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A Tool for Better Government

According to the Sunlight Foundation, 55 government jurisdictions currently have open data policies on the books. More cities especially have gotten on board in the last couple of years. Others don’t wait for a policy — the U.S. City Open Data Census, a joint project of Code for America, the Open Knowledge Foundation and the Sunlight Foundation, offers scores based on the availability of certain kinds of data — from budget and spending, to property and permitting, to crime and service requests.

But just launching the portal isn’t enough. In this issue, we tackle the “so what?” question around open data head on. Why should already-stretched government IT offices spend precious staff time and technology dollars publishing open data sets? While a robust portal reflects well on its government sponsor, are people really using the data? In Finding Open Data’s Real Value (page 22), writer Colin Wood suggests that rather than expecting a booming economy fueled by open data sets published on a public portal, governments should turn their attention inward.

While people getting rich off of government data may be few and far between, government itself can be transformed. CIOs tell us that one of the primary consumers of open data is other jurisdictions — departments in the same organization or other agencies that benefit from access to information that used to be trapped in inaccessible silos, but can now be harnessed to improve programs.

Director of Digital Government in Texas’ Department of Information Resources, Janet Gilmore, told Government Technology in 2015 that the state was creating a commission on data transparency to find ways to share data across agencies. Initial commission findings are due in September.

And in New York City, the Mayor’s Office of Data and Analytics (MODA) focuses not only on releasing data to the public, but also helping city agencies use data to better achieve their missions, whether that’s serving small businesses or reducing the fire risk from illegally converted buildings.

“MODA is all about ... getting data from one agency that can be used by another agency to meet their missions and goals,” said Amen Ra Mashariki, the city’s chief analytics officer.

This issue also spotlights an emerging practice that acknowledges government’s limited resources to actually put their data to work. As the data science field continues to mature, universities and other research institutions are increasingly seen as vital partners for cities that need help tapping into their data’s full potential. While a few have hired chief data scientists onsite (page 34), other jurisdictions are working with university-based labs — each bringing something of value to the table. Researchers get to work on meaningful projects, while government supplements in-house expertise with skills it can’t afford to hire directly.

Beyond just the people power, research teams can be a vital link to grant funding that can pay for innovative projects. The Urban Center for Computation and Data, made up of University of Chicago faculty and Argonne National Laboratory researchers, helped Chicago nab $1 million to support the gathering of situational awareness data during large events. The partnership is also one of 20 to get support from the White House’s Smart Cities initiative for its Array of Things project, a demo that aims to pinpoint some of the Internet of Things’ vast potential. Such partnerships hold important lessons for newer entrants to the open data game. They could be a big part of open data’s second act.
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The Calumet Region, sandwiched between Indiana and Illinois, knows all about urban flooding. Its lost millions of dollars in property damage because of it, and the area’s citizens have paid extra on property taxes for levees to hold back the hook-shaped Little Calumet River. But there’s more than one way to stop a flood.

A network of government agencies, nonprofits and engineers in the area is trying out a method that involves projects a lot smaller and distributed throughout the region — an open-source file kit that anybody can use to get started on stormwater management projects.

These files are for “green infrastructure” that makes use of plants and soil to slow down and store water during storms, effectively keeping it from pooling up and flooding. A common example is a “stormwater planter,” a concrete box with plants growing in it that engineers can channel water into. Eve Pytel, director of strategic priorities for the Delta Institute in Chicago, said one stormwater planter can hold hundreds of gallons of water during a rainstorm — gallons that might otherwise be headed for an overtaxed gutter.

Your Next New Hire?

Seattle added a new specialized role to its technology team in January: the civic technology advocate. Candace Faber, who’s led hackathons that include the city’s Hack the Commute transportation event last March, was named to the position, charged with promoting open data use by local technologists and working with business departments to identify opportunities. Seattle Chief Technology Officer Michael Mattmiller explained that the new position is part of an effort to improve quality of life for citizens.

$500 million

The amount New York is investing in a new program that aims to provide high-speed Internet to every resident in the state by the end of 2018.

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How are they to decide whether the document has evidentiary value? That’s for judges to decide. Documents cannot be destroyed under the law in anticipation of possible litigation. That is generally outlawed under a legal principle called ‘spoliation.’ If the documents are destroyed it can hamper justice. Most local government employees do not know enough about the law probably to know what documents can be destroyed (documents that have no evidentiary value). There are all sorts of legal and ethical issues with this change, not to mention a question of good governance.

Although dashboards and comparable representations of results and outcomes are useful, they don’t reveal processes. It’s always better and demand the full reports.

It’s the smartest move any state has made. By classifying Bitcoin as a currency, all existing currency legislation — including know your customer laws, etc. — gets bootstrapped in. So you save a lot of legislative work, level the playing field and provide consumer protections in one stroke. I wish other states would figure this out.

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Amplifying the Public’s Voice

Civic engagement doesn’t happen by default. Technology can help government leaders reach community members.

At the most recent convening of the National Association of Counties at the Harvard Kennedy School, county executives heard Professor Mark Moore share his theory of public value. Moore quoted political philosopher John Dewey, who wrote that “the fundamental problem of public leadership is calling into existence a public that can understand and act on its own interests.”

Democratic governance, in other words, does not furnish an engaged public by default. It is the charge of government leaders to call it into existence. The leadership of the New York City Police Department has taken this lesson to heart, leveraging technology to augment the constructive potential of the public voice.

In 1994, Commissioner Bill Bratton and Mayor Rudy Giuliani brought the department CompStat, a then-revolutionary accountability system for policing that has since been replicated across the country. CompStat is a management system that combines administrative philosophy with technological tools to make crime and disorder matters more transparent, and holds precinct commanders directly responsible for the areas they serve.

Crime rates are just one measure of success for a modern police department. Recent surveys of New Yorkers indicate a highly uneven distribution of civilian satisfaction with the police, despite reduction in violent crime citywide. “Ten percent of the public may be the victim of violent crime,” Bratton has said, “but 100 percent notice disorder.”

Zachary Tumin, NYPD deputy commissioner for strategic initiatives, said the department realized it needed reform. “The road to safety must go through community and the workforce,” he said, “not over or around them.”

The job of the police is not just to be good at fighting crime; it is, in the spirit of Dewey, to call into existence a public that can better act on its own interests. A full two decades after the introduction of CompStat, the NYPD identified IdeaScale, a cloud-based innovation ideation platform, as a tool that could help.

IdeaScale — which counts among its other customers NBC, Yale University and the U.S. Department of Homeland Security — works by registering users to make comments and vote on suggestions for ways to improve their organizations. The ideas that receive the most votes are elevated to the attention of management.

The NYPD, whose work with the platform is uniquely public facing, has implemented the program fully in six regions. “Our work with IdeaScale is the first time that a police department has used a digital platform to invite specific communities to nominate quality-of-life problems for the police to address,” Tumin said. “Crowdsourcing helps set the police agenda for action as never before.”

The program, which is part of the city’s broader efforts to amplify citizen engagement in new neighborhood policing models, creates action items for the everyday issues people actually care about. In the 100th Precinct, for instance, community members used IdeaScale to voice concern over late-night noise coming from a local bar. The police, in this instance, enabled the community to act in its own interest by coordinating a meeting between concerned constituents and the bar owner, who together reached a mutually acceptable agreement on their own terms.

The information and ideas submitted to IdeaScale constitute a crucial supplement to violent crime and 911 data in determining an agenda for a local police force, whose success in New York is now measured more holistically through an invigorated version of CompStat. Tumin said that by being more responsive to such quality-of-life issues, the police are able to enact a virtuous cycle. By building confidence that they will get things done, police increase the willingness of citizens to report crime, testify in court and contribute street-level intelligence. This participation, in turn, helps the police do their jobs better. And so on.

New tech services like IdeaScale have demonstrated their capacity to create new “publics” in which citizens are not only heard, but also empowered to participate in the production of their own civil society. Having called publics into existence, it remains to leaders to help them flourish.

Craig Campbell, a research assistant at the Ash Center for Democratic Governance and Innovation at the Harvard Kennedy School, contributed to this column.
Better security for a better organization.

Are you ready for an end-to-end IT security solution that enables your government agency?

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Can a surfboard help save the ocean? While numerous tools are available to help scientists monitor and learn about the deep ocean, it’s a more difficult task near the shore since satellites can’t be accurate in that narrow zone and buoys don’t tend to be deployed at the coast. To help attain detailed information about this area, scientists are turning to those already out enjoying the water: surfers. By replacing the regular surfboard fin with a Smartfin, surfers can collect data like ocean temperature, salinity and wave characteristics, all while catching some waves. The information is transmitted to an app via Bluetooth, and the raw data is available to scientists worldwide.

