


the  
OPEN  
DATA  
PLAYBOOK  
for government



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# executive summary

Most of us don't think twice before powering up navigation apps, weather apps and other nifty resources on our mobile devices. Apps such as Zillow and Trulia put housing market data at our fingertips, and the travel search engine KAYAK has made shopping for flights, hotels and rental cars that much easier.

Besides the ease of use that these apps provide, they share another common denominator: Each is powered by government data.

For far too long, the government's data assets have been locked away in siloed systems, in less-than-ideal formats and with little incentive for agencies to share data across bureaus or with the public.

But that's changing. The open data movement is driving government to make its data more accessible to the public in formats that people can use. As a result, entrepreneurs and everyday citizens are developing applications that benefit both the public and government.

Agencies are realizing that open data leads to better citizen engagement, increased transparency around government operations and better decision-making. Open data is empowering government officials and citizens to make informed decisions about health care, sustainability and transportation issues. Making data open and accessible to the public enables the government to tap into the knowledge and expertise that exists far beyond its walls. The benefits are endless.

The Office of Management and Budget (OMB) [defines open data](#) as publicly available data structured in a way that enables the data to be fully discoverable and usable by end users. Datasets are made available under an open license and are accessible to the public, timely and complete.

So what was the defining moment that set the stage for open data in government?

Aneesh Chopra, who was appointed the first federal Chief Technology Officer in 2009, pointed to the [Memorandum on Transparency and Open Government](#) as a significant turning point in the government's open data evolution.

"Setting the tone on day one had a cultural significance as much as a technical one," Chopra said of the memo President Obama signed on his first day in office. "The cultural significance was that it sent the message up and down the federal government that the new default would switch from closed to open, with respect to the publication of government data. It gave people a license to push the envelope, and there were many stories of junior-level staffers who saw the directive and took it upon themselves to see new datasets come to market."

Chopra said the memo also created the support for technical improvements, including the launch of Data.gov, the government's flagship open data portal. The website launched May 21, 2009, with 47 datasets. As of May 2015, the site featured more than 130,000 sets and boasted about 8.5 million page views annually.

Other milestones in the government's open data journey include the president's 2013 executive order calling on agencies to make open and machine readable the new default for government information. As prescribed by the executive order, OMB simultaneously released an [Open Data Policy](#) that requires agencies to use machine-readable and open formats for data, open standards and metadata that describe the origin, data quality and other relevant information about the data, among other things.

Another important event? The 2014 passage of the Digital Accountability and Transparency Act. The law requires agencies to spend two years adopting common standards for publishing financial data and streamlining how that data is reported.

Clearly, it's more important than ever to understand how to implement and benefit from open data at your organization. That's why GovLoop has created our latest guide, "The Open Data Playbook for Government."

In this playbook, we offer helpful tips to solve some of your most pressing open data challenges, including measuring return on investment, boosting public engagement and much more. This playbook will help you:

- ▶ Identify key tenets of an open data program
- ▶ Show the impact of your program
- ▶ Explain the benefits of open data
- ▶ Increase public engagement with your data
- ▶ Make data more accessible and easy to use
- ▶ Identify key roles and responsibilities for your data team
- ▶ Develop partnerships with the private sector.

In this playbook you'll also find practical examples and lessons learned from government Chief Data Officers (CDOs) and open data enthusiasts who are embracing open data to improve transparency and make better decisions.

Let's start with lessons that will help you define your open data program.

PLAY #1

# DEFINE

your open  
data program

## LEARNING OBJECTIVE

After reading through this section, you'll be able to identify key milestones of an open data program and assess where your organization is in terms of embracing open data — and where you should be heading.



**S**ometimes the hardest part of any new project or initiative is getting started. It isn't always clear where to begin or how to determine whether you're on the right track. Los Angeles CDO Abhi Nemani boiled down an open data program to three key elements:

1. A senior leader, such as a CDO, who takes ownership of the program and moves it forward. Ideally, this position is placed at an executive level.
2. Policies, an executive directive or a mandate that makes clear that open data is a requirement.
3. A portal, or some centralized place where data can be posted.

"I think if you have those three key things in place, then you at least have the infrastructure you need to deliver on data outcomes," Nemani said.

[OMB offers several key principles](#) that should define federal open data programs, but they are also applicable to state and local government. Programs must be:

**PUBLIC.** Agencies must adopt a presumption in favor of openness to the extent permitted by law and subject to privacy, confidentiality, security or other valid restrictions.

**ACCESSIBLE.** Open data should be made available in convenient, modifiable and open formats that can be retrieved, downloaded, indexed and searched. Formats should be [machine-readable](#), meaning [data](#) should be reasonably structured to allow automated processing. Open data structures do not discriminate against any person or group of persons and should be made available to the widest range of users for the widest range of purposes, often by providing the data in multiple formats for consumption. To the extent permitted by law, these formats should be non-proprietary and publicly available, and no restrictions should be placed on their use.

**DESCRIBED.** Open data is described fully so that consumers of the data have sufficient information to understand the information's strengths, weaknesses, analytical limitations and security requirements, and how to process the data. This involves the use of robust, granular metadata (i.e., fields or elements that describe data), thorough documentation of data elements, data dictionaries and, if applicable, additional descriptions of the purpose of the collection, the population of interest, the characteristics of the sample and the method of data collection.

**REUSABLE.** Open data is made available under an [open license](#) that places no restrictions on its use.

**COMPLETE.** Open data is published in primary forms (i.e., as collected at the source), with the finest possible level of granularity that is practicable and permitted by law and other requirements. Derived or aggregate open data should also be published but must reference the primary data.

**TIMELY.** Open data is made available as quickly as necessary to preserve the data's value. Frequency of release should account for key audiences and downstream needs.

**MANAGED POST-RELEASE.** A point of contact must be designated to assist with data use and to respond to complaints about adherence to these open data requirements.

*Online Extra:* Visit <http://labs.data.gov/dashboard/offices> to see how agencies are performing on the Open Data Policy.



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# How Data Analytics Drives Mission Outcomes

*An interview with Prem Jadhvani, Chief Technology Officer at Government Acquisitions*

Data is powerful. It can tell us more than we ever hoped to know about ourselves and the world around us. It's also vital for solving today's problems and predicting government's future needs.

This is especially true for agencies with health-care, law enforcement and cybersecurity missions, said Prem Jadhvani, Chief Technology Officer at Government Acquisitions. As a solutions provider and IT reseller, Government Acquisitions uses a combination of hardware, software and commercially available technologies to help agencies use data to solve their biggest challenges.

"There is lots of data — some of it may be internal data, some of that may be public data, and you have to analyze all of that and look for uncovered valuable patterns," Jadhvani said. But that's easier said than done. Gathering, analyzing and disseminating large amounts of data is no easy task, especially when time is a constraint.

One of the agencies benefiting from Government Acquisitions' expertise works extensively in the healthcare space. The agency is charged with figuring out how much flu vaccine must be developed and shipped across the U.S. during an outbreak.

The agency must run numerous computations on large amounts of datasets to figure out how much of the vaccine each state needs. It used to take several days or weeks to crunch the numbers on large volumes of data, but now the answers can be obtained much faster. "They can get quick analytical results, which allows them to make the right decisions, and it affects people's lives, especially when every second counts," Jadhvani explained.

In the cyber realm, data analytics is also vital to carrying out critical missions. In the wake of a breach, victim agencies must pore through data to determine what happened, how it hap-

pened and what can be done to prevent future breaches.

