not ask for any special treatment or exceptions, so there’s nothing I can force them to do,” Schaaf said, but added that she has expressed the city’s expectations. Her efforts are bolstered by a civic tech group called TechEquity. Founded in 2015, the organization is unaffiliated with the city and works to ensure East Bay tech companies give back by hiring local, buying local, investing in youth education and affordable broadband, and, generally speaking, operating as inclusively as possible. TechEquity is currently compiling a list of core commitments tech companies can make to support affordability and accessibility. “I think there are a lot of low-cost things, that if companies want to come in and operate from a place of goodwill are super easy to do and we hope to support them in that,” said TechEquity spokesperson Catherine Bracy. More broadly, Bracy said the group’s vision is to be an active reminder of the tech industry’s original ethos at the start of the Internet: to be democratic and decentralized, to break down barriers, and to create culture and wealth. “I think it’s really important for those of us who believe in the power of the Internet to fight for an industry that will grow up on top of what is probably the most democratizing technology in human existence,” Bracy said.

**Tech, Data and Next Steps**

Beyond activists and academics, civic technologists and startups are offering their talents to either assist affordability or help track factors that can trigger gentrification. Code for America has served Oakland with a number of open source apps, both through its parent organization based in San Francisco and through OpenOakland, its local volunteer chapter. These apps have helped parents find affordable daycare, renters locate earthquake safe housing and citizens voice concerns to officials about issues like displacement.

Outside Oakland, civic tech startups are no less engaged with technologies that while not specifically targeting gentrification can support those who want to track it. The Boston-based startup co/urbanize has a social media platform that connects housing developers, citizens and city council members on construction projects — which in some cases has prompted developers to add affordable housing units. The startup Civic Insight allows residents to track the status of building permits in their neighborhoods with immediate updates, and Lavaland Technologies, originally created to fight blight, is developing a national database of public information on land parcels.

In her work at the Urban Displacement Project, Zuk’s biggest challenge is finding quality data and creating more open data on the housing and rental market. There’s census data, but it becomes stale quickly. There are companies like Zillow that publish rental prices, but once properties are rented, this data disappears as prices elevate. Further, homeowner organizations tend to challenge laws that require landlords to release yearly rental prices. “There is that fear that once you start tracking it, that’s just a stepping stone to regulating it,” said Zuk, “and I can’t imagine landlords would want more of that.”

Another obstacle hindering policies and affordable housing projects is the fact that city officials are not financially incentivized to combat gentrification. After all, property tax revenues account for a significant share of a city’s revenues, and higher home prices facilitate that. In Oakland, for example, OpenOakland’s budget app shows that revenue from property taxes represents 32 percent of the general fund. “The incentive structure is not there at all,” Zuk said of cities’ role in combating gentrification. “Though I think Oakland is starting to take it seriously.”
Digital Playbook

A new portal makes New York City’s technology goals public and invites citizens to comment on its progress.

By Colin Wood / Staff Writer

New York City Mayor Bill de Blasio announced a new initiative in early May that seeks to increase civic engagement and make it easier for citizens to interact with their city government. In a blog post, de Blasio introduced the NYC Digital Playbook, an evolving portal that showcases the city’s technology principles and strategies, while inviting public input.

The No. 1 principle of the city, according to the portal, is “to make services accessible.” “The New York City Digital Playbook outlines how we want residents to experience city services and how we will use digital tools to strengthen communities, online and off,” de Blasio’s post reads. “The guidance within the playbook will challenge all of our agencies and service providers to rethink the way they reach New Yorkers. … This is an internal vision and strategy document that we will immediately begin to implement across government.”

In addition to the playbook’s digital presence, the city also created physical cards, a “strategy deck, that are being distributed amongst city officials,” de Blasio wrote, noting that each card features one of the principles, along with explanations and tips on the back. The purpose of the cards, he wrote, is to inform and inspire leaders on how to improve city services.