Hang 10 for Data
Those unfamiliar with North Carolina’s analytics center might benefit from taking a peek. The state’s Government Data Analytics Center (GDAC) is an anomaly in an otherwise rote world of state bureaucracies. In 2014 Gov. Pat McCrory tasked it with the progressive and far-reaching mission to be the analytics hub for all state agencies and their more than 64,000 employees. This elevated authority has ferried the center from its original work at the State Controller’s Office and into the Office of Information Technology Services. Since the transition, GDAC’s analysis of shared data has led to more than $1 million in revenues from worker compensation fraud penalties, channeled data for insights between departments and achieved previously unattainable efficiencies. GDAC Director John Correllus spoke with us to detail the center’s current work and provide a few hints about what’s next.

We have other health-care initiatives underway — including a Medicaid analytics pilot — and we also are developing child welfare analytics to protect and ensure the safety of children across North Carolina. A complementary initiative just underway is focused on juvenile justice, leveraging data and analytics to reduce recidivism through early intervention. Another GDAC initiative is a statewide budget transparency site, which will provide public visibility into where tax dollars are going.

We also continue to focus on foundational activities such as master data management, governance, standards and data architectures. These elements are foundational to delivering a successful enterprise data management practice. Continuing to mature this foundation will support faster delivery to meet changing business needs, demands and policies.

Has GDAC been able to calculate some of the cost savings its analytics are providing departments? Absolutely. A couple of examples of the benefits include work we’ve performed with the North Carolina Division of Employment Security and the North Carolina Industrial Commission (NCIC). The NCIC is focused on ensuring employers’ compliance with maintaining workers’ compensation insurance coverage. In fiscal year 2015, NCIC tripled the amount of penalty fines collected the previous fiscal year, and had a fivefold increase over two years through the use of the fraud and compliance analytics out of GDAC.

What strategies and plans are in place to take GDAC into the future? Very simply, the strategy has been to start small and think enterprise. This has allowed the organization to grow with each success to what it has become today. Our strategies have always been focused on business enablement and benefits.

— Jason Shueh, Staff Writer

March 2016 // www.govtech.com

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John Correllus
Director, Government Data Analytics Center, North Carolina
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Charlie Catlett, director of the Urban Center for Computation and Data, is working with Chicago to place sensors on city-owned infrastructure to demonstrate the Internet of Things’ potential.
Open Data's Second Act

Universities and research institutions could hold the key to open data’s next chapter.

Government produces a lot of data — reams of it, roomfuls of it, rivers of it. It comes in from citizen-submitted forms, fleet vehicles, roadway sensors and traffic lights. It comes from utilities, body cameras and smartphones. It fills up servers and spills into the cloud. It’s everywhere.

And often, all that data sits there not doing much. A governing entity might have robust data collection and it might have an open data policy, but that doesn’t mean it has the computing power, expertise or human capital to turn those efforts into value.

The amount of data available to government and the computing public promises to continue to multiply — the growing smart cities trend, for example, installs networks of sensors on everything from utility poles to garbage bins.

As all this happens, a movement — a new spin on an old concept — has begun to take root: partnerships between government and research institutes. Usually housed within universities and laboratories, these partnerships aim to match strength with strength. Where government has raw data, professors and researchers have expertise and analytics programs.

Several leaders in such partnerships, spanning some of the most tech-savvy cities in the country, see increasing momentum toward the concept. For instance, the John D. and Catherine T. MacArthur Foundation in September helped launch the MetroLab Network, an organization of more than 20 cities that have partnered...
with local universities and research institutes for smart-city-oriented projects. The focus of those projects was disparate. In Houston, one of Rice University’s ideas was to help the city collect data to better determine where it should place bicycle-sharing racks. The University of Washington sought to help Seattle install weather sensors to track hyperlocal precipitation in an effort to predict when residents will strain the power grid with higher electricity demand.

The network included some partnerships that had already existed for at least a few years. One of them was the Urban Center for Computation and Data (CCD), a collaborative involving faculty from the University of Chicago and researchers from the Argonne National Laboratory, which partnered with Chicago officials to put data to work enhancing municipal knowledge and solving problems. The partnership has focused largely on big data and breaking down silos among city agencies. In 2013, the Urban CCD helped the city win $1 million from the Bloomberg Mayors Foundation Challenge to expand situational awareness data. During major events — Chicago plays host to more than a few — Urban CCD

SENSEABLE CITY LAB: UNDERWORLDS Carlo Ratti believes the world is letting a vast and valuable data resource slip away unmined. That resource is sewage — sewage carries a sampling of the collective bacteria that act as markers of public health. Working with the city of Cambridge, Mass., Ratti and the SENSEable City Lab hope to demonstrate the potential of collecting and analyzing bacteria in sewage and trying to identify where it comes from. The first application is to predict disease outbreaks, which could help contain them and reduce health-care costs, but the lab sees more possibilities for the project in the future. For instance, sewage-based data could be isolated to individual neighborhoods. Eventually the data could act as a new kind of human census.
Director Charlie Catlett wants to ensure the city’s platform can scale up to include more situational awareness data than ever before, as well as support more users and run predictive analytics programs. It’s a project that might have forced the city to inflate its technology budget if it weren’t for the partnership, Catlett said.

“That was to look at the analytics the city does and see if we could accelerate new innovations in that area without having to hire an army of additional data scientists,” he said.

The $1 million award is an example of another benefit that people with backgrounds in academia can help cities with, he said: grant applications. As part of its smart cities initiative, the White House and several federal agencies offered $160 million that city-research institute partnerships can reach for.

Some of that money has already gone to the Urban CCD for a project called the Array of Things. The idea, Catlett said, is to construct a real-life metropolitan demonstration of what the Internet of Things can be. Chicago is gearing up to place an array of sensors on city-owned infrastructure — the number of sensors grew from 30 to 500 after the project won $3.1 million from the National Science Foundation — that will be capable of taking environmental measurements as well as recognize objects.

The potential applications for the project, from a municipal and research perspective, stretch as far as the technological capabilities of the sensors because the collaborative plans to crowdsource ideas for how to use the array. Some early applications include air pollution maps, congestion tracking and flood damage prediction.

And the Array of Things is just one project. Catlett has biweekly meetings with Chicago’s tech officials. That’s the thing about partnerships: They establish ties that allow the projects to keep on coming.

The cities bring data that researchers otherwise would not have, while the researchers bring expertise and ideas. Researchers bring access to data, which allows them to peer into things they otherwise might not be able to. They also present a unique opportunity for students to learn and gain practical experience.

“The students know that there are job opportunities in data analytics, so being able to get their hands on city data is a wonderful opportunity,” said Steven Koonin, director of New York University’s Center for Urban Science and Progress. Catlett said government officials also bring a perspective into the conversation that researchers might not have — a perspective that can help shape the applications researchers pursue.

The cities often get very tangible benefits from the partnerships: They outsource labor to the research institutions involved, they get ideas for how to use data, and they can uncover trends that help make operations more efficient or perhaps cut down on wasteful spending. For instance, if Chicago were to send out work crews to replace old light bulbs with LEDs, Catlett suggested that the city might save some money by asking those same crews to perform other maintenance while they’re out.

“Big data is impacting many dimensions of our society. In cities, it can help us better understand the world around us and plan its transformation,” wrote Ratti. “Over a century ago, Élisée Reclus stated that good ‘surveying,’ i.e., data collection, is the first fundamental step in city planning. It is not different today — if not for the fact that we know our cities much better and can plan their transformation accordingly; [then in] opening the data to citizens. Universities have a lot to offer here — both in terms of helping with the data management platforms and providing ideas for its usage.”

The benefits cities offer to universities can be a little less tangible. They can offer access to data, which allows researchers to peer into things they otherwise might not be able to. They also present a unique opportunity for students to learn and gain practical experience.

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URBAN CENTER FOR COMPUTATION AND DATA: PLENARIO

What if all open databases in a city existed side by side? Plenario might not bring every iota of municipal data together, but it collects a lot of it, and from many cities besides Chicago. From stray dogs to red light camera tickets, the project allows users to compare data sets and then map them within a city. The idea is to de-silo government information, allowing greater flexibility in the application of that data.

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Catlett said government officials also bring a perspective into the conversation that researchers might not have — a perspective that can help shape the applications researchers pursue.
“Researchers are not familiar with the challenges that a city has, from the point of view of an official making [a] decision,” he said. “They may be users of cities as individuals, but what cities offer in terms of a partnership is a glimpse into the complexities of the challenges they’re facing.”

Two recurring themes in projects that universities and research organizations take on in cooperation with government are project evaluation and impact analysis. That's at least partially driven by the very nature of the open data movement: One reason to open data is to get a better idea of how well the government is operating.

“A lot of the open data laws were motivated by a desire for transparency, which is a great thing, but putting data out there so that the government is more transparent is a much different exercise than putting the data out there so that it's usable — so the public sector can benefit from it, the private sector can benefit from it,” said Mike Holland, CUSP’s executive director. That means that sometimes inefficient or broken systems will be uncovered. When that happens, Koonin said, it helps push public servants toward creating better systems.

“If services end up not working, that can be embarrassing,” he said. “But it’s a tool for creating better government.”