"Cyber breaches are becoming widespread, and now they are moving from just credit card numbers to Social Security numbers and healthcare records," Jadhvani said. "Again, data analytics is a very powerful tool for analyzing all the different patterns and trends and coming up with a way that you can do predictive analysis and stop the cyber crime before it happens. The other area that is also affecting mission is the prevention of fraud, waste, and abuse."

Much of what we've talked about until this point has focused on analyzing internal data, not data that is released to the public. There's a difference.

"Big data is typically something that is within the agency — a large volume of data," Jadhvani noted. "But open data is something that is publicly available, and it is licensed in a way that people can reuse that data, and it can be applied to the citizens in general."

The Smart Policing Program, implemented in more than 30 U.S. police departments, funds and empowers local, data-focused, crime prevention tactics. Here's a brief recap of the initiative:

Working with solution providers, the law enforcement agencies collect and analyze GIS and other data using predictive analytics solutions. These solutions help agencies combat crimes such as street robberies, repeat violent offenders, and neighborhood drug markets and have contributed to a double-digit drop in criminal activities in several jurisdictions

Using publicly available data on crime statistics, participants can use predictive data analytics to view historical data and predict future trends. "Now they are able to effectively identify at-risk areas for crime and deploy the

appropriate manpower patrols in the right locations," Jadhvani said.

When it comes to analyzing structured and unstructured data, there are a lot of innovative solutions to get the job done. Jadhvani highlighted several of them:

## IN-MEMORY PREDICTIVE ANALYTICS

Predictive in-line analytics with in-memory databases provide real-time operational analytics without requiring customers to have a separate data warehouse. The shift to in-memory database significantly speeds up the business intelligence and advanced visualization reporting performance from weeks to near real-time.

## ADOPTION OF ALL-FLASH ARRAYS IN PLACE OF TRADITIONAL HARD DRIVES

All-flash arrays, such as Pure Storage, are the new storage systems that are 100 percent solid state and provide a complete set of robust features like compression, automatic data tiering, and snapshots and replication, similar to traditional hard-drive based storage systems. However, flash memory can help reduce data center operational cost and significantly speed up mission-critical analytics applications.

## MASSIVE PARALLEL PROCESSING AND HYPERCONVERGED INFRASTRUCTURE

Parallel means you can take multiple datasets at the same time and run analytics in parallel, thus speeding up the query processing. Hyperconverged infrastructure solutions, such as Nutanix, allow agencies to build their data analytics environment in small chunks of compute and storage and scale out seamlessly as their workloads and data volumes grow. This way, they can start small and expand the analytics use-cases in small increments.

## PLAY #2

# BUILD

a culture & a team  
for open data

### LEARNING OBJECTIVE

In this section, you'll receive help identifying the roles and responsibilities of key individuals as well as the role all employees can play in building excitement for open data and reaping the benefits internally.





Depending on where you work, data experts at your organization may have various titles. There may not be a CDO, but perhaps there is a champion who has taken on [the responsibilities of a CDO](#). At some agencies, the Chief Information Officer is responsible for departmentwide implementation of all open data requirements.

Don't get too hung up on titles, though. The key is ensuring that your organization has designated people who are committed to carrying out each of the following duties:

- ▶ Communicate the strategic value of open data to internal stakeholders and the public.
- ▶ Ensure that data released to the public is open and a point of contact is designated to assist open data use and to respond to complaints about adherence to open data requirements.
- ▶ Engage entrepreneurs and innovators in the private and nonprofit sectors to encourage and facilitate the use of agency data to build applications and services.
- ▶ Work with agency components to scale best practices from bureaus and offices that excel in open data practices across the enterprise.
- ▶ Work with the agency's Senior Agency Official for Privacy or other relevant officials to ensure that privacy and confidentiality are fully protected.
- ▶ Work with the Chief Information Security Officer and mission owners to assess overall organizational risk, based on the impact

of releasing potentially sensitive data, and make a risk-based determination.

*\*Source: [Supplemental Guidance on the Implementation of M-13-13 "Open Data Policy – Managing Information as an Asset"](#)*

But designating and identifying these roles on your team is not always enough. To create a successful open data program, you'll also have to learn how to build internal excitement for open data and reap benefits internally.

One piece of advice I received as a budding journalist was this: Write like you're writing to your mom. In other words, write your stories in a way your mom would understand and make your writing conversational. The same is true when it comes to evangelizing for open data. Make open data simple, tangible and relevant using these five tips:

1. **Educate yourself, coworkers and senior officials about open data.** Do not assume that you, or anyone else, know all there is to know. The good news is there are plenty who have gone before you on this journey, and there is a lot you can learn from other cities and agencies. The Sunlight Foundation, Code for America, Socrata and OMB have helpful resources online to get you started.
2. **Quick wins can get you noticed.** What better way to gain support for the open data cause than to show its impact? If open data reduced processing of information requests, helped you do your job better or made your agency more efficient, tell those stories. If you don't

know where to start, look at what others are doing in the open data space. Pick a project that works for your agency and make adjustments where needed.

3. **Embrace the dashboard.** [Track DC](#), [Maryland's StateStat](#) and [Michigan's Mi Dashboard](#) are a few examples of dashboards that measure key performance indicators. Not only do dashboards give the public better insight into government operations, but they can also be helpful for measuring performance internally. If you're just starting out, consider building a dashboard around key priorities and initiatives. They are a great way to understand priorities and show real value from open data to senior leaders.
4. **Communicate often.** When was the last time you shared your open data story with someone at your organization? Your excitement can be contagious, and you never know what doors or relationships those conversations can lead to. Anecdotes are a great way to boost your program's visibility and encourage internal use of your program's data.
5. **Participate in events such as Open Data Day.** The event "is a gathering of citizens in cities around the world to write applications, liberate data, create visualizations and publish analyses using open public data to show support for and encourage the adoption open data policies by the world's local, regional and national governments," according to the [International Open Data Hackathon](#). You can host or attend events. The National Day of Civic Hacking is another great event.



# Open Data on the Frontlines

*An interview with FEMA's Chief Data Officer, Scott Shoup*

**S**cott Shoup isn't interested in going through the motions of open data.

As CDO at the Federal Emergency Management Agency (FEMA), Shoup knows that public access to timely and accurate data could mean the difference between life and death. What makes FEMA's data so valuable is its power to save lives and assist communities before and after a disaster. But data governance and quality are crucial.

"It's not data quality for data quality's sake, or to check a scorecard," Shoup said. "It's to change how we do business for our disaster survivors and how we do emergency management differently."

Shoup isn't tackling these issues alone. He enlisted the help of data experts across FEMA. But those relationships didn't develop overnight, and "it takes some work to find those subject-matter experts," he said. "Trust me, any organization right now, they have data quality people, they have data analytics experts. They have people doing data management functions, but they're just not properly organized

or categorized or classified in those ways in order to develop communities of interest."

You have to go out and find those subject-matter experts. But how do you bring them together to talk about data governance and data management?

For one, FEMA's decision to change Shoup's title from Chief Architect to CDO last September created more brand awareness around the agency's data efforts. "I hope it doesn't sound too commercial to use the word brand, but I'm serious here," Shoup said. As CDO, "it does intrinsically seem that people really listen to the concepts that I'm portraying," he added.