And according to Chief Digital Officer Jessica Singleton, coordinating digital projects among agencies and all levels of government is a key tenet of the playbook. “But we believe it’s also important to improve our collaboration with the civic tech community,” she wrote in an email to Government Technology. “By doubling-down on our commitment to openness and creating a formal pipeline from government to New York City’s incomparable tech and design community, we will serve New Yorkers in a smarter and more effective way.”

The NYC Digital Playbook was inspired by the creation of a Web tool called the Pre-K Finder, de Blasio explained, a map-based tool that helps smartphone users find pre-K facilities that meet specified criteria. Comparing the old way of doing things, which involved downloading PDFs and possibly faxing documents, and the new tool illuminated a global need in city government to improve service delivery.

The first iteration of the playbook was made possible by the city’s interviews with residents, civic technology leaders, service providers and private companies. The anonymous interviews allowed officials to obtain a holistic and honest view of what people wanted from their city, according to de Blasio. Though the playbook is considered an internal operations document, he explained, it’s being shared with everyone in the pursuit of transparency, public feedback and progress.

The playbook can be viewed and downloaded from its online resting place at playbook.cityofnewyork.us. The 12 strategies can be browsed in detail, with each component of the strategy tagged with the office from which it originated. A comment form at the bottom of every screen invites public input.

The city’s tech strategies are:

- Make services accessible
- Communicate simply
- Reach out to residents
- Test with residents
- Organize around needs
- Build city capacity
- Build on what works
- Integrate digital services with neighborhoods
- Create standards
- Design for mobile
- Engage private partners
- Be accountable and transparent

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In nearly every industry, effective communication is critical. Without it, confusion ensues, processes slow down, quality falls short and costs are more likely to shoot through the roof. That’s why the New Mexico Department of Workforce Solutions turned to predictive analytics, which significantly reduced unemployment insurance fraud and improper payments.

When the department sat down to strategize how to improve overwhelming fraud and overpayment rates, officials realized that about 95 percent of payment issues were traced back to smaller, procedural issues related to customer communications regarding work search, earnings and separation issues. And predictive analytics was a solu-

New Mexico is marrying predictive analytics with behavioral science techniques to keep unemployment insurance fraud at bay.

By Julia McCandless / Contributing Writer

Pop-Up Government

New Mexico is marrying predictive analytics with behavioral science techniques to keep unemployment insurance fraud at bay.

By Julia McCandless / Contributing Writer
Deputy Cabinet Secretary Joy Forehand.

"We went back to look at what we can do that won't cause harm to the eligibility process. We also couldn't take on anything that would require additional staff or resources," she said. "We ran the predictive analytics and are now able to assess at a certain point of time if an individual may have a higher risk of an improper payment down the road." While seeing those "red flags" was helpful, it also posed another question: What kinds of techniques could be used to prevent improper payments from happening in the first place?

The answer came in a form not traditionally seen in the public sector, which required marrying predictive analytics with behavioral science techniques. The department implemented various forms of messaging, including certification boxes and pop-ups, to remind claimants to review their information for accuracy and completeness before submitting it. And since claimants are required to check in with the department weekly to certify unemployment insurance eligibility, the team also implemented an escalated messaging stream to target claimants marked with elevated risk of fraud or inaccuracies. The tone of messaging ramps up to correlate with the risk of fraud or inaccurate information.

So why are reminders and pop-up messages so effective in motivating claimants? Most likely because they address a bigger issue beyond blatant fraud.

We ran the predictive analytics and are now able to assess at a certain point of time if an individual may have a higher risk of an improper payment down the road.

Looking ahead, the department plans to apply this blend of predictive analytics and behavioral science to communications with employers as well. While they will use some of the information they've gleaned so far, she said the team also expects to be faced with new challenges, as messaging needs may be significantly different for employers. "Employers and third-party administrators report to us quarterly, so we don't have as much contact with them," Forehand explained. "Pop-up messaging may work or it may not in some areas. Traditional correspondence may be the way to go. We're having to have an intense discussion to see what would be the most effective. This is a different type of customer, so the strategies may differ." Forehand said she's optimistic that the strategy will continue to enhance operations and outcomes within the New Mexico Workforce Solutions Department, and she foresees its success in other cities as well.