A large-scale example happened in September when the University of Southern California released a study examining data points from traffic monitors across Los Angeles in an attempt to discover whether a light rail expansion had truly reduced congestion like its proponents thought it would when pitching the project to the city. The study, which its authors believe to be the most extensive and granular of its kind ever conducted in the U.S., showed that the light rail expansion didn’t actually cut down highway congestion. It did, however, increase overall transportation along that corridor of the city — a benefit unto itself, according to the researchers.

The takeaway, study co-author Sandip Chakrabarti told Government Technology...
Did it help the neighborhood be safer?”

“Let’s say it’s rapid transit or a new park or a new road in a part of a city,” he said. “You’d like to know what the impact of that investment is. Let’s say it’s $50 million. You want to know: Did it create more jobs? Did it help the neighborhood be safer?”

Open data may have been part of the impetus for city-university partnerships, in that the availability of more data lured researchers wanting to work with it and extract value. But those partnerships have, in turn, led to government officials opening more data than ever before for useful applications.

“Sort of. “I think what you’re seeing is not just open data, but kind of shades of open — the desire to make the data open to university researchers, but not necessarily the broader public,” said Beth Noveck, co-founder of New York University’s GovLab.

That’s partially because researchers are a controlled group who can be forced to sign memorandums of understanding and trained to protect privacy and prevent security breaches when government hands over sensitive data. That’s a top concern of agencies that manage data, and it shows in the GovLab’s work.

It was something Noveck found to be very clear when she started working on a project she simply calls “Arnold” because of project support from the Laura and John Arnold Foundation. The project involves building a better understanding of how different criminal justice jurisdictions collect, store and share data. The motivation is to help bridge the gaps between people who manage the data and people who should have easy access to it. When Noveck’s center conducted a survey among criminal justice record-keepers, the researchers found big differences between participants.

“There’s an incredible disparity of practices that range from some jurisdictions that have a well established, formalized [memorandum of understanding] process for getting access to data, to just — you send an email to a guy and you hope that he responds, and there’s no organized way to gain access to data, not just between [researchers] and government entities, but between government entities,” she said.

The infusion of federal money and the launch of the MetroLab Network are both big boosts to the concept of government-research institution partnerships. But the people involved in those partnerships see more reasons to be optimistic.

One of them is the self-sustaining nature of those partnerships. When students at universities are offered the chance to do the duties of data scientists, it puts them in good position to pursue jobs handling data, IT or other related jobs within the public sector.

The rising number of chief information officers, innovation officers, data officers and data scientists springing up across the country also lends itself to supporting such partnerships, according to several sources. People in those positions, with resources at their disposal and easy access to government databases, are more likely to seek out researchers who can help them put raw data to good use.

“When you have a data scientist in-house, that’s what leads to the recognition that you need to do more data-driven projects … and you need to turn toward partners,” Noveck said.

Ultimately what that means is that there are more people working to help government get smarter — even though not all of them work directly for the government.

“Open data by itself doesn’t necessarily translate into smart decisions unless smart people are willing to work on them,” she said.

BNIer@govtech.com
By Colin Wood

Finding Open Data’s Real Value

With all the time and energy devoted to open data pursuits, is government missing the point?

Most open data portals don’t look like labors of love. They look like abandoned last-minute science fair projects, pie charts sagging because someone didn’t use enough glue stick. The current open data movement is more than a decade old, but some are still asking why they should even bother.
U.S. Open Data Director Waldo Jaquith has proven that uncovering the right information can make a big difference for government.
“Right now, it is irrational for almost anybody who works in government to open data. It makes no sense,” Waldo Jaquith said. “Most people, it’s not in their job description to open data — they’re just the CIO. So if he fails to open data, worst case, nothing bad happens. But if he does open some data and it has PII [personally identifying information], then his worst case is that he’s hauled before a legislative subcommittee, grilled, humiliated and fired.”

Though perhaps it’s not immediately apparent, Jaquith is the director of U.S. Open Data and one of the movement’s most active advocates. But he’s also a realist. Open data is struggling to gain financial and spiritual backing. Open data may fizzle out within the next two years, said Jaquith, and a glance at government’s attitude toward the entire “open” concept supports that timeline.

The people who are really into open data — like Jaquith — aren’t the fad-following type. Open data’s disciples believe in it because they’ve seen that just a little prodding in the right spots can make a big difference. In 2014, Jaquith bought a temporary license for Virginia’s business registration data for $4.60 and published the records online. That data wasn’t just news to the public — it had been kept from Virginia’s municipal governments too. Before that, the state’s municipal governments had no way of knowing which businesses existed within their boundaries and, therefore, they had no way of knowing which businesses weren’t paying license fees and property taxes. Jaquith estimated (“wildly,” he admits) that this single data set is worth $100 million to Virginia’s municipal governments collectively.

The disconnect between the massive operational potential that open data holds and government’s slow movement toward harnessing it can be explained simply. Government thinks open data is an add-on, keeping it a secret. For the public, open data is about transparency and economic development. It’s the restaurant’s mission statement. Open data isn’t just about transparency and economic development. If it were, those things would have happened by now. People still largely don’t know what their governments are doing and no one’s frequenting their city’s open data portal to find out — they read the news. Open data portals haven’t stopped corruption; the unscrupulous simply reroute their activities around the spotlight. And if anyone’s using open data to build groundbreaking apps that improve the world and generate industry, they’re doing a great job keeping it a secret. For government, open data is about working smarter.

“I’m tired of the argument of ‘Oh, it will unlock value to the private sector,’” Jaquith said. “That’s nice. I hope people make billions of dollars off of that. But nobody in any government is going to spend any real amount of time on all the work that goes into opening all the data sets on a sustainable, complete basis because some stranger somewhere might get rich.”

Open data’s most basic advantage is that it makes life easier for government workers. Information that’s requested regularly can be put online, freeing workers to do other tasks. At its best, open data uncovers interjurisdictional insights that save money and improve operations. And no matter how lenuous, peripheral bonuses like transparency and economic development are still there. Governments aren’t gaining the benefits of open data today because there’s not been a rigorous effort to integrate the concept of openness into public-sector work.

One unnamed city that ranks respectably in the U.S. City Open Data Census has more than 1,000 records on its open data portal. But only 132 of those records are data sets and 86 of those data sets are pieces of a single budget that have been split apart. This is a common practice across the public sector and one that reveals intent. For the most part, governments aren’t publishing their data because they know it’s a useful resource that ought to be easily accessible, well curated, neat and current so that it can be used by all. It’s because 1,000 sounds better than 50 when an official is giving a speech or addressing stakeholders, and they’re not the ones who have to use it.
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Governments use data. Open data portals are designed for displaying and sharing information in an organized way. Therefore, governments should use a tool designed for the thing they’re trying to do. Even putting aside the “open” concept, public-sector offices around the nation would benefit hugely from having a common, shared pool of data they can draw upon when they need reliable information. Putting the data online is the most practical way to do that — and it also happens to meet the political dictates of transparency — but government should be doing this for its own sake.

“The most common mistake I see governments make with open data is thinking that publication is the end of the activity, rather than beginning of the activity,” said Dan O’Neil, executive director of the Smart Chicago Collaborative. “Because publishing data can be, if we live in a perfect world, simply a preparatory step to allowing residents to talk about how data affects their lives and helps them live better. But usually, what happens is they publish data and they run as fast as they can in the other direction.”

Plan beyond technology.

Open data has outgrown the novelty phase, and that means it needs organizational and policy support to survive. It needs comprehensive planning and believers who will act. People wouldn’t be giving up much if they abandoned open data today, O’Neil said, because open data hasn’t done much. The tragedy of giving up now, he said, would purely be a loss of prospect, because open data could change the world if the focus were shifted away from technology and toward the needs of the people.

An organization called City Bureau is attempting to encourage young non-white people to become reporters in an attempt to restore balance to journalistic coverage on the south and west sides of Chicago. Another journalistic endeavor on Chicago’s South Side called Invisible Institute serves as a watchdog organization that uses investigative reporting, litigation and public discussion to further its civil rights goals. O’Neil’s world is one of civic tech and social justice, but regardless of whether a person supports these particular groups ideologically, everyone can learn from their approach.

“That’s where it’s at,” O’Neil said. “Getting data that isn’t open and making it open and then having an actual community strategy around analyzing not just the data, but the social justice issues around the general milieu.”

Government needs to do the same if open data is to find meaning. Just putting data online and hoping for the best isn’t wrong, but it doesn’t do much. Open data needs a clear plan, and it needs to come from a wide patronage within government.

“The most common mistake is focusing on the project over the practice,” said Will Saunders, Washington state’s open data guy (his actual title). “It’s always attractive to have an executive sponsor, and a lot of times open data projects get started as a transparency commitment, as ‘a hallmark of my administration’ kind of thing. [Sometimes] you wind up having a diligent, small group of folks who facilitate the publica- tion of data and then if there’s a leadership change in three or four years, then a lot of the sustainability just isn’t there.”