Shoup had been working on data-related projects as a Data Warehouse Lead and as a Data Architect in an enterprise architecture office for nearly a decade. His new position falls under the Office of the CIO, where he had already been mapping how FEMA uses data, establishing data management standards, identifying future data needs and developing plans to meet those needs, Chief of Staff Michael Coen Jr. [wrote in a message to FEMA employees.](#)

Shoup also credits strong data governance for helping to unite data enthusiasts and senior leaders around a common vision. "The critical thing is to get in with those senior leaders and make sure you express that value proposition," he said.

If you're looking to improve data accuracy, usability, timeliness and security, then data governance should be a priority. Think of it as your organization's approach to data and information management — the policies and procedures that govern how you acquire, secure, use, share and dispose of data. Another benefit: Good data governance can support good storytelling.

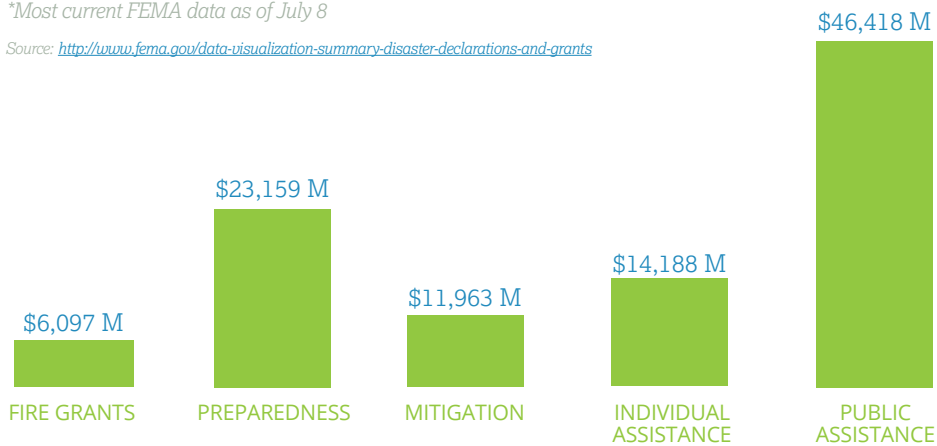
"We're not just talking about how one preparedness office is trying to champion a data quality program," Shoup said. "If we could show how it affects the entire lifecycle of emergency management, then we start to create the kind of groundswell that senior leaders are going to take interest in because we're going to start affecting their outcomes and their decision-making."



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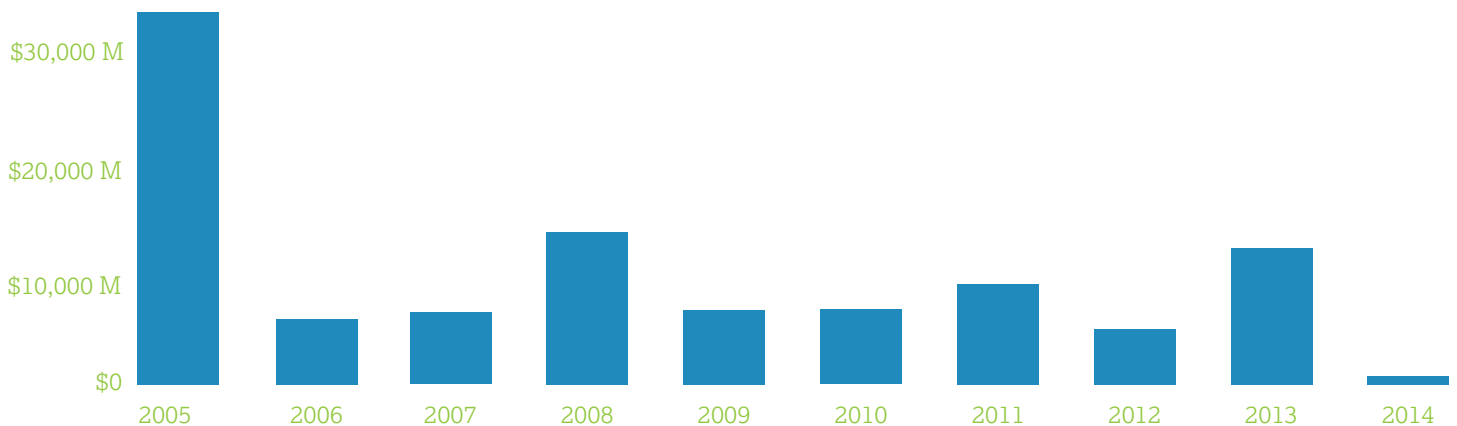
\*Most current FEMA data as of July 8

Source: <http://www.fema.gov/data-visualization-summary-disaster-declarations-and-grants>



### AT FEMA, DATA OFFICIALS ASK THESE QUESTIONS:

- ▷ Why are we collecting this data?
- ▷ Do we need to collect this data?
- ▷ Are we collecting it just because it's happened through inertia, over years, or through something that happened in a disaster 15 years ago?
- ▷ What outcomes are we trying to achieve for disaster survivors?



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Get started with a data quality challenge at [informationbuilders.com/go/DQchallenge](http://informationbuilders.com/go/DQchallenge).

# Defining the Role of Chief Data Officer

*An interview with Rado Kotorov, Chief Innovation Officer and Vice President of Market Strategy for Information Builders*

**I**magine you've been named Chief Data Officer at your organization. You're now charged with ensuring data is accurate, current and properly managed. It's also your job to ensure that data is available on demand for other departments and divisions within your organization to use.

For a growing number of public sector CDOs, this is their new reality. What makes these new chiefs so valuable is that very few people think about what needs to be done with the data and how to properly manage it, said Rado Kotorov, Chief Innovation Officer and Vice President of Market Strategy for Information Builders. The New York-based firm provides a one-stop-shop for all the technologies that empower agencies to manage data, publish it and provide the right interfaces for different people to consume data or use it to build applications.

Although citizens and employees are demanding more access to data, they cannot be the sole drivers of the data movement. Here's why: "Prior to establishing a Chief Data Officer, there were many glitches in the data, whether the data was not integrated, not cleansed, [or] not managed properly," Kotorov said. "So when the stakeholders actually got access to the data, it was in many cases useless data."

## BENEFITS OF A TOP-DOWN APPROACH

The grassroots open data movement led by civic hackers, entrepreneurs and concerned citizens is valuable, but even better is a top-down approach led by CDOs who have defined roles and can own the data and properly manage and disseminate it, Kotorov said. This level of care is critical because "data is an elusive asset," and it's constantly changing, he added.

Kotorov equates today's CDOs to building managers, who own property but allow renters to use their space and customize it to their liking. Likewise, CDOs are the owners of the data, but developers can request data sets, combine them and create new services and products.

"It really boils down to the fact that we need somebody to manage the data as thoroughly as a building," Kotorov said.

CDOs may be the building managers, but they don't necessarily build the final data applications for end users, Kotorov noted. "And it's important to keep that in mind because if the Chief Data Officer starts doing that, essentially it will go back to the old-world thing: the data warehouse."

This approach created a bottleneck for everything, including user requests for data because all the data was compiled into a single database and not easily searchable. Organizations can't afford to return to that state. Some organizations are even shying away from the use of terms such as data governance, which imply a centralized approach to data management that limits people's access to it. Ultimately, open data is about liberating information, not limiting availability.

"It all boils down to accountability and trust and efficiency," which will be born out of the open data movement, Kotorov explained. These characteristics help lay the foundation for a strategy that Kotorov refers to as managing data as a strategic asset. The real value of this approach comes from the quantifiable benefits data provides, whether its direct monetary benefits from using GPS data, or funding provided for data projects that benefit the public.