"I think ideally we would love to share our experience with other insurance programs across the country and beyond," she said. "You're really saving the customer from negative consequences, and we're excited to see if we can share that. It is a nice balance because we're not impacting benefits; it doesn't suspend the claim and there's no harm to the program beneficiary, but it aligns with the integrity effort. It's also at a lower cost than a system that requires additional staffing."

And at the end of the day, Forehand said, the department's strategy is there to better serve claimants and improve efficiency. "In a broad sense, the biggest service is to the customer. Being able to help them provide accurate and correct information prevents an overpayment," she said. "It's truly a preventative program."
Risky Business
Can cyberinsurance improve threat management?

Just hours after the terrorist bombs went off in Brussels on March 22, the U.S. House Homeland Security Cybersecurity Subcommittee held a hearing to explore the market-based incentives that cyberinsurance can potentially bring to managing online risks and promoting wider adoption of cybersecurity industry best practices.

After a moment of silence to remember the victims of the terrorist attacks, Subcommittee Chair Rep. John Ratcliffe echoed what everyone in the room must have been thinking: “Attacks like these really cement the need for this committee to move forward with urgency on all fronts to try and prevent and protect Americans from attacks like these here in the United States.”

Indeed, the cybersecurity stakes have never been higher. At the same time, widespread adoption of lasting solutions to safeguard data and protect critical infrastructure from cyberattacks seems more elusive than ever. And so the same question now rings: Can cyberinsurance improve the cybedefense status quo for the public and private sectors?

Many people and organizations think the answer is yes, including the U.S. Department of Homeland Security (DHS). Beyond giving organizations a safety net, the DHS is hoping cyberinsurance can act as an incentive for having a better security posture, which can be done by offering more coverage and lower premiums to organizations that follow best practices and maintain strong cybersecurity.

While much has been written over the past few years about the pros and cons of buying cyberinsurance, one missing element continues to be reliable actuarial data regarding data breaches and other cyberincidents. We know much more about the likelihood of car accidents (and how to price liability and measure risk) than we do about the likelihood and ramifications of various data breaches.

What you add in technology changes, network complexities and the evolving cyberthreat landscape, the actuarial challenges become even more daunting. What is needed, say most experts, is prioritized data that can be shared into a repository to promote new kinds of cyber-risk analysis. Enter the Cyber Incident Data and Analysis Working Group (CIDAWG), which was formed by the DHS to develop key findings and conclusions about usable propositions for cyberinsurance and meaningful data sharing on incidents.

The goals set for CIDAWG include building the value proposition of a cyberincident data repository; cyberincident data points that should be shared into a repository to support needed analysis; methods to incentivize such sharing on a voluntary basis; and a potential repository’s structure and functions. After receiving public input on related questions this spring, the group plans to finalize its deliverables later this year.

Market Projections
According to TechTarget.com, the cyberinsurance market generated $2.5 billion to $3 billion in revenue in 2015. PricewaterhouseCoopers believes those numbers will move to between $7 billion and $8 billion by 2020.

Nevertheless, “only 2 percent of companies in the U.S. have cyberinsurance,” said Julian Waits, president and CEO of PivotPoint Risk Analytics. “The biggest problem is quantifying the risk — it’s not linear, actuarial information is immature, and therefore insurance companies are grappling with ‘how do we price this risk?’ and ‘what and how much they need to buy, and what they’re actually getting in return.’”

The big question is whether this DHS committee work, along with other industry efforts by insurance underwriters to better measure cyber-risk, can move the needle in meaningful ways regarding cyberinsurance in the coming decade.

Final Thoughts
In January, the Morris, Ill., City Council bought a $2 million cybersecurity policy at an annual cost of $738. Could the city have used that money to better protect its data from cyberattacks or to train its staff to avoid a data breach in the first place? There remain contrasting views on this question.

Nevertheless, buying cyberinsurance is a growing trend in the private sector and with more local and state governments. In addition, the majority of new technology contracts in government require vendors to carry cybersecurity insurance policies.