Automate slowly.

Washington could be publishing three to four times more data than it is today, Saunders said, but the state doesn’t because longevity through automation ensures the efforts will stick.

“Program managers know that they can and should publish, and when they do, they tend to link it to their own programmatic goals as opposed to a specific political commitment,” he said. “What I typically do is work with agencies to see if there’s a way I can encourage them to make publication part of their program design, and if I can’t, then I wait for another day.”

This approach is slower, but like proper diet and exercise, experts recommend it because it works.

Open data’s relevance will grow only if efforts mature. In Washington and elsewhere, data sets are often used for purposes different from what was originally intended. Opportunities to repurpose data will appear more frequently as the information becomes better organized and shared. One severe obstacle to that prospect is that today there exist few standard schemas for publishing data. Roads, for instance, cross every boundary the nation has, and yet road data takes a new format in each jurisdiction. Today, without standards, a large project that uses open road data sounds like more trouble than it’s worth.
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Collaborate on the creation of publishing standards.

Government has a hard time following publishing standards today because not many exist. The President’s Task Force on 21st Century Policing is developing some standards for police data. Data.gov is working toward a standard that will let companies like Uber publish their ride data meaningfully, and programs like Bloomberg’s What Works Cities initiative are positioned to develop standards across city lines. Comprehensive and accessible publishing rules would reduce the work required of freeing data sets, and it would solve many of today’s data sharing and comprehension snags.

Trust your experts.

The public isn’t qualified to tell the government how it should be using its data, because the public doesn’t understand government. Most people think “the government” means the president or Congress. No one understands the challenges of government better than those who run it and those are the people who should guide the use of public-sector data.

Utah is growing its open data automation daily under the guidance of experts. The technology office monitors which data sets its offices need and educates stakeholders on how to use that information. The state auditor, the health-care system and external data requesters are among those learning, said Dave Fletcher, Utah’s CTO.

“Increasingly we’re working on an initiative that we’re calling data-driven government to make better decisions based on data,” Fletcher said, adding that they share statewide data with counties so information like graduation rates, unemployment rates, taxes and air quality measures are easily accessed by commissioners.

Drew Mingl, Utah’s open data coordinator, said people are grateful to have a definitive centralized source of state information that can yield new insights. Data now being drawn from the state’s Medicare system, for example, showed a $25,000 in deviation in the cost of hip replacement surgery in two neighboring counties.

“Our No. 1 job,” Baron said, “is to support the lines of business to interact with a local university and actually identify information and insight that’s being leveraged to save lives.”

Ted Ross, general manager of L.A.’s Information Technology Agency, said the city wanted three things from its portal: a way for average citizens to view data casually, capabilities for data scientists who wanted to do more with the data, like download it or use APIs, and the ability to integrate federated data sets from across systems. Contracting a vendor was the easiest way to reach those goals, Ross said, so rather than develop the portal in-house, that’s what Los Angeles did.

The city listens to the people who use data most to guide its efforts: journalists, researchers, officials and technology staff, Ross said. This feedback ensures the city’s doing more than fulfilling a political mandate, he said.

L.A. has done more with its data than leave it dangling. Vision Zero, a multinational road safety program, promotes roadway design to reduce pedestrian injury and death, and it’s powered by the city’s open data.

“We worked with USC, who volunteered about 25 graduate-level data science students and three professors, and we basically analyzed for causation and commonality, and trends relating to those, and they can help identify some of the high-value networks,” Ross said. “That’s a prime example of taking open data and using it as a platform to interact with a local university and actually identify information and insight that’s being leveraged to save lives.”

Open data doesn’t need to save lives — and it usually won’t. Its value is in supporting the core functions of government, which are basic things like keeping parks and water clean and trash cans empty, said Josh Baron, application delivery manager for Ann Arbor, Mich., and that should be the goal of everyone who works in government.

“Our No. 1 job,” Baron said, “is to support the lines of business who are out there making the city a wonderful place to live.”
Q&A: Open Data—More than Transparency

Open data is not new, although calls for public agencies to publish information online have only grown louder. Proponents of open data tout its ability to increase government transparency and make it more accountable to the citizen it serves. While transparency is important, we shouldn’t sell open data short. Sharing information can help grow local economies and positively impact citizens’ lives as well, Kevin Merritt, president and CEO of Socrata, explains how.

Q: Why is open data important for economic growth?

KM: State and local governments collect a vast amount of data and are now providing that data online which is creating jobs, companies and even some new industries. For example, a company in New York City called SiteCompli creates compliance dashboards, analytics and alerting services for building owners using the city’s open commercial building data. SiteCompli reminds these owners to have their heating, ventilation and air conditioning, elevators and more inspected. The company employs more than 100 people and it’s expanding to other U.S. cities.

Another example is Citymapper, which takes transit and transportation data from major cities worldwide and enriches that data with other sources of information to help people easily navigate public transportation networks. This is really a win-win. Citymapper wins because it is building a great product and phenomenally strong business. Cities win because they’re increasing public transportation ridership and reducing or eliminating the cost of building their own transit apps. And people win because the experience of riding the bus or subway is improving.

Q: How can open data help governments and citizens work together to ensure a high quality of life for all citizens?

KM: I think I would expand this to also include entrepreneurs and developers as well. Take Zillow as an example. My family moved to Seattle in 2005. At that time, it was nearly impossible to get comparable school performance data and useful crime statistics about neighborhood safety. Now that data is prolific because school districts and police departments are publishing it in easy-to-use, machine-readable formats. Zillow goes one step further by using that data to create a rich profile of literally every home in America. It really is a genuine consumer app and consumer-grade interface for getting government information in context.

Q: What are some ways in which open data helps government leaders make the best choices?

KM: The typical government has more than 1,000 line-of-business systems. These systems are often archaic and don’t interoperate. One of the barriers traditionally preventing governments from making better decisions is poor access to their own data. When governments connect these line-of-business systems into their open data platform, it effectively creates a city-wide data warehouse.

For example, during the outbreak of Legionnaires’ disease in New York City, the Mayor’s Office of Data Analytics (MODA) wanted to analyze the problem, but the data was scattered across numerous systems in multiple agencies that didn’t ordinarily have any reason to collaborate. Eventually MODA realized the city was publishing almost all of this data on its Socrata-powered open data platform and they could easily access the raw data they needed to make informed decisions. This ultimately led to the solution to this outbreak.

Q: Which cities are innovating with open data and how?

KM: I believe the United States is leading the world in both open data and digital data-driven government. For example, Chicago has a strong commitment and a plan to release all of its data in either real time or near real time. Businesses see that commitment from the city and they’re creating companies and jobs that harness the real-time flow of that information.

Additionally, Seattle is working diligently to have the most transparent and accountable police department in the country. They’re doing this by using data and promoting citizen engagement. One of the police department’s key challenges is trust and police-community relations — transparency is the foundation of restoring that trust. The police department publishes its crime and operational data, such as when an officer discharges his or her weapon. Dashboards show current performance metrics and goals for improving these metrics. It’s an innovative approach.

Q: Where do you see open data heading in the near future?

KM: I feel like every city across the country is changing their position on publishing crime and operational data from the police department. Just in the last six or nine months — in part led by the White House Police Data Initiative — cities are changing the way they use data. They’re starting to think about data sharing as a means to demonstrate accountability and build trust with the community.

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Cities and states have a variety of choices when it comes to open data publishing platforms.
The Louisville Metro Government in Kentucky started its open data efforts in 2011 with a homegrown Web portal, and is now automating the publishing processes and using the data for performance improvement. As it does so, Louisville is working with a handful of vendors specializing in open data catalog publishing. “We are at a crossroads,” said Jason Ballard, director of the Department of Information Technology. The department has partnered with a company called NuCivic, which is developing an open source platform called Dkan, and is working with Socrata, the open data publishing vendor, on performance management. “We may end up with a hybrid,” Ballard said, pointing to the expense of more mainstream platforms. “With some other products, such as Dkan, we may be able to achieve similar results for a better cost and sustainability.” The goal is to provide access to day-to-day work done by government employees in as close to real time as possible. “That’s where we are going,” he said. This is a good time to be a chief data officer or CIO charged with creating an open data program thanks to a widening range of data publishing solution options, including open source, that did not exist just a few years ago. That’s good news for cost-conscious state and local governments. The budget for open data publishing platforms is often a big constraint and decisions depend on internal capacity, according to Timothy Herzog, an open data specialist at the World Bank. “It is very common for cities and counties to have a bright young person familiar enough with open source and facile enough with the tools to stand up something fairly quickly on their own for a few thousand dollars plus staff time,” he said. For jurisdictions that have bigger budgets, a number of commercial choices are available. Whichever route they take to publish open data, public agencies should strive to make the data as easily accessible as possible, not only to people but also to automated systems, said Herzog. Open data platforms that are really doing it right allow users to download the data, but also include an application programming interface (API) to make data available in a consistent machine-readable format. With an API, it is possible for a visualiz-
tion platform or other consumer technology to ingest that data or create middleware to make that translation automatic. “That is one of the value-adds that a good open data platform will give you,” said Herzog.