Unlike private companies, the government isn't focused on monetizing data and charging citizens to use it. Instead, the focus should be on the CDO's role as a custodian of data and also how frequently the data is being used, Kotorov explained. If you have a website, you should be measuring traffic to that site. You can compare your internal initiatives to work being done in the private sector. He also suggests asking the tough questions: Is there really a return on investment for your service, even though it is provided for free to the public? Kotorov calls this an indirect measure of value. Information Builders is helping agencies to extract that value.

"We saw the emergence of data as an asset — as the most important asset — and decided that we're going to provide all the technologies that allow you to manage data through the whole lifecycle of data," Kotorov said.

He offered these takeaways for agencies as they continue their open data journey:

- ▶ Having the right people in place makes all the difference for the success of your open data efforts.
- ▶ You don't govern the data; you manage the data.
- ▶ This may seem minor, but glitches to the measurement unit of your data and other slight changes can very quickly destroy the value of the data.
- ▶ CDOs can help data users understand what properties of the data need to be updated and maintained.
- ▶ Focus on creating a culture where data is treated like an asset.
- ▶ CDOs are the storekeepers of data, and they are charged with making it accessible.

PLAY #3

# CONNECT

people & data  
through hackathons

## LEARNING OBJECTIVE

After this lesson, you'll know how to use hackathons to engage the public and how you can make data more user-friendly and accessible online.



**H**ackathons are a great way to get citizens, coders and open data enthusiasts excited about the public release of your data. The goal is to build relationships with the tech community and to see immediate tools and prototypes. Sometimes those prototypes evolve into much more. For example, the messaging app GroupMe was conceived at a TechCrunch Hackathon.

No pressure, though. Your first hackathon likely won't produce a GroupMe-type app, and that's OK. Governments at all levels have success stories on how civic hackers used open data to build apps that improve emergency response, quality of life and government operations. Indiana is one of them.

The state partnered with Texas earlier this year to host a hackathon aimed at creating apps that best serve citizens. The states took slightly different approaches but ended up with a wide range of apps that let people affected by natural disasters quickly register for help and enable agencies to track their needs. Other apps quickly locate and review daycare centers, for instance.

Unlike a traditional hackathon, which conjures up images of techies working side-by-side in one location, huddled over their lap-

tops, eating pizza and saving the world one line of code at a time, Indiana and Texas hosted an online competition.

To communicate with participants, Texas hosted Q&A calls and used a Google Group to facilitate discussions. For one of the state's challenges, participants were asked to provide location-based results and information in a map-based view of nearby child-care operations, using data from the Texas Department of Family and Protective Services.

Indiana partnered with six universities around the state and met with students to discuss the challenge and drum up interest in the event, said Graig Lubsen, Spokesman for Indiana's Office of Technology. Running for three weeks, the event was also longer than a typical hackathon because the state wanted final products that were a bit more polished than a prototype.

Event organizers used WebEx and conference calls to field questions from hackathon participants. "We tried to be accessible," Lubsen said. "We wanted people to do well so we could use these solutions."

Under the state's rules, winners kept all intellectual property rights, and the state received a royalty-free, non-exclusive license. If state

agencies liked the application and wanted to use it internally, they could contact the developer to finish building it.

## LESSONS LEARNED

If this is your first foray into the world of hackathons, it can be helpful to learn what challenges others have faced and how they overcame them. In Alameda County, Calif., officials created [a helpful resource](#) with lessons learned from the county's 2012 Apps Challenge and tips on how to plan a hackathon. In the document, the county shared eight key decisions that must be made prior to an event kickoff.

- ▷ Duration of the event.
- ▷ Location.
- ▷ Date.
- ▷ Number of anticipated participants.
- ▷ Theme.
- ▷ Budget.
- ▷ Prizes.
- ▷ Registration fees, if any.

Design and setup of the venue should also be considered to ensure there are accommodations for participants with disabilities and non-English speakers.



**A**sha Aravindakshan, Civic-Innovator-in-Residence at GovLoop, recommended that agencies partner with existing groups that are adept at hosting hackathons. “Nobody needs to reinvent the wheel,” Aravindakshan said.

But the work isn’t finished after you’ve hosted your hackathon. Agencies must consider who owns the apps once they are developed. That detail should be stipulated in the terms and conditions or rules for the event, Aravindakshan noted. When datasets are updated or there is a breakdown between the app and the data, who is responsible for making fixes?

If you’re not sold on the benefits of hackathons, here are a few checks in the pros column from Rachel Sterne Haot, Chief Digital Officer for New York state and [NASA](#). Hackathons:

- ▶ Bridge sectors and connect the government and technology communities around a shared challenge.
- ▶ Provide individuals and teams with face-to-face access to governments’ decision-makers.
- ▶ Help remove subjectivity from the design process by clearly showing what the public wants and needs.
- ▶ Equip developers with the internal data they need to make user experience decisions.

In addition to hackathons, here are other types of events focused on promoting open data:

### DATA JAM

A closed-press, daylong ideation event with developers, designers and subject-matter experts focused on one topic and related open datasets. Several are held in succession, leading up to a “datapalooza” three months later.

**EXAMPLES:** Health data jam (Health and Human Services Department), 21st Century Jobs Jam (Office of the Vice President, Commerce Department, Office of Science and Technology Policy), Mitigating Campus Sexual Assault (departments of Education and Justice)

**GOAL:** To connect tech and policy communities and get commitments to make things with open data in support of agency mission and priorities.

### DATAPALOOZA

An open-press celebration, demo day and platform to announce government open data releases or improvements.

**EXAMPLES:** Safety Datapalooza (Transportation Department, Consumer Product Safety Commission, Food and Drug Administration)

**GOAL:** To celebrate open data tools, companies and commitments, and build momentum for projects.

### HACKATHON

An event where developers, designers and strategists work in teams to solve problems with software and/or hardware and demo the resulting work at the end of the day.

**EXAMPLES:** White House “We The People” API Hackathon, the Smithsonian American Art Museum API Hackathon

**GOAL:** To build relationships with the tech community and to see immediate tools and prototypes.

\*Source: <https://project-open-data.cio.gov/>

Online Extra: Learn more about civic hackers — who they are and why they’re important — through free, online training provided by [GovLoop Academy](#).



# Hitachi Unified Compute Platform

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# Open Data at the Office of U.S. Foreign Assistance Resources

*An interview with Dennis Vega, Managing Director at the Office of U.S. Foreign Assistance Resources, and Jessica Klein, Special Advisor*

*“We wanted to focus on what people need, how the data is most useful, and really making sure that we developed a site focused on how people are using and thinking about this data.”*

In a perfect world, everyone would see the value and potential of your data, but that's not always the case. There are things you can do to increase the likelihood that people will find your data and that it will be used to boost transparency, increase public engagement and fuel development of new products and services.

Dennis Vega, Managing Director at the Office of U.S. Foreign Assistance Resources, and Jessica Klein, Special Advisor, know firsthand the challenges and rewards of engaging the public early and often. Below, Vega and Klein offered lessons learned from a recent redesign of [ForeignAssistance.gov](https://ForeignAssistance.gov), a website dedicated to publishing budget, financial and award data from all U.S. government agencies that receive or implement foreign assistance funds.

Based on their challenges and the paths they took to overcome them, Vega and Klein had four tips about open data for agencies to keep in mind.

