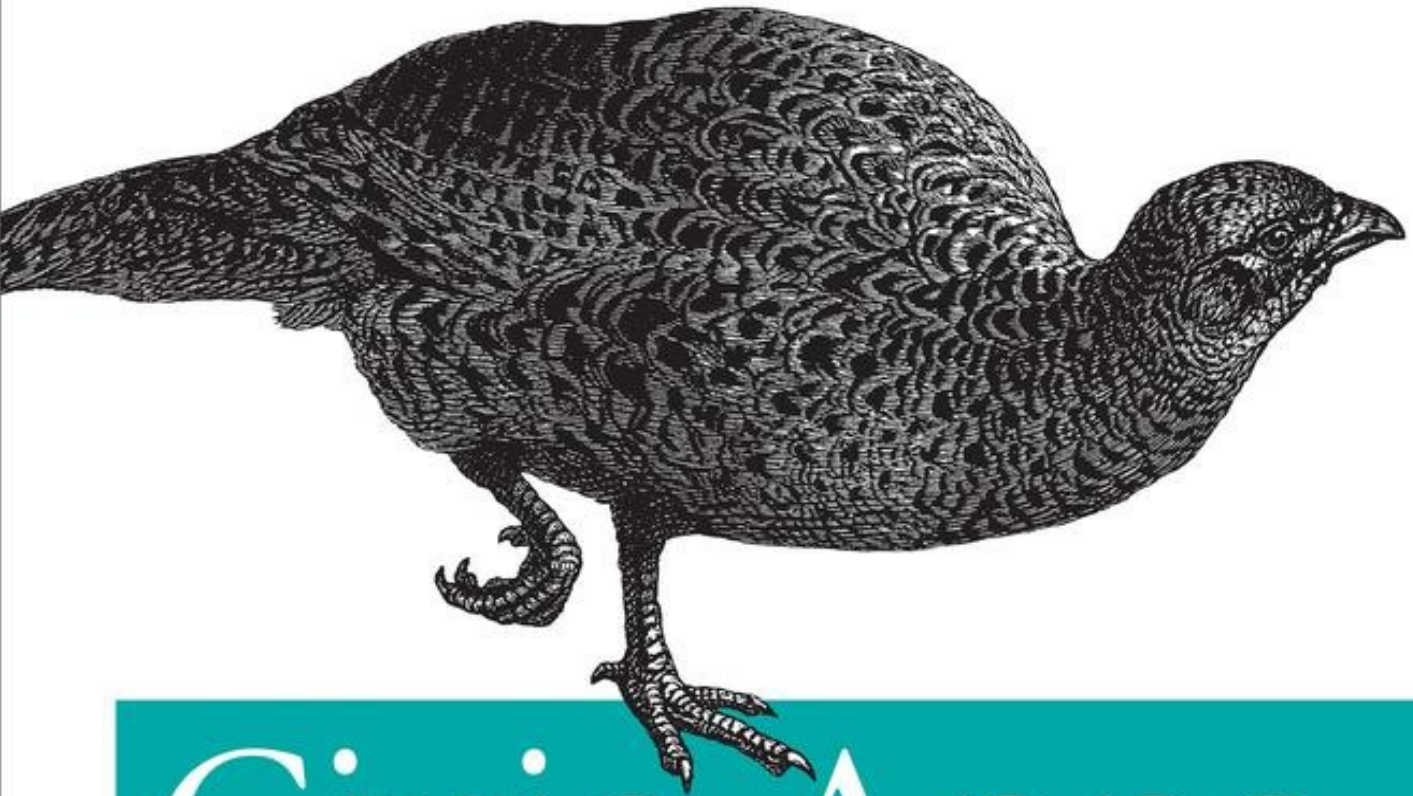


*A Guide to Planning, Organizing, and Troubleshooting*



# Civic Apps Competition

*Handbook*

**O'REILLY®**

*Kate Eyler-Werve  
& Virginia Carlson*

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# Civic Apps Competition Handbook

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# Preface

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“Data, data, data! I cannot make bricks without clay!”

—Sherlock Holmes

## A Practical Guide for Organizing a Civic Apps Competition

Government agencies are increasingly being called upon to publish data as a means to increase transparency, deliver government services more efficiently, and innovate business. Civic Apps Competitions (CACs) further these goals by providing incentives and a platform for software programmers to build innovative applications (“apps”) using open government data. Departments at all levels are proactively using technology to share their data with the public, through the “low tech” release of spreadsheet or database files to the “high tech” release of data through Application Programming Interfaces (API) and associated “apps competitions.”

While the technological problems of these competitions are (largely) solved—a plethora of content management systems and turn-key web software-as-service platforms can easily handle the requirements of submitting projects, collecting public votes, etc.—what has become important is ensuring that the outcomes of these competitions return value. Governments, civic activists, and software developers who have invested or are thinking of investing in open government data want answers to long-term questions. How, and under what conditions, do open data result in high-quality platforms relevant to problems at hand? Are the resulting applications sustainable in a way that will continue to deliver solutions over time? Do the competitions themselves foster transparency and engagement for a wide audience?

When Chicago’s Mayor Rahm Emanuel took office on May 16, 2010, he put launching a civic apps competition on his first 100 days checklist. Five weeks later, the Apps for Metro Chicago (A4MC) competition launched. When we started planning A4MC in late May, there were no formal agreements between any of the partners; by June, Mayor Emanuel was on the cover of the local daily paper, challenging civic coders to compete for \$50,000 in prizes. We learned a lot. We’d like to share it.