A manager of a midsize city might have to spend $100,000 to bring in a vendor to design a turnkey solution and put a platform online, Herzog said. But some out-of-the-box software-as-a-service (SaaS) solutions are available for about $350 to $500 per month. “On the other hand, if you are CEO of the U.S. Census Bureau, that model is not going to make sense,” he added. “It doesn’t fit how you do procurement, for one thing.”

Louisville spent about $150,000 in 2014 to launch its new website, and as of December, Ballard noted that they spent about $51,000 in 2015 with DKAN and NuCivic: “We’ll see where that takes us and continue to invest where we need to in order to evolve to the end state where we get to complete transparency.”

Another city that has invested in open data publishing is Seattle, which started working with Socrata in 2010. The city wanted developer-friendly tools and easy-to-use interfaces, including APIs that allow nontechnical people to access information about city government, according to Michael Mattmiller, Seattle’s chief technology officer. “We also are thinking about how we can help employees use these tools to glean information.”

Although he didn’t provide figures on the city’s open data budget, Mattmiller said Seattle hasn’t looked closely at open source options. “When there is a product that meets our needs, where we have seen other municipalities be successful with it, and our target users are familiar with it, it is hard to make the case we should build something else and devote technology resources to it.”

Government Technology surveyed some of the leading vendors offering solutions in the open data platform market to find out how the market is evolving and whether customers’ needs are changing.

Socrata

There seems to be consensus that Socrata is out in front of the open data publishing market. Socrata CEO Kevin Merritt said he started the company in 2007 to build Web-based databases for small and midsize business. “One of those businesses that started using our cloud-based database was the White House,” he said. “We started looking at this opportu-

nity and became passionate about governments putting their data online for a number of external stakeholders.”

It became evident that governments should be making data that taxpayers fund available to stakeholders downstream, Merritt recalled. In early 2009, Socrata pivoted and decided to go all-in and help governments make data available. “We now lead that market with more than 300 customers using our platform to make their data available,” said Merrit.

Socrata has worked with several jurisdictions on the cutting edge of open data, including Seattle, Chicago, New York and Illinois.

Governments go through a maturity curve during the open data adoption process, according to Merritt. Their needs evolve and what they want to accomplish as a byproduct of making data available is different as they go along. The foundation is to put up a catalog and make files searchable, discoverable and downloadable. Every government has to start there, but that is no longer sufficient. “You have to get to the point where your data becomes an important element in your own data-driven decision making and becomes part of the economic development you are promoting in your jurisdiction, and that is where I think we set ourselves apart,” Merritt said. “We have customers at every step of the way in terms of maturity.”

Junar

Junar (which means to view and to know) was founded by Diego May and Javier Pajaro about five years ago. With offices in Silicon Valley and Latin America, Junar provides a cloud-based open data platform. May, the company’s CEO, noted that while governments can build these tools from scratch themselves, “we put a lot of brain power into thinking about what citizens are looking for when they go to open data portals and how cities need to open up data. We offer something that solves the problem right away.”

Customers include Palo Alto and Sacramento County, Calif. He said customers like that Junar offers a solution that’s modular. “We offer a standard open data platform package that is priced based on the population of the city.” How does he distinguish Junar’s offerings? “Socrata is a great company,” May said. “But I would say we are simpler to deploy and easier to use. That allows us to be more cost-effective. The total cost of ownership is lower.”

NuCivic

As CEO of the New York State Senate from 2009 to 2011, Andrew Hoppin led the deployment of a major website for the state, NYSenate.gov, using the Drupal content management system. Based on that experience, Hoppin today is the co-founder and president of NuCivic, which leads the development of an open source platform called DKAN, which was rolled out at the end of 2013.

New York-based NuCivic was purchased by GovDelivery in 2014. “We worked with a small number of customers first to figure out how to build a great open source product, and then we were ready for prime time,” he said. The plan is to take advantage of GovDelivery’s reach. It has about 1,000 government customers in the United States and Europe. Most governments want to do something with open data to get information out or even internally to drive efficiency, said Hoppin, adding that open source software that’s also available as a service — or “OpenSaaS” — offers increased agility and affordability.

Accela

A company that offers government software that streamlines land, permitting, asset, licensing, right-of-way, legislative management, and resource and recreation management, Accela is in somewhat of a unique position in terms of open data, said the company’s development evangelist Mark Headley, the former...
chief data officer of Philadelphia. “If you look at other open data platforms, particularly the commercial platforms, you need to take data from another system and put it in their platform,” he noted. “Accela is the system of record for a lot of this data that gets put in open data portals.”

Governments use Accela’s system to conduct business, such as issuing licenses or permits. “All the data accumulates in our system, so we can help them bring that data out,” Heald explained. Accela has an open data platform built on the open source platform CKAN that is free for its customers to use. “My job as Accela’s open evangelist is to help our customers understand how they can leverage that data inside their Accela system,” he said. “We have over 100 customers currently on our civic data platform.”

In terms of how governments think about open data publishing, Heald said budget resources are a consideration, along with the amount of data they currently have available to publish. “It doesn’t make much sense for a government to invest a lot of resources in an open data portal if they are not at a point where they are ready to publish a lot of data,” he explained. “Conversely, if you have a lot of data and have a lot of usage, then there are commercial options available.” You have to decide how invested you want to become in any one particular vendor, especially since this is sort of a new area, he added.

Esri

Cities, counties and state agencies have been using Esri’s ArcGIS for years to manage spatial data and share it on the public Web. But in 2014 Esri launched a new application, ArcGIS Open Data, to give customers a free and quick way to set up public-facing websites where people can find and download data in a variety of open formats. “We added capabilities to ArcGIS that are expected or required of open data catalogs such as exporting in several common formats and speaking the new DCAT [Data Catalogue vocabulary] specification,” said Andrew Turner, chief technology officer of the Esri Research and Development Center in Washington, D.C.

One advantage is that the new application is part of the same data management and dissemination platform ArcGIS has had for a long time. “What we have seen agencies saying is, ‘Here is the subset of all my government data that I really want the public to discover first. This is the curated front page to their data catalogs and applications,’ ” Turner said. Many ArcGIS customers are using this platform as their only open data catalog, “once they find out about it, they don’t see why they would go pay for a separate open data solution. This is what the police chief and mayor already look at. They think, ‘Why don’t I use this same platform for open data and leverage my existing investment for new potential innovations?’”

CKAN

Another viable option is to go the open source route, and CKAN (Comprehensive Knowledge Archive Network) is the leading open-source data portal platform. The Open Knowledge Foundation maintains CKAN, which is written in the Python programming language and can provide full support and hosting. (The federal Data.gov portal has used both CKAN and Socrata.) NuCivic’s Hoppin describes why open source looked attractive to him when he was building a solution as CIO of the New York State Senate. “I want to be in the driver’s seat with my own technology,” he said. “I don’t want to be locked in with a vendor, even one that is a fantastic vendor.” In the Senate, requirements changed all the time, he added, sometimes for political or budget reasons, not necessarily technology reasons. “Open source gives you the ability to control your own destiny. I want the ability to find my vendor and more important, I want the ability to innovate,” Hoppin said. “If I want to do something that is a novel idea, it would be nice to take care of that myself directly with the recent college graduate I just hired who has the tech skills to do it.”

The Regional Approach

Regional collaboration could be the next phase of open data publishing. The city of Pittsburgh has partnered with Allegheny County and the University of Pittsburgh on a regional data portal that doesn’t belong to any one entity but is collectively managed and co-mines data from multiple governments. “What they are doing is exciting,” said Accela’s Mark Headd. “If you are a resident of Pittsburgh, you are getting services not just from the city but the county as well, and there is much more potential to provide transparency if you co-mines data and make it easier to use. We are going to break out of the approach of the last few years of a city having its own data portal, and there is a bright line around the boundary of its portal.”

Ultimately, which solution works depends on what government wants to do. At its most basic level, an open data portal can just be a directory like a phone book. If a citizen wants a certain piece of data, then they can follow this link and it is hosted here. “If that is what the government wants, the technology hurdle is significantly lower,” said Headd. “If a government wants a robust, managed API because they feel that developers or researchers or journalists want to leverage that, then they have to ask if they have the appropriate people in house to support that or is it something they should outsource.”

And if the aim of government is to nurture and grow the community of civic data activists and startups, then they have to look at their open data portal as a mechanism for engagement, not just a place where you go get data.
Introducing the
Chief Data Scientist

Though not a widespread approach (yet), some in government are bringing data science in-house.
By Adam Stone


Still, the title has gained some traction in the public sphere. The White House has appointed a national chief data scientist. The U.S. Department of Commerce and the Environmental Protection Agency have their own, as do some state agencies.

“The rise of the chief data scientist reflects the growing acknowledgment that government must make data-driven decisions to be effective,” said Jennifer Bachner, director of the master’s program in government analytics at Johns Hopkins University.