## **TIP #1:** OPEN DATA IS NOT A DESTINATION.

**CHALLENGE:** One of the driving forces behind the redesign of [ForeignAssistance.gov](https://ForeignAssistance.gov) was the need to make data more accessible and easy to understand. The website wasn't intuitive and seemed to get more complex as more data was added. It was clear that people were having trouble finding the data, based on their comments and online feedback.

**SOLUTION:** The office spent the past year preparing for the website redesign, which included a listening tour of sorts. Staff used open data events to offer demos of the site. “We used agile development,” Klein said. “We solicited feedback on the redesign concept, then on the mockups and then on the beta site.”

The beta site was publicly available, with a disclaimer that the site should not be used for valid and official data. There's also a feedback forum on the new site where people can report glitches or comment on the site. As new features were released, the office reached out to some of its target users and asked them to review the site.



## TIP #2: IDENTIFY POTENTIAL USERS & THEIR NEEDS.

**CHALLENGE:** ForeignAssistance.gov was built as a tool for the public to easily view funding data, hence the various maps and charts on the site. But what about the super user, who is also interested in downloading raw datasets?

**SOLUTION:** The team tried to get a good sense of the user base, both internally and externally, Vega said. The office reached out to advocacy groups, nongovernment organizations that work on foreign assistance issues and congressional staffers to learn how they use foreign aid data and what information they would like to view that isn't currently available.

There are really two types of users, he said: general users, who hear something on the news and want to know how much money is being spent in an area, and super users, who want raw data to do analysis or produce new products. The site caters to both groups. Vega and his team considered the first thing each user group would want to see upon accessing the site and how the website's navigation features could better facilitate their data searches.

## TIP #3: MAKE DATA USABLE.

**CHALLENGE:** "I think the biggest thing is you want the data to be used," Vega said. That's why organizations must reach out to the broadest possible user base.

**SOLUTION:** One way of gauging usability and engagement is by measuring how long people are staying on the site and clicking through datasets and graphics. The hope is that the website redesign will reduce the bounce rate, or the number of people who visit only the homepage and then leave the site, Klein said.

If users can find data more easily, they'll likely spend more time on the site, which offers plenty of useful metadata, an easy-to-understand explanation about the federal budget process, frequently asked questions and a glossary of terms. Agencies must consider how many clicks it takes users to get to their data.

## TIP #4: COLLABORATE WITH PARTNER AGENCIES.

**CHALLENGE:** The biggest challenge is getting complete data from more than 20 agencies that manage foreign assistance funds. For many of the agencies, tracking foreign assistance funds is not a core part of their mission, and there is a lack of data or systems to gather that information, Vega noted.

**SOLUTION:** "I think we have to be honest with people," Vega said. The truth is that the systems aren't there yet to automatically collect data. "We, fundamentally, as organizations believe in transparency," he said. "We're working on these systems' aspects to get better and more complete information, but we understand that until we do that, it's not going to be as complete...or [that you'll have to] replace what you're having to do manually until we get to that point."

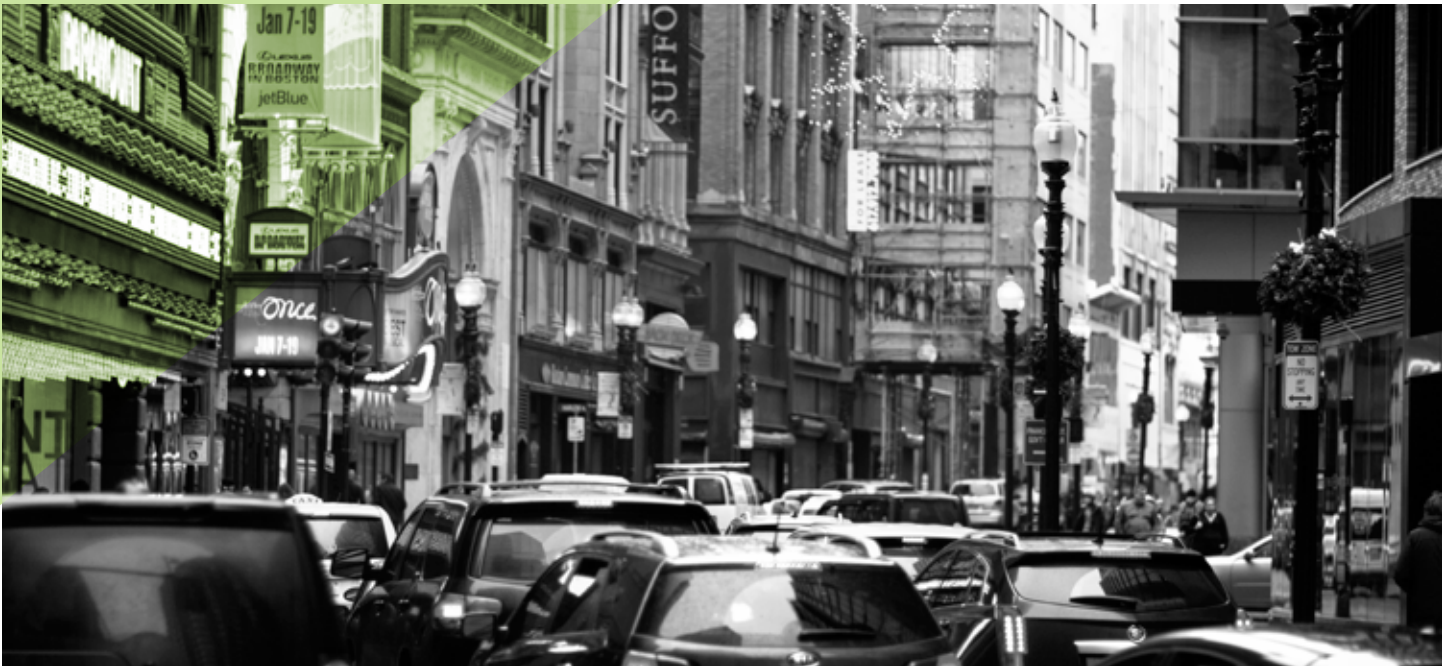
PLAY #4

# PARTNER

with the  
private sector

## LEARNING OBJECTIVE

In this section, you'll gain wisdom about how you can team with industry and the private sector to open your data to the masses.



**B**oston is known for many things: sports teams, rich history, wintry weather and wicked accents. But gridlock on city streets is one thing Beantown doesn't want to be the poster child for.

A promising solution to Boston's traffic woes has come in the form of a partnership between the city and developers of the community-based traffic and navigation app Waze. The Google-owned company has a data-sharing agreement with the city through its Connected Citizens Program.

"It says that we tell them about road closures, and in return they tell us about all sorts of different traffic data reported by citizens of the city," said Peter Ganong, the city's Department of Innovation and Technology Staffer.

The partnership, announced by Mayor Marty Walsh in February, comes at a time when the city was already working to build a partnership between its technology and transportation organizations that would advance the state of transportation in Boston, said Jascha Franklin-Hodge, the city's CIO.

### DATA-SHARING AGREEMENT VS. TRADITIONAL PROCUREMENT

There's no cost associated with the agreement. The city is providing data for free, and it receives data from Waze without cost. "I think it's an experiment for both parties — for us and for Waze," Franklin-Hodge said. "There's certainly no long-term commitments in place. But it's our hope and expectation that this will continue."

The city did not have to use the traditional procurement process to partner with Waze because there are no costs involved. "We've been very clear from the outset that any data we're sharing with Waze we would share with anyone," Franklin-Hodge said. "They don't get proprietary access to road closure information."