Five years ago, I opposed buying cybersecurity insurance in Michigan’s state government due to the immature market and unanswered questions. My current view is that cyberinsurance has improved and will continue to grow, becoming an important component of cybersecurity strategies in the public and private sectors.
T he Help America Vote Act (HAVA) of 2002 was aimed at funding new election technologies across the country. After the scandal surrounding the 2000 election, there was widespread agreement that voting tech needed an upgrade.

Ahead of the 2008 presidential elections, Oakland County, Mich., reported problems with its elections and reporting software, citing tabulation errors. Officials said that dust and debris on the sensors was to blame. Even a presidential commission tasked with reviewing voting technology raised concerns in 2014: Voting technologies purchased with HAVA funds were “reaching the end of their operational life.” But some in the election administration space haven’t been able to find viable options for accountable, transparent systems. Finally, however, new options are popping up. For some, the answer is open source.

“STAR-Vote Concept Is Born

For DeBeauvoir, replacing aging voting technologies hasn’t been easy. While there are options on the market, none offered the features outlined by a county-community working group.

“What we determined was, yes, we need electronic voting, but we also needed a system that was evidence based, that had some sort of auditable function,” she said. The only problem? “There weren’t any.”

DeBeauvoir leveraged the voices lobbying critiques at the larger election system and was eventually able to gather experts to design a better one. “I put the challenge back on them. If you’re not happy with electronic voting as it is, then design me a system.”

The concept would be called STAR-Vote (short for security, transparency, auditability and reliability) and rely on a combination of electronic voting features and a printed ballot. In addition, it would be backed up by auditable reports and protected by sophisticated encryption. Voters would be given a receipt with a hashcode, and it wouldn’t rely on a massive amount of preprinted ballots.

“For the first time, it lets us have all of the answers to prove up any election contest. We do not have that right now,” DeBeauvoir said. “If somebody wanted to say, ‘Well, how do you know?’ the answer would be: Well, I know because of all of these steps we took and all of the security measures. But the ultimate criticism of electronic voting is that it has no copy and there is nothing that can be said to that criticism.”

She hopes to publish an RFP to build the system in the next few months and aims to have it operational by 2019-2020. The next several years will be dedicated to building, testing and implementing STAR-Vote.

Open Source Election Tech

Joe Kiniry is a longtime election researcher and self-described hacktivist at Galois, where he works on an open source election program called Free and Fair. The freely available technology launched on May 16 and is designed to be secure, off-the-shelf hardware.

“All the work that we do on secure systems is all open source, down to the brass tacks,” he said, “because the only way to have certainty about elections infrastructure is to make it transparent.”

In his work statewide and advising European governments, Kiniry said one trend repeats in the election space with regard to technology: Systems are launched, and questions and concerns surface to the detriment of the democracy. He saw this pattern repeat in Holland and Ireland as they struggled with the same technologies in 2000. In both cases, the government stepped back to more transparent voting systems.

And systems without any accountability or paper trail, Kiniry said, open the door for bad actors to change the course of elections undetected. “Every time we look at these existing proprietary elections systems, we find that they aren’t built to a quality level that is necessary for an election,” he added. “They are riddled with flaws, bugs, they can’t count right, they can’t calibrate right, they have enormous security gaps and are easily subverted by experts with security knowledge.”

Despite his work to shore up the technological levies of electoral systems, Kiniry doesn’t dismiss the value of a paper ballot. “I’m one of the 99.9 percent of security professionals that says we need to continue to use paper in elections and we shouldn’t use things like Internet voting because we don’t know how to solve the problems.”
A Push in the Right Direction

Government agencies should use data to offer personalized nudges.

By most metrics, Americans are not saving nearly enough. When it comes to retirement, almost a third of Americans have no savings to supplement their Social Security benefits. In addition, almost half of Americans have no savings to draw on in the event of an emergency. Not only do these conditions leave many families in a precarious financial position, but widespread financial insecurity also poses a challenge for state and local governments that may face significant demands for public assistance. While some policymakers are taking steps to address this problem, they’re missing out on an opportunity to provide personalized interventions to individuals.