With the recent arrival of the chief data officer, some might ask why another C-suite data executive is needed. Bachner said the two play very different roles. “The term ‘scientist’ implies that performing and overseeing analyses are core responsibilities. In contrast, the term ‘officer’ might lead people to think that the position primarily involves data management — collection, storage, distribution,” she said. “Today’s chief data scientist needs to be able to use data to develop actionable recommendations, not just gather, store and distribute it.”

Given the increasingly common notions of open data, big data and data analytics, the role of the data scientist is on the rise. Many in government are eager to see just how these tools might apply to their efforts to build models, ponder what-ifs and convert raw information into policy guidance.

Here’s a look at how public-sector data science chiefs are defining this emerging role.

DJ Patil
Chief Data Scientist, U.S. Office of Science and Technology Policy

In February 2015 the United States got its first chief data scientist, giving a substantial boost to a job title that is still in its formative stages in many levels of government.

Housed within the White House’s Office of Science and Technology Policy, under the CTO, the new data leader has been called to “harness the power of technology and innovation to help government better serve the American people,” the White House said in announcing the appointment of DJ Patil as chief data scientist and deputy CTO for data policy.

It’s a mouthful of a title, but the task is fairly straightforward. Patil said his job is not so much to crunch the numbers as it is to determine how the data can be used to inform policy. He points to new data insights in health care, such as the ability to use genomic data and bioinformatics to drive breakthroughs. The federal Precision Medicine Initiative drives these innovations, and that policy is guided in part by Patil and his three-person team. “We are there to help ensure data will be used responsibly, that the rules are there to unleash the power of data and finally to make sure that everyone will benefit,” he said.

Patil comes to the job with a daunting tech resume. He served most recently as the vice president of product at RelateIQ, which was acquired by Salesforce, and previously held positions at LinkedIn, Greylock Partners, Skype, PayPal and eBay.

Today Patil receives his assignments directly from the president, reports to U.S. CTO Megan Smith and collaborates with a wide range of multidisciplinary partners. “You need people who have deep expertise in policy, in law, in criminal justice, and then we also have to have the technology people at the table,” he said. “The more we can bring the best minds together, the more effective we are.”

Given the increasingly common notions of open data, big data and data analytics, the role of the data scientist is on the rise. Many in government are eager to see just how these tools might apply to their efforts to build models, ponder what-ifs and convert raw information into policy guidance.
Kane also advises the CIO of the Agency for Health Care Administration. He may put up global notions, like the implementation of a visualization suite, which the CIO eventually adopted agencywide. That was a big change. “Now we can do exploratory analyses or targeted analyses in such a short time, versus what would have taken you days in the past,” said Kane. “Now the answer will just show up right in front of you.”

Overall, Kane sees the chief data scientist as being essentially a builder of bridges, someone who not only manages data, but also helps to integrate that information into the larger vision of the organization. “It bridges the gap between the technical person and the C-level person, between the clinician and the analyst,” he said. “If you have a complement of skills, if you can do the dirty work and still present it to the board at the end of the day, then there are fewer disconnects. And there are not that many people who can do that.”

“Our leadership recognized that as the Medicaid program in general was growing, there were also new types of data coming in all the time,” he said. The potential impact of all that data is enormous, with some 3.5 million claims coming in every week. “That might not be so large for Google, but with healthcare data we are just scratching the surface of what can be done,” Kane said. For the data chief and his five-person team, “one of our missions is to help get a handle on this, to look for new and innovative ways of looking at the data.”

Structurally, Kane is part of a larger data management effort. He reports to the chief of the Bureau of Medicaid Data Analytics, which oversees the data program. Kane crunches the data, making it easily accessible and sensible. A separate business unit looks for ways to put that data to work in terms of practical policy.

John Kane
Chief Data Scientist, Florida’s Agency for Health Care Administration

JOHN KANE TOOK a roundabout route to get into Florida’s Agency for Health Care Administration seven years ago, where he works as a contractor through APS Healthcare. With a degree in molecular biology, he did hands-on work in respiratory therapy, moved into management and entered the field of infection control.

How did all this lead to his present job helping to manage the state’s Medicaid program as chief data scientist? He calls it a natural progression. “The more you start interacting at the C-suite level, the more you talk about the financial impact on organizations — data always plays a role in that;” he said. “I was always creating another database, trying to understand why something was happening that we couldn’t see from the surface.”

Kane served with the agency for five years before taking on the role of top data scientist. During that time, everyone’s understanding of data was changing.

Kane also advises the CIO of the Agency for Health Care Administration. He may put up global notions, like the implementation of a visualization suite, which the CIO eventually adopted agencywide. That was a big change. “Now we can do exploratory analyses or targeted analyses in such a short time, versus what would have taken you days in the past,” said Kane. “Now the answer will just show up right in front of you.”

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The way Curt Savoie has it figured, the data chief’s role in the public arena is to make life better for the citizenry. As Boston’s principal data scientist, he looks to the city’s top official to set the agenda for how that is to happen.

When Mayor Martin Walsh took office, he promised to tackle a clunky permitting process that seemed to slow investing. “So that filtered down to our saying, ‘How can we help?’” Savoie said. He and his team of about a dozen analysts dug into permit applications, inspection records and other existing data. “We want to send it back into the organizations so that management can make better decisions.”

This basic premise — good data drives good policy — forms the core of Savoie’s work. He said that while he loves analytics, “when I think of what will possibly add value or sustain this work in the years past when I am here, it’s the policy stuff.”

Two years ago, for instance, he crafted an executive order calling for the wide-scale opening of city data. “This is important. Before that, we had a lot of holdouts in different departments, people who weren’t particularly interested, who saw open data as a political risk,” he said. “For the mayor to come out and say this is important, it gives those middle managers a little bit of political coverage.”

Much of Savoie’s work has to do with data literacy, walking city managers through the basics of what data is and why it matters. “If I throw a bunch of numbers at a manager, they might not know how to interpret those,” he said. “Sometimes you have to guide people along the path. And they need to see that it is not just a ‘think’ piece, that this is something actionable that they can move on.”

Rather than asking managers to rise up to the data, it’s sometimes more helpful to get down in the weeds, “to start with something they know,” Savoie said. “They may not have the numbers, but they know their business, they know what they are talking about. If you can speak to what they know, that’s when you really start to provide a service.”

He’s not just providing a service to city departments, helping them to improve their services. Savoie also is providing a service to the public at large. For the top data scientist these days, that can engender a tricky balance. “You have the obligation to protect the constituents,” he said. It’s not enough just to stay within what the law allows. “There is also just being considerate, having that view of who you work for. It’s about being responsible to the citizens while still using all this information for their benefit. That duality can be tough to battle.”

*At press time, Savoie accepted a new position as principal data scientist for Massachusetts.
A Map for That

Government entities are increasingly using maps as a tool for creating useful applications. Here are six ways they’re doing it.

By Ben Miller / Staff Writer

A

s snow pounded the East Coast in late January, government entities rushed to do their part in helping citizens cope with the effects of the storm. And amid all those efforts were several jurisdictions that turned to a tool becoming more common in state and local government: maps.

“Unfortunately a lot of the best technology comes out of disasters or major events,” said Christopher Thomas, director of government markets for the GIS company Esri. Among the mapping applications were internal dashboards, which government agencies used to coordinate snowplows and other crews, and public-facing informational maps. Thomas said he sees increasing interest in the use of GIS at all levels of government. In fact, that’s one of the biggest shifts in the field—in the past, it used to be cities like Chicago and Los Angeles that paid attention to the latest trends in GIS. Now, increasingly, Thomas sees small-population cities and towns exploring ways to use maps.

“It’s reaching all sizes and all types of government,” Thomas said, adding that there are several reasons for that. One is that the technology has become much faster, making it possible to create interactive mapping applications that give users information in real time or near-real time. The other reason is the open data movement. As government data collection expands, and as more of that data becomes publicly available, more people are looking to maps as a means of expressing the information.

And depending on the type of application, a map can be useful for both the government and its constituents. Many maps help public servants operate more efficiently and save money, while others answer residents’ questions so they don’t have to call a government worker for the information.

“It used to be that mapping was an internal view,” Thomas said. “Now it’s an internal view, it’s gov-to-gov, it’s gov-to-academic, it’s gov-to-citizen and it’s gov-to-entrepreneur.”

Here are six examples of state and local governments using maps to help themselves and the people they serve.

1 Washington, D.C., and Iowa

Get Local and Current with the Weather

As Winter Storm Jonas was busy dropping nearly 30 inches of snow on the nation’s capital, officials in D.C. were working to clear it. And thanks to a mapping application they launched, citizens could see exactly how the city was going about that business.

The District of Columbia’s snow map lets users enter an address, and then shows what snowplows did near that location within a given range of days. The map also shows where the city received 311 requests for snow removal, and users can look at recent photos from road cameras showing driving conditions.