### ARTICULATE THE VISION

The partnership is still in the early stages, but Boston officials have already identified promising benefits. The city will combine Waze data with traffic data from more than 500 city cameras to respond to traffic jams, accidents and road hazards faster.

"We're constantly evaluating the state of the road system, and we make changes on a fairly regular basis," Franklin-Hodge said. Now the city can view the impact of those changes in real time.

The city also plans to use Waze data to help determine the best way to manage traffic flow. One option involves coordinating with the Massachusetts Bay Transportation Authority to see if giving transit vehicles priority at signaled intersections along key routes would help ease congestion. Waze data would be used to measure the before and after traffic impact.

### SPEAK UP & BE PATIENT

When it comes to data-sharing partnerships, Ganong recommends speaking up and being patient. Initially, the city received data from Waze in a format that showed traffic flow at any given time. "But often we really wanted to monitor traffic on a route, across some distance, and consistently be able to talk about traffic speeds," Ganong said.

Working with Waze, the city can now do historical analysis and view traffic at a point in time and across an entire route. There are other nice-to-have capabilities, but similar to government, private-sector partners also have limited technical resources and staff. "Sometimes the thing that you need first isn't necessarily what you're going to get, but you'll get something else that you can actually find a way to make useful," he said.

### REAPING THE BENEFITS

"From the department's perspective, this use of open data is a new arena for us," said Boston Transportation Department Commissioner Gina Fiandaca. "We're used to being asked for data and asked to share data, but we're not used to accepting data. This has really opened up a new way of engagement and a new way of improving our policies and our practices here."

Another added bonus of partnering with the private sector on open data projects is the unforeseen benefits. Franklin-Hodge described one scenario in which Waze data could be extremely valuable:

There's a stretch of roadway that's currently restricted in South Boston to commercial-only vehicles. It's a stretch of roadway controlled by the state Department of Transportation. The department is considering a pilot program to potentially open the road to unrestricted traffic. That stretch of roadway connects one of Boston's growing business districts to a major highway, and the change could significantly improve traffic in that area. If and when the state makes that change, Waze will be an incredibly useful resource for the city to understand what impacts that change had.

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# Choosing the Best Data Analytics Tool for Your Agency

*An interview with Heather Gittings, Director, Public Sector Solutions, and Monica McEwen, Federal Director at Qlik*

**W**hat separates good data from bad data? Well, a couple of things: How the data is displayed, its accuracy, and useful context about the data are all key.

Whether we know it or not, these features keep us going back to our favorite websites and apps to get information. We all have go-to data that we check weekly or even daily. Maybe it's weather data, sports statistics, or schedules about trash removal. What makes these data sets useful is the way they're presented.

Heather Gittings, Director of Public Sector Solutions at Qlik, is in the business of helping agencies present their data in useful and visually appealing ways. "We offer a platform that pulls together all data — regardless of size or location — into one consolidated view," Gittings said. "We do that in a visual way, so that end users can create and explore charts and graphs that answer their questions and help them make informed decisions."

These capabilities, often referred to as visual analytics, are about empowering users to pour through data and present it in new ways.

But there are many solutions that agencies have to choose from. It's hard to decide what analytics tools can best drive your agency's open data strategy. To help you make the best choice for your agency, Gittings offered these tips:

- ▶ Consider the type of data you're sharing with the public. Do you have large volumes of data from numerous data sources? "There are many tools out there that are excellent at creating beautiful

pictures and visualizations from Excel data," Gittings said. "But the limitation is that they can create those pretty pictures using a single set of simple data, such as relatively small Excel files." But for many agencies it's not that easy. To handle complex data, ensure you choose a tool that can analyze heavy volumes of data, from disparate and very complex sources.

- ▶ Consider how citizens will interact with the data. Will people view this information on a desktop computer, a laptop or a mobile device? It's vital that agencies consider how their data will be displayed on different devices. "The odds are, if citizens are using your data, they're going to be doing it from a mobile device," Gittings said. "So make sure that the tool you choose is designed for mobility, has a responsive interface and enables citizens to build visualizations — not just consume them but also create and share them on the go."
- ▶ Consider your future needs. Agencies want their investments to adapt to their needs as their data changes and grows. Equally important is ensuring that whatever tools they buy can meet citizens' evolving needs. Open data initiatives today will be very different in the future, Gittings, noted. The key is choosing tools that will provide flexibility, as opposed to something fit only for today's needs.

But what good is any tool if it doesn't make your data easier to understand and use? Think about the weather apps you've either seen or used. If the app shows there's a 70 percent chance of thunderstorms, you can plan accordingly and pack an umbrella. It didn't take

much analysis or expertise to view the data and use it to make decisions. This example is pretty straightforward, but it isn't always obvious how information will be used or what data will be a hit among citizens.

"Agencies can't necessarily predict what somebody's going to want to find," Gittings said. If they clearly state the dataset's value and provide that data in a way that enables citizens to explore it, then "they've added value while empowering citizens to answer their own questions. It's a win-win."

When deciding what data to release, Monica McEwen, Federal Director at Qlik, suggests starting with data that is specific to your mission and informs the general public. Data sets released through Freedom of Information Act requests are prime candidates for publishing. "Make them very visible, so that they're used for better decision-making," McEwen said.

She encouraged agencies to consider how their data might appeal to a broad audience. It's true that certain people may only be interested in very specific types of data, but there's a way to make data more appealing to the masses. McEwen used this example: A scientist might have great interest in raw data about fault lines for earthquake predictions, but the average citizen would have a hard time making sense of the raw information. But that same data, presented in charts and graphics, would be very valuable to the general public.

"It goes back to making the data truly usable, as opposed to just checking a box that it's out there and open," McEwen said.



# Open Data Meets the Cloud

*An interview with Brian Eiler, Senior Advisor to the Under Secretary at the National Oceanic and Atmospheric Administration*

The National Oceanic and Atmospheric Administration is unlike most agencies when it comes to open data. For starters, NOAA collects more than 20 terabytes of data daily — most of which comes from satellites. The agency projects it will have more than 250 petabytes by 2030.

Let's put that into perspective. In April 2011, the Library of Congress reported having 235 terabytes of storage. To reach 1 petabyte, you'd need 1,000 terabytes of storage.

Here's the challenge NOAA faces in getting so much data out to the public in a timely manner: Many consumers of its data are in the commercial weather industry, and they rely on

getting data fast to provide the public with accurate information.

"And that industry, as much as it already uses our data, we know they want even more of our data," said Brian Eiler, Senior Advisor to the Under Secretary at NOAA.

"They want our satellite images, they want our radar information, they want our surface observation information, and they don't just want it as part of [a] forecast, they want the raw data."

But the data is so voluminous that, in some cases, new data is coming in before older data can be pulled from NOAA servers. The agen-

cy has about 200 data centers, which include weather forecast offices. Eiler noted several instances in which it takes more than 24 hours to download 24 hours' worth of data.

## NOAA'S CHALLENGE

"We know our data is in demand, and we don't have, currently, the capability to share it as much as we would like," Eiler said. "How do we get our data up on the cloud, at no cost to ourselves, to a place that anyone can access at scale?"

No single business model has emerged as a solution, so NOAA is partnering with industry to create one. "That's what this project is all about: doing the hard day-to-day work so that





we can understand their [industry's] needs, and they can understand our data," he said.

### WORKING TOWARD A SOLUTION

NOAA's approach is a novel one for government, Eiler explained.