Behavioral economists would argue that the root cause of the low savings rates in America is not only low wages, but also the fact that many individuals make poor decisions that contradict their own self-interest. Instead of being guided by logic and reason, individuals often make seemingly irrational choices because of faulty heuristics and hidden biases. For example, people may tend to be myopic and focus on short-term payoffs, such as by choosing the immediate gratification of overeating at the expense of their future health or spending money now rather than saving for later.

One solution to this type of problem has been to reshape how individuals make decisions. In their bestselling book, Nudge: Improving Decisions About Health, Wealth and Happiness, Richard Thaler and Cass Sunstein, who later became President Obama’s regulatory czar, describe how policymakers can improve people’s lives by strategically framing decisions to direct them toward a preferred outcome. For example, rather than simply giving people the option to enroll in retirement savings plans, companies can automatically sign up their employees. While workers can still go out of their way to opt out, changing the default gives an immediate boost to savings rates. California, for example, is considering establishing a statewide retirement plan that employers would automatically enroll their workers in unless they offered their own plans. This type of proposal has gained support among many policymakers because it strikes a middle ground between the dreaded nanny state and the unsympathetic disregard of a purely libertarian government.

Some government agencies, especially at the federal level, have tried to expand this approach by recruiting behavioral scientists to more rigorously use data to test and evaluate how changes to programs can yield better results. In many cases, they mirror the type of data-driven approaches of the private sector uses for marketing products and services. For example, an agency might test the response rates for different email messages asking individuals to take a specific action and then use the most successful one: Such A/B testing is second nature to most businesses.

But unlike the private sector, government programs still tend to focus on finding the most effective message for the entire group, rather than creating a multitude of tailored messages based on the characteristics of individuals. However, the U.S. has a diverse society, and the message that convinces one person to act may not work for another. For example, the most effective message to persuade new parents to increase their savings rate might be very different from the one used for recent college graduates. Using a one-size-fits-all approach misses the opportunity to use micro-targeting to create personalized interventions that influence individuals based on their attitudes, values and lifestyle. As a result, programs are less effective than they could be.

Personalization was not possible in the past because it would have been prohibitively expensive, but this is no longer the case. Companies like Opower, which uses personalized interventions to encourage consumers to have more energy-efficient behavior, have proven that these data-driven approaches can be successful. And the rise of artificial intelligence and robo-advisers for financial services means these types of opportunities will continue to grow.

By creating personalized nudges, not only for savings but also for other important behaviors, government agencies will be able to both improve overall welfare and better serve their constituents without treading on the everyday freedoms enjoyed by citizens.
**Genius Laptop**

The ASUS ZenBook 3 UX390UA laptop has a 11.9 mm chassis that weights 910 g and is made from aerospace-grade aluminum alloy available in three colors — royal blue, rose gold and quartz grey. It contains an Intel Core i7 processor, 16 GB of 2133 MHz RAM, up to a 1 TB PCIe Gen 3 x 4 solid state drive, a next-gen USB Type-C port, and Harman Kardon quad-speaker audio. The laptop’s high-resolution 12.5-inch display has an edge-to-edge covering of scratch-resistant Corning Gorilla Glass 4. The ZenBook 3 provides up to nine hours of battery life and can recharge to up to 60 percent capacity in 49 minutes. [www.asus.com](http://www.asus.com)

**Eye on Crime**

The PatrolEyes GPS auto infrared HD police body camera features 1080p recording that can automatically switch to day or infrared night vision mode. With a 145-degree wide-angle lens and 32 GB or 64 GB of storage, it can capture hours of footage. With one button, users can start recording even when the camera is turned off, and can easily tag any videos. Users can quickly swap out a removable battery and continue recording. The built-in LCD lets officers review videos, photos or audio recordings in the field. The body cam has three indicators (vibration, LED light and sound) to confirm start/stop of recordings and has built-in watermarks that can’t be tampered with. [www.stuntcams.com](http://www.stuntcams.com)

**Sitting Pretty**

The Monroe Desk from Zuri Furniture features mahogany veneer with open grain finish and measures 62 x 30 x 30 inches. The floating desktop includes a 28-inch-wide leather writing pad, two chrome cable port cutouts and a pencil drawer. Its storage includes two locking drawers and computer tower storage cabinet. The desk is also available in a black stained oak veneer. The company offers White Glove Assembly, in which two people move the desk components into the room, assemble it onsite and haul away all trash. [www.zurifurniture.com](http://www.zurifurniture.com)

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And the Award Goes to ...