In Iowa, snow is a big deal year in and year out. Des Moines, for instance, sees an average of more than 35 inches
The constant evolution of technology and citizen demands are pushing government to the bleeding-edge of innovation. The platform of tomorrow is starting to take hold — it can be seen as governments move from physical transactions to digital, incorporating services seamlessly into everyday activities. This digital age will leverage data to support sound decision-making. And in the not-so-distant future, artificial intelligence will become an integral part of government operations.

Government must become agile and flexible to remain relevant to its constituents. Agencies will need to adopt the technologies and concepts behind the platform of tomorrow to provide a better, faster, simpler, more intelligent community.

Is your agency ready for this paradigm shift? Download the most recent Public CIO Special Report for a look into the future through the eyes of technology leaders and government IT decision-makers to see if you are prepared.

of the stuff in an average season, and the state Department of Transportation spends a lot of time and money clearing it off the roads. So it’s no surprise that Iowa’s snowplow-tracking map predates Winter Storm Jonas. It also collects a lot of data about snow and its removal operations. Last year, in an effort to aid motorists battling the weather, the department took that data and put it on a map. The Track-a-Plow map lets users see where plows are in near-real-time, look at photos taken from the dashboards of those vehicles and see stills from traffic cameras that let them know the condition of the road before they get in the car. It’s all set on a map that offers lane closure information, color-coded road condition estimates for different segments of highway and weather radar in the background.

And if users are curious to know exactly what the state does to clear the roads, they can also take a look at the transportation department’s brand-new Winter Cost Calculator map, which lets them see how much money the state has spent clearing individual sections of road.

Los Angeles Maps El Niño Resources and Trends

Throughout the winter, weather monitoring experts warned the public time and again that an El Niño system was brewing in the Pacific Ocean that looked to be one of the largest — if not the largest — ever. That would mean torrential rains for a parched state that’s seen mudslides and flooding during storms in the past.

So to prepare its residents, Los Angeles published a map in January that lets users see both decision-informing trends and the location of resources. Using the application, users can toggle layers that let them know what the weather is doing around the city, where traffic is backed up, where the power is out, where they can find sandbags to prevent flood damage and more.

The app is nimble too. It’s built straight into Google’s mapping platform, which city officials say allows for people to easily get directions to resources on their smartphones. The map is fed with real-time data and can be updated with new layers.

placing tools in the hands of the public

Many cities and counties have started publishing online maps showing local services and releasing government data.

But Chicago, Boston and Philadelphia stand out as examples of maps that take the idea one step further — because each offers a staggering amount of choices for users.

Chicago’s new OpenGrid map, launched in January, is a versatile map that lets users search for certain data like food inspection reports, street closures, potholes and more. That’s enough to answer a lot of questions, but what adds even more utility is the map’s various narrowing tools. Users can narrow searches to a ZIP code, or they can draw a shape on the map and then only see results within that area. They also can perform sub-searches within results and choose how they’d like to see the data displayed.

Philadelphia’s platform makes use of buttons, icons and categories to help users sift through the spatially enabled data available to them. Options include future lane closures, bicycle paths, flu shots, city resources, parks and more. Boston’s platform is open for users to submit their own maps. And submit they have. The city portal offers everything from maps of bus stops to traffic data pulled from the Waze app.

California Dives Deep into Air Pollution Risks

Not all lungs are made equally. Some people can live in a smoggy area with relative ease; for others, medical problems like asthma can make air pollution a looming danger.

Faced with a legislative mandate to identify disadvantaged communities, the California Office of Environmental Health Hazard Assessment decided that it wouldn’t just examine smog levels — it would also look at the prevalence of at-risk people across the state.

The result is a series of three maps, the first two examining each factor individually and the third combining them. That allows the state and its residents to see where air pollution is the biggest problem for people it poses a risk to.

The map, which offers detail at the Census tract level, shows that the state’s worst problems are in its low-lying, agriculture-heavy Central Valley and in its largest city, Los Angeles.

Houston Transforms Service Request Data

A 311 service functions as a means of bringing problems to city staff’s attention. But the data itself only goes so far — it needs interpretation.

Houston’s 311 service request map helps users easily analyze the data to spot trends. The tool offers lots of ways to narrow data down and can isolate many different kinds of requests so users can see whether one problem is reported more often in certain areas.

Guiding Business Growth

For the last several years, Rancho Cucamonga, Calif., has been designing all sorts of maps through its Rancho Enterprise Geographic Information Systems (REGIS) project. Many of them have served specific city purposes, such as tracking code enforcement violations and offering police a command system tool for special events.

The utilitarian foundation of REGIS extends to its public-facing applications as well. One example is theInsideRancho, a map built with economic development efforts in mind. The map lets users search and browse available buildings to suit business needs, narrowing results by square footage, zoning and building type. Users can also find businesses by name or address, and look at property exteriors via an embedded connection with Google Street View.

Visit govtech.com/maps for links to all the maps mentioned in this story.
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StopThinkConnect.org/2StepsAhead
Confronting Yesterday’s Future

It’s hard to look forward through the rearview mirror.

The 1982 DeLorean is coming back. Thanks to a warehouse full of never-used parts from the original run, the remnant of the Humble, Texas-based company will produce a few hundred new replicas of the 34-year-old sports cars with their distinctive stainless steel exterior and gull-wing doors. It is life imitating art — a Back to the Future move to redress past wrongs and mistakes. And we were reminded of those missed predictions in considerable detail last October on the date predicted in one of the movie’s sequels. The nostalgia was tinged with regret and the question: Why didn’t we get that stuff done? The market responded by rushing “hoverboards” to store shelves in time for the holiday gift-giving season. They were, in fact, self-balancing scooters with lithium-ion batteries. And the cheap ones came with an undocumented feature — a tendency to overheat, ignite or even explode.

As for the “new” DeLoreans, the replicas of cars that originally sold for $50,000 in 1982 will now demand $200,000. Compare that to $80,000 for a Tesla Model X. Both are spendy and, arguably, out of reach in many cases, but in this instance, the past is selling at a 20 percent premium.

And there you have it: cautionary analogies for how we seem so much better at confronting yesterday’s future than the future as it faces us today. Go fast, go cheap and get burned, or choose something that seems familiar but is obsolete, and forego the advantages that come with innovation.

We are well into a season of innovation and technological advancement, much of which is well known: the cloud and the Internet of Things; big data and analytics; and ubiquitous networks and the Semantic Web. Together, they have helped usher in what one major player calls an era of cognitive computing, combining thinking networks and thinking machines. You know some of the members of this cognitive family by their first names — Watson, Alexa, Cortana and a social animal known by its initial, M.

Machines that think, reason and understand can (and are) coming alongside public servants who have invested their careers to realize operational efficiencies (finance, administration and eligibility), improve service delivery (including mobile and social), and open government (transparency and open data). These machines are even disrupting the disruptors. The movement that grew up around open data is in transition. Civic hackathons have largely run to overheat, ignite or even explode.

According to research by Silicon Valley analyst Nadia Eghbal, public data projects and data science are, for the most part, not venture backable. Writing in Medium, Eghbal reports, “Funders were skeptical. They didn’t understand why these projects mattered.”

Against that backdrop, it’s worth noting that more than half of the inaugural GovTech 100, published here in January, have overcome venture capitalist skepticism. Fifty-seven of them have attracted venture funding because they are combining and interrogating formerly disparate data to solve problems for government in ways that government is not doing or cannot do for itself. With an average age of 9 years, the companies on the index also demonstrate a stick-to-itiveness in maturing ideas that may have been sparked during pizza-and caffeine-fueled weekends of code cutting into viable solutions. A volatile market, time and track record also have a way of winnowing out the equivalent of cut-rate hoverboard makers.

Public officials and policymakers have options. It would be a pity for them to revert to DeLorean-style thinking and double down on the familiar at the cost of missing a larger, future-leaning opportunity. Combine thinking machines with thoughtful people who bring curiosity, entrepreneurial drive and a determination to make things better — and it may just be enough to outthink and out hustle the vexing challenges of governing in the second decade of the 21st century.
Meaningful Engagement Matters.

Five cities – Albuquerque, Atlanta, Baltimore, New Orleans, and Seattle – are developing new practices that better engage low-income residents in civic life and public decision-making.