"We thought that if industry wants this, and we're willing to provide the data, they might be able to help pay some of the costs of moving that data onto the cloud," he said. "But we also wanted to make sure that the data remained open and broadly accessible on basically fair conditions."

The agency signed separate cooperative research and development (R&D) agreements

this year with Google, Microsoft, IBM, Amazon and the nonprofit Open Cloud Consortium. NOAA refers to these relationships as data alliances. Currently, no money is changing hands under the agreements, "but the point of the agreement is to explore how to develop this relationship in a way that's sustainable over the long term," Eiler said.

What data ends up in the cloud is going to be determined by the alliances, he noted. It's going to be demand-driven. It's not for NOAA to explicitly say what datasets will be available. The market, private industry and the public must work through the alliance system to make available the data they need most.

NOAA did, however, require that no one have exclusive access to its data and that all users of the data get equal access to it on equal terms. It will be up to the alliance to decide whether there will be costs associated with access.

Eiler couldn't provide a specific timeframe but said it's possible in the near future that the public could see several datasets available in the cloud as part of NOAA's R&D process.

"We're willing to provide all types of data, whether it's raw, whether it's model data [or] finalized product," he said. "The vast majority of our data is on the table, and we're working with our collaborators to serve their needs."

PLAY #5

# LEARN

to measure ROI

## LEARNING OBJECTIVE

Here you'll learn how agencies can show the value of their existing open data programs in addition to the potential impact a program could have on their organization.



**Y**ou opened the floodgates and published datasets online for the world to freely peruse. You're feeling good — as you should — because it was a journey to get here. Now you have an online service, and you're hoping users will explore it. You want to prove that your open data program is a benefit to the government and the public, but how should you measure success?

First, you realize your metrics for measuring success are directly tied to the purpose of your open data program. That's why it's necessary for you to first understand the problem you want open data to solve, whether it's increased public engagement, greater transparency or improved internal efficiency.

Then head to [Performance.gov](https://www.performance.gov). The federal government's website includes several metrics to determine how agencies' open data programs are fueling economic growth and innova-

tion, making data accessible to the public, and fostering a culture of strong data management.

But keep in mind that measuring the return on investment for your open data program won't be easy. You don't always know who is using your data or how they are using it, and it's hard to measure how many jobs were created as a result of releasing your data.

To help you, we've provided a few metrics as a starting point to measuring your open data success.

- ▶ Number of datasets published.
- ▶ Volume of data or number of rows within each published dataset.
- ▶ Number of downloads for each dataset.
- ▶ Cost savings in responding to public records requests.
- ▶ Number of public and agency visitors to your open data website/portal.
- ▶ Number of organizations that cite data usage from your agency or government.
- ▶ Number of repeat visitors to your website.
- ▶ Bounce rate, or percentage of people who visit the site and leave without viewing additional pages.
- ▶ Amount of feedback/questions you receive about your datasets. This is one sign that users are engaging with the data.
- ▶ Percentage of published datasets that adhere to clear standards (machine-readable, timeliness, etc.)
- ▶ Number of open data collaborations with the public, industry and other government entities.
- ▶ Number of social media impressions related to your agency's open data.



# Better Data, Better Outcomes

*An Interview with Los Angeles' Chief Data Officer, Abhi Nemani*

**L**os Angeles Mayor Eric Garcetti is serious about using data to solve everyday challenges for residents. So much so that he named former Code for America Co-Executive Director Abhi Nemani the city's first CDO last August. Nemani's priority is using data with a focus toward policy. His work has and will continue to help the city determine how it uses data to improve performance in key areas, such as water usage, transportation and immigration issues. GovLoop spoke with Nemani about L.A.'s open data initiatives.

**GOVLOOP:** You became CDO in September. What have you been working on since then?

**NEMANI:** A big focus, at least initially, was what I consider structure building — getting the pieces in place to make the data program work, rewriting the open data policy that we use internally to manage data. It's online in GitHub. Second was we refreshed the data portal itself to make it more user-friendly based on user feedback and research that we did.

What's interesting about that is we redesigned it and the bounce rate was around 50 percent or 60 percent beforehand, and now it's down

about 5 percent. So we're seeing user engagement really change, just through some lightweight fixes to the portal itself. And then we're putting together a strategy for the roadmap around data. We put together, as part of the data policy, those key datasets that we want to be opening up moving forward, and just getting those together department by department, and then putting together a timeline for when we're going to release those.

**GOVLOOP:** How did you decide what datasets will be released?

**NEMANI:** We take a top-down and bottoms-up approach. So, the bottoms-up approach is a data inventory process that we're having every department go through and actually identify the key datasets to all the data that they have, based on all their systems, the different programs, and then put together an inventory and then identify a timeline around that. We've got 44,000 employees in 37 departments. So that's going to take some time.

To supplement the bottoms-up approach, we're doing a top-down approach where we went through and studied...the key datasets

that other cities have opened — so New York, Chicago, Boston. Which ones have gotten the most usage and mileage out of them? We then studied what are the key applications that people have built on that open data, and then put that together into a list of just about 100 or so key datasets that we think are high priority, and then we're focusing on opening those up as we do the inventory process.

**GOVLOOP:** What are some of the high-priority datasets identified from the top-down approach?

**NEMANI:** I'd say there are two categories. The first is existing data we have opened, but we need to automate the updating of them to make them more recent and more relevant. In that category I'd put things like building permits, crime and city expenditures. So we're actually pretty good at publishing the expenditures in close to real time.

In terms of other key things that people are saying that they want, probably the biggest one is residential water use. Not at the individual level, of course, because that would violate privacy issues. But either by census track



or ZIP code level. We're working through the policy questions around what is a secure release around that, like what violates privacy and what doesn't. We have three high-level areas of focus. One is water usage; the second is transportation, traffic, parking, all of that; and the third is immigration and citizenship, because L.A. has...I think maybe the highest population of immigrants in the country.

**GOVLOOP:** Is there a recent example of how the city used its data to improve performance?

**NEMANI:** The nice thing about L.A. is that I sit right next to our Performance Management Unit. So we have a whole team that's specifically focused on key performance indicators and outcomes from departments themselves. We work hand-in-hand. One thing that we did recently was we looked at the department that gets business tax payments from businesses across the city. Their call center, historically around tax season, has gotten overwhelmed. So we looked at the data around what was going on, like when the calls came in, what kind of calls they were, and then we put together a strategy to actually reach out to those citizens beforehand to reduce call volumes. Fifty

percent of calls last year were answered within two minutes, and this year it was 87 percent.

**GOVLOOP:** What is the hardest aspect of leading open data efforts for a large city?

**NEMANI:** I'd say probably three things. One is just the cultural issue. Here we don't have as much of that. But there's oftentimes the fear of transparency — you know, you put something out there and then the journalists will take it and write a bad story about how you're doing. Again, here we don't have as much of that, which is great. You actually see the department being really excited about openness.

Two is showing value. You have to...invest heavily into actually getting people to use the data to build things and show outcomes from it. And then three is distributed systems, where the departments themselves run their own technology shops, or have their own systems they develop over time. And so getting the data from those distributed systems that are often legacy and old is not hard, but it's work.

**GOVLOOP:** You don't have a staff, but you recently got a deputy. How do you make the case for more investments to support data initiatives?

**NEMANI:** The data program itself is a high priority for the mayor and for our mayor's office. So one thing we agreed to when we started this whole thing was that there would be staffing to support data initiatives. And the second is — and this is practical advice — when you get wins, people are willing to throw more resources at you. And so because we built the dashboard [which is open source] people got excited about that. And then because we did this nice data science project, and people were like, "Oh we should put more staff against that." So, it's about momentum.