Computers may be an integral part of the workforce in the future, but for now at least, artists are safe. Dartmouth College’s Neukom Institute for Computational Science held a series of Turing tests that sought to determine if algorithms can produce “human-quality” works of art like sonnets, short stories and dance music sets. A group of judges, including a Pulitzer Prize winner, did not find any AI-produced pieces to be award-worthy, which would have required a majority of the judges to rate a machine-generated piece as being composed by a human. “Our algorithms seem not yet able to imitate human kinds of poetry, but the code that was submitted was still amazing,” said Daniel Rockmore, a professor of mathematics and one of the event’s organizers.

SOURCE: DARTMOUTH NOW

Clean Living

Portugal met a clean-energy milestone: The country ran entirely on solar, wind and hydro power for 107 straight hours in May. Last year renewable energy sources provided nearly half (48 percent) of Portugal’s electricity, with wind power accounting for 22 percent.

SOURCE: THE GUARDIAN

Using data believed to be stolen from a South African bank and printed on 1,600 counterfeit credit cards, hackers stole millions of dollars from ATMs over a two-hour period in Japan. Authorities think that more than 100 people participated in the heist and said it’s possible that data-stealing skimmers may have been used to collect the information.

SOURCE: GIZMODO

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SOURCE: DARTMOUTH NOW
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Many government agencies are using the professional networking platform LinkedIn to recruit for jobs. If you search the site, 15,000 of the current 500,000 jobs posted on LinkedIn are government-related.

Government recruitment is a big deal. Why? Because after World War II ended, there was a major surge in the number of babies born in the U.S. — a trend that continued for about a decade and a half and became known as the baby boom. These babies grew up, entered the workforce and got jobs. Many of them got government jobs. Government employees tend to be older than other areas of the labor force because they’re working longer.

For some time, we’ve been warned that government workers are going to begin retiring in large numbers. The first wave of these retirements happened a few years back and it will continue for years to come. America is on the verge of a major loss of institutional knowledge when these government employees leave. The retirement of older workers means that we need to fill these jobs, which makes the government recruiter’s role extremely important.

Jobs on LinkedIn
Private industry has turned to social media for job recruitment for some time, and government entities have slowly gotten on board.

How can you make government jobs stand out on LinkedIn? First, don’t neglect your personal profile as a recruiter, hiring manager or HR professional. Fair or not, potential candidates will associate you with the jobs you post, so it’s important to have your resume updated and use a good profile photo. Don’t create a dummy account to post jobs.

Try LinkedIn Groups to find job candidates — groups exist for just about everything. See if you can join groups that relate to the type of position you are recruiting for, look at the conversation happening and mention your job opening as appropriate.

Consider using LinkedIn as a personal publishing platform, similar to a blog. This long-form dialog can yield abundant views and shares that you might not encounter on an official government blog. Regularly publishing professional updates on LinkedIn will also show other people that you’re an industry leader.

If an industry leader recommends a great job, who wouldn’t want to apply?

Job Seeker Experience
How does it work for job seekers? Likely they’ll download the LinkedIn Job Search app on their smartphone and search by keyword. So you want to make sure you have many descriptive keywords in the job title and description. The job seekers will probably search for a job title, then create an alert for it. Job seekers also can use a fee-based premium service where they can see more insights on hiring trends and view how they compare to other applicants.

Social media recruitment should be another tool for relaying the message about government jobs. But make sure it isn’t the only place you’re posting these jobs, and remember that the same legal issues apply to social media job postings as apply to traditional recruitment.

By Kristy Dalton

GOV GIRL ON SOCIAL

Now Hiring
How to make government jobs stand out on LinkedIn.
Hitting the road to drive innovation

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