Follow their progress at www.governing.com/cityaccelerator
Serenity Phone
The ASUS ZenFone Zoom offers 3x optical zoom and optical image stabilization on its 13-megapixel rear camera (5-megapixel front camera) for crisper photo details. There’s also a super-resolution mode for up to 52x resolution photos. The phone consists of a 5-mm-thick metallic unibody with a burnished leather backing. It features a 5.5-inch display, and it operates on the Android 5.0 (Lollipop) platform. The ZenFone uses an Intel Atom Quad Core Z3580 (2.3 GHz) processor and MicroSD card (for up to 64 GB of storage). www.asus.com

Take a Stand
The CrossOver power-adjustable desk from NextDesk offers users the option of a standing or sitting desk and is designed to work with existing desk and cubicle setups that can’t be easily adjusted. A 24-volt motor lifts the workspace up to 21 inches above the existing table height with a smooth, quiet start/stop. (Height ranges from 0.5 inches to 20.75 inches.) The CrossOver features a lifting capacity of up to 100 pounds. Users can choose between natural bamboo or rubber-wood surfaces, and an optional digital LED display. The frame is designed of aluminum with a powder coat finish available in three colors. www.nextdesks.com/crossover

Laptop Jealousy
The HP Envy notebook is 12.9 mm thick, has a 13.3-inch display and weighs 2.8 pounds. It operates with up to 10 hours of battery life on an Intel Core processor, and contains a 512 GB solid state drive, and Bang and Olufsen audio. The laptop includes a fingerprint reader, three USB ports, HDMI and an SD card reader. It uses 8 GB of RAM, and users can charge their other devices through the notebook’s USB Sleep and Charge while the notebook is on, off, sleeping or hibernating. www.hp.com

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The Great Database Debate

Government databases have become a political battleground due to privacy and security risks.

In 1998, the FBI launched the National Instant Criminal Background Check System (NICS), a database that federally licensed gun dealers use to determine whether a prospective buyer is eligible to purchase a firearm. Unfortunately, by all accounts, the data in NICS is woefully incomplete, which means that the background checks are not preventing those who shouldn’t have guns from buying them. Bad data leads to bad results, yet attempts to fix this problem have consistently run into political opposition.

To give just one example, until recently, many state law enforcement agencies did not send information about individuals with known mental health problems to NICS because doing so risked running afoul of federal health privacy rules, and changing these rules would be contentious. It was not until this past January that the U.S. Department of Health and Human Services finally modified privacy rules in the Health Insurance Portability and Accountability Act so state agencies can report certain relevant information to the NICS when they lawfully determine someone poses a danger to themselves or others.

However, even this rather banal change originally faced strong opposition from groups like the American Psychiatric Association (APA), which argued it would discourage patients from seeking treatment. The APA eventually came to support the new rules, but only after nearly three years of regulatory delay. And while the new rules are better than before, many states still do not have mandatory reporting laws to ensure that the NICS database has a complete set of records on individuals who are ineligible to purchase guns because of mental illness. As a result, the nation’s gun laws go under-enforced.

One might reasonably hope that once a policy decision has been made through the legislative or regulatory process, it would be fairly straightforward. But in reality the political process carries on, and government databases have become a popular battleground, especially since accusations about privacy and security risks can quickly galvanize public opposition. As a result, government agencies find themselves fighting political battles, rather than technological ones, as they try to use databases to solve serious policy issues from curtailing prescription drug abuse to improving student education.

Advocacy groups often object to standard database management practices to undercut the implementation of certain policies. For example, a basic feature of a relational database is to have a primary key that links together different records. But when it comes to health care, Americans still do not have unique patient identifiers to securely link their electronic health records stored on various computer systems, even though this would improve patient safety, because privacy groups have consistently fought efforts to create one.

Or consider the recent fight in Alabama over abusive payday lending practices. State law limits individuals from borrowing more than $500 from short-term lenders, however, these limits are difficult to enforce without a database to track multiple loans. When the Alabama Banking Department tried to establish such a database, payday lenders sued the state, claiming it didn’t have this authority. The Alabama Supreme Court recently ruled in favor of the state, but again, the legal challenges delayed implementation of the database for almost a year.

The politicization of databases is particularly problematic because as we move further into the digital era, government agencies increasingly will rely on technology to operate efficiently and effectively. If building a database to enforce a law or implement a regulation becomes a political action, rather than a technocratic one, public administration will suffer. No government technology projects will be delivered on time and on budget if every line of code has to undergo judicial review or be subject to regulatory oversight.

There’s not a simple solution to this problem, as it is naïve to suggest that we can take politics out of public-sector projects. However, obstructionist politics — whether driven by affected industries, privacy absolutists or other forces — is now a problem not just for state legislators, but also state CIOs. The states that find the best strategies for dealing with this challenge may be poised to lead the next era of e-government.
When government runs on flash

What took days, now takes hours

What filled data center racks, now fits in a box

What was complex, now is simple

What became outdated, now is evergreen
THAT’S A WRAP: The increasing prevalence of cameras used by police agencies is bringing with it massive amounts of video footage to not only store but also search through. The tech behind a new camera for the consumer market may provide insight into the technology’s future. Called Kiba, the video camera starts recording incidents automatically or via voice command, and edits the footage down to a single video montage highlighting the top moments of the day. The device’s Joy Ranking Algorithm determines which clips to keep, preventing the user from having to view and edit hours of video.

SOURCE: GIZMAG

Drone Catcher. After learning about how snipers were protecting 2014 World Cup crowds from rogue drones, a Michigan Technological University professor began work on a drone catcher. “I thought, ‘If the threat is a drone, you really don’t want to shoot it down — it might contain explosives and blow up. What you want to do is catch it and get it out of there,’” said Mo Rastgaar, an associate professor of mechanical engineering. At a distance of up to 40 feet from its target, the drone catcher shoots out a net that’s attached by a string. After ensnaring the rogue drone, it can fly it to a safe location for further investigation.

SOURCE: MICHIGAN TECHNOLOGICAL UNIVERSITY

Digital Indiana Jones The European Union-funded Presious project is developing software tools that aim to improve the efficiency of archaeologists’ work by allowing them to scan artifacts and use simulation technology to assist their research. Once completed, the three simulation software tools will be available for free public download, helping archaeologists worldwide to scan a stone object and estimate erosion patterns; piece together digitized fragmented findings like a 3-D puzzle; and fill in gaps in symmetrical objects when pieces are missing.

SOURCE: ENGADGET

Number of calculations that Cheyenne, a new supercomputer that the National Center for Atmospheric Research will use to study climate change, is capable of per second.

SOURCE: UNIVERSITY CORPORATION FOR ATMOSPHERIC RESEARCH

Send Spectrum ideas to Managing Editor Elaine Pittman, epittman@govtech.com, twitter@elainerpittman.
Who rolls up their sleeves and gets it done?

Doers: Write government’s next digital chapter

Dreamers: Imagine doing government better

Drivers: Create value and improve citizens’ lives

Find out WHO in the April issue.
By Kristy Dalton

GOVGIRL ON SOCIAL

S

maller agencies may only have a few social media profiles to manage, but when dealing with a larger city, county or state agency, odds are that there will be a massive number of social media accounts to keep track of. How do you effectively coordinate social media across your agency?

I’m not getting into scheduling updates or using other tools and technologies here. I want to focus on how to manage your social media program. The scale can be massive. For instance, just one Utah agency, the Transportation Department, maintains approximately 30 separate social accounts. Many agencies are responsible for hundreds of social media profiles.

We recently focused our biweekly Twitter chat (#GSMCHAT) on this topic, and here’s a compilation of the best advice from your peers.

Centralized vs. Decentralized: Pros and Cons

One major structural decision in forming your agency’s social media program is whether it will be centralized or decentralized. Under the centralized model, all social posts go through a particular department, such as the communications or administration office.

Although this method ensures the most consistent messages and branding, it has its challenges. Drawbacks to a centralized social media program are usually that less information is ultimately published, and there is an inherent authenticity problem. Communicators writing about the streets program who aren’t the on-the-ground experts in that particular area can’t discuss the nuances of that aspect of the agency. Police officers tweeting from the street is more meaningful and authentic than public affairs interns sharing canned messages from behind a desk.

Additionally, it can involve a considerable amount of time for communicators to hunt down specific answers to inquiries received via social media. The right expert must be located and consulted.

My favorite recommendation to managing an agency’s social media program is to integrate the approach by centralizing branding and high-level strategy, while also empowering departments to manage their own content. The fact is that your program leads are the content experts, and the communication or public information office can be leaned on for branding, setup, support, training and review. This role or division would also handle quality control, which can be difficult with a true decentralized approach.

The hybrid approach means that there may still be numerous social media profiles involved. It should be the responsibility of the office overseeing the social program to look at each account and explore whether it’s being used in the best way. Often, it is difficult to maintain quality control in a decentralized system, so this must be a responsibility of the office in charge.

Train Early and Often

Regardless of whether a decentralized, centralized or hybrid approach is used, social media training is essential. To avoid the firehose effect, consider using a training model that breaks it down in phases. All content authors start off with different comfort levels in terms of knowledge and familiarity with social media nuances. There should be an initial training, followed by regular check-ins.

Reviewing department social media metrics and statistics can be helpful and provide context for any change in strategy. Remember that gaining social media buy-in from management and leadership is essential to successfully managing this approach. It can be difficult to tell a colleague that they are not following best practices or that their language on social platforms is not consistent. Clear policies combined with management support are important parts of your toolkit in the oversight of your agency’s social media program.

Kristy is known as “GovGirl” in the government technology industry. A former city government Web manager with a passion for social media, technology and the lighter side of government life, Kristy is the CEO of Government Social Media.
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
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