# OPEN DATA

## essentials & worksheets

Here at GovLoop we believe the best way to help government do its job better is to equip employees with the tools they need to be successful. In this section of the guide, you will find:

# 1. Creating an Open Data Action Plan

A template and guidance for creating your own open data action plan.

# 2. Address Guidelines for Open Data Policies

Guidelines for open data policies, including what data should be public, how to make data public and how to implement a policy.

# 3. Make Open Data the Default at Your Agency

Guidelines for making open data the default option in your organization.

# 4. Develop a Data-sharing Agreement

Tips for using data-sharing agreements to facilitate public/private partnerships.

## Worksheet 1

# Creating an Open Data Action Plan

Here are some of the tenets that should be included in an open data action plan. The goal is to create a clear plan for releasing more data to the public.

## QUESTIONS

### 1. WHAT IS YOUR AGENCY'S VISION FOR OPENING DATA TO THE PUBLIC?

*A vision statement for the implementation plan should be no more than 150 words.*

### 2. WHAT ARE THE EXPECTED OUTCOMES?

*The expected outcomes should explain what you hope to achieve through your open data program. One outcome may be a reduction in the costs associated with responding to open records requests, for example.*

### 3. WHAT ARE THE OBJECTIVES?

*The objectives for achieving this vision should be bulleted, referring to — among other things — explicit steps or actions needed to achieve each expected outcome.*

### 4. WHAT ARE THE GOVERNANCE AND MANAGEMENT OBSTACLES AND NECESSARY ADJUSTMENTS TO ADDRESS THEM?

*In this section, present any governance/administrative and management barriers you've identified along with recommendations to overcome them.*

*It is especially important to identify in question 4 issues regarding the management dimension, such as who will maintain your organization's data portal and how data will be updated and by whom.*

## DEFINE YOUR ACTION ITEMS

This section should outline the steps to implement open data objectives. It must address several issues, such as:

- ▶ How each step will address specific problems and requirements identified earlier on.
- ▶ Who will undertake each of the different actions described in your plan (management structure).
- ▶ How to build organizational capacity that can minimize implementation risks, including training and equipment.
- ▶ How financial requirements will be covered.
- ▶ How a short-term plan for actions completed within two years and how a long-term plan for three to five years will be defined.

*\*Source: Adapted from [http://homerproject.eu/images/Docs/Publications/Opendata\\_actionplan\\_template.pdf](http://homerproject.eu/images/Docs/Publications/Opendata_actionplan_template.pdf)*





## Worksheet 2

# Address Guidelines for Open Data Policies

The Sunlight Foundation has a plethora of resources to get your open data program on track. The organization created a living document that outlines open data guidelines you should address. Below are key considerations for making data public and implementing an open data policy.

### TIPS FOR SELECTING OPEN DATA SETS

- Proactively release government information online.
- Reference and build on existing public accountability and access policies.
- Build on the values, goals and mission of the community and government.
- Create a public, comprehensive list of all information holdings.
- Specify methods of determining the prioritization of data release.
- Stipulate that provisions apply to contractors or quasi-governmental agencies.
- Appropriately safeguard sensitive information.

### TIPS FOR IMPLEMENTING A POLICY

- Create or appoint an oversight authority.
- Create guidance or other binding regulations for implementation.
- Incorporate public perspectives into policy implementation.
- Set appropriately ambitious timelines for implementation.
- Create processes to ensure data quality.
- Ensure sufficient funding for implementation.
- Create or explore potential partnership.
- Mandate future review for potential changes to this policy

### TIPS FOR MAKING DATA PUBLIC

- Mandate data formats for maximal technical access.
- Provide comprehensive and appropriate formats for varied uses.
- Remove restrictions for accessing information.
- Mandate that data be explicitly license-free.
- Charge data-creating agencies with recommending an appropriate citation form.
- Require publishing metadata.
- Require publishing data creation processes.
- Mandate the use of unique identifiers.
- Require code sharing or publishing open source.
- Require digitization and distribution of archival materials.
- Create a central location devoted to data publication and policy.
- Publish bulk data.
- Create public APIs for accessing information.
- Optimize methods of data collection.
- Mandate ongoing data publication and updates.
- Create permanent, lasting access to data.

## Worksheet 3

# Make Open Data the Default at Your Agency

President Obama's 2013 executive order made open and machine-readable data the new default for government. Agencies are still working to fulfill this mandate. As noted in the U.S. Digital Services Playbook, open data is key to improving digital services.

### CHECKLIST

Use these helpful tips from the playbook to make open data your agency's default.

- Offer users a mechanism to report bugs and issues, and be responsive to these reports.
- Provide datasets to the public, in their entirety, through bulk downloads and APIs.
- Ensure that data from the service is explicitly in the public domain and that rights are waived globally via an international public domain dedication, such as the "Creative Commons Zero" waiver.
- Catalog data in the agency's enterprise data inventory and add any public datasets to the agency's public data listing.
- Ensure that your agency maintains the rights to all data developed by third parties in a manner that is releasable and reusable at no cost to the public.
- Ensure that your agency maintains contractual rights to all custom software developed by third parties in a manner that is publishable and reusable at no cost.
- When appropriate, create an API for third parties and internal users to interact with the service directly.
- When appropriate, publish source code of projects or components online.
- When appropriate, share your development process and progress publicly.

### KEY QUESTIONS

1. HOW ARE YOU COLLECTING USER FEEDBACK FOR BUGS AND ISSUES?
2. IF THERE IS AN API, WHAT CAPABILITIES DOES IT PROVIDE? WHO USES IT? HOW IS IT DOCUMENTED?
3. IF THE CODEBASE HAS NOT BEEN RELEASED UNDER AN OPEN SOURCE LICENSE, EXPLAIN WHY.
4. WHAT COMPONENTS ARE MADE AVAILABLE TO THE PUBLIC AS OPEN SOURCE?
5. WHAT DATASETS ARE MADE AVAILABLE TO THE PUBLIC?

## Worksheet 4

# Develop a Data-sharing Agreement

Boston's agreement with Waze focuses on the government's readiness to share and accept data and promote the program, as well as the commitment on both sides to protect privacy. Program Manager Paige Fitzgerald and Partner Communications Manager Trak Lord, both with the Waze Connected Citizens program, offer key questions agencies should ask when considering data-sharing agreements.

### QUESTIONS

1. IS THERE TOP-DOWN AND BOTTOM-UP SUPPORT FOR THE PARTNERSHIP?
2. CAN YOUR AGENCY ACCEPT DATA IN A VARIETY OF FORMATS?
3. DO YOU HAVE THE TECHNICAL CAPABILITIES TO SHARE DATA, PARTICULARLY IN REAL TIME?
4. ARE YOU READY AND EXCITED TO INNOVATE AND EXPERIMENT WITH DATA?
5. ARE YOU WILLING TO PROMOTE THE BENEFITS OF THE PARTNERSHIP (WHAT IT MEANS FOR RESIDENTS AND GOVERNMENT)?



# About GovLoop

GovLoop's mission is to "connect government to improve government." We aim to inspire public-sector professionals by serving as the knowledge network for government. GovLoop connects more than 200,000 members, fostering cross-government collaboration, solving common problems and advancing government careers. GovLoop is headquartered in Washington, D.C., with a team of dedicated professionals who share a commitment to connect and improve government.

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