This book is a practical guide to planning a civic apps competition (CAC). We aren’t just relying on our own experience with A4MC though; we surveyed 15 CACs hosted in the United States and Canada over the last three years. As a result, we’ve uncovered some surprising insights into what makes competitions successful. And, of course, we’ve got anecdotes of budget overruns and political infighting (and some fun success stories) to keep it interesting.

This Guide identifies a number of ways to ensure an apps competition delivers on the goals of accountability, government efficiency and economic innovation.

A note on the open government movement and the use of terms. Open government is a movement that demands transparency from governments regarding actions and decisions, increasing the government’s accountability. Open government data refers to the specific practice of publishing data collected by governments in order to facilitate transparency, create efficiencies and prime economic innovation. CACs are designed to kickstart the use of open government data. Throughout this guide, we’ll use the

shorter-termed “open data” or “open civic data” when talking about open government data.

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## This Guide

This guide is broadly sectioned into four parts. We start off in **Chapter 1** by giving a bit of history of Civic Apps Competitions and what critiques have been leveled at the competitions and their outcomes. In **Chapter 2** we then challenge the cynics with what we see as benefits of CACs. If executed correctly and with the right expectations, competitions can set the stage for more civic interaction, better delivery of government services, and become a staging ground for improving private- and non-profit business.

If you're up and ready to start a competition, however, feel free to jump to **Chapter 3**. Here you'll find a juicy discussion of translating benefits into goals and metrics. In a data-driven world, shouldn't we have data by which to track the success of CACs? And, you'll likely need hard numbers to report out to funders or government agencies. We give some ideas as to how to measure processes and outcomes. **Chapter 4** discusses what it actually takes to run a competition, putting dollar figures to specific activities. A4MC, with prizes, cost over a quarter-million dollars. But there are ways to cut that number.

We then turn to nuts and bolts. What data works for CACs? **Chapter 5** discusses different kinds of open government data and what's likely to jumpstart your competition. **Chapter 6** reveals the finer points of CACs—process, judging, rules, and the legal fine print.

**Chapter 7** and **Chapter 8** are summary chapters. We set aside **Chapter 7** as a place to summarize some of the common roadblocks we and others encountered. Feel free to jump to this chapter if you're in the middle of designing your own competition and want a quick checklist on what you might have missed. **Chapter 8** speculates on the future for your competition and CACs in general.

## Contact Us

We continue to be deeply interested in the potential for open government data to be harnessed for the common good. Virginia Carlson has worked in the government data world since starting Chicago's first-ever public-serving DataBank at the University of Illinois-Chicago two decades ago. Look for her on the Board of Directors for the Association of Public Data Users, or on Twitter (@VL\_Carlson). Kate Eyler-Werve gleefully seeks out disruptive technologies to work on and can project manage anything. You can find her at [www.eylerwerve.com](http://www.eylerwerve.com).

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# Chapter 1. The Pursuit of Accountability, Efficiency, and Economic Growth

## History of Apps Contests

Apps for Metro Chicago (A4MC) was two years in the making. Several groups, including the Chicago Tribune Apps Development team, the Open Government Data Meetup, and the Metro Chicago Information Center (MCIC), had been pushing the city to publish data and host an associated apps competition for two years with no luck.

Executive Director of MCIC, Virginia Carlson, had agreed to have MCIC take on the task of running the competition, especially given that many wanted Chicago's app contest to specifically reach out to community organizations and be able to offer technical assistance to teams. MCIC had even received funding to run the competition from the John D. and Catherine T. MacArthur Foundation, but the MCIC was holding on to it until Mayor Richard Daley pulled the trigger or a new mayor was elected.

So everyone was thrilled sideways when Mayor Rahm Emanuel made open government data and an associated Civic Apps Competition (CAC) a priority. Kate Eyler-Werve became the competition project manager a month before the launch and we were off. A4MC was launched in June of 2011.

The first government competition, "Apps for Democracy," was sponsored by Washington D.C. in 2008. The contest was initiated by Vivek Kundra, then chief technology officer for the District of Columbia (he later became the first-ever Federal Chief Information Officer), and designed and executed by digital marketing agency iStrategyLabs. Participants had one month to build apps that addressed a range of citizen needs, like bike routes, crime hot spots, and neighborhood amenities. Apps for Democracy attracted 47 entries, thus demonstrating that software developers would donate their time and energy to build engaging web and mobile applications that used municipal data feeds.

The success of Apps for Democracy inspired a host of state and municipal governments to launch their own competitions, including San Francisco, Portland, New York City, and Chicago of course, as well as the states of California and Illinois. Several Federal government departments, including the USDA and the EPA, have launched their own challenges, and the Federal government created an online challenge platform, Challenge.gov, in 2010 to support smaller challenges.

## CACs and Goals—Do They Deliver?

Now, four years into a flurry of apps competitions and a lot of public interest, some question whether or not CACs actually deliver increased transparency, government efficiency, and innovation. Let's unpack these critiques.

### Transparency and accountability

Open data is often criticized for not delivering on government accountability goals. But making data available is only one part of the accountability process. Open data needs to be tied to an accountability



“mechanism” in order to achieve accountability. For example, if a government provides a data stream about planned infrastructure improvements, but there’s no way for citizens to weigh in on priorities, you perhaps have transparency but not accountability.

From our perspective, the accountability mechanism doesn’t have to be “new.” One of the themes upon which conducted our Apps Competition and that we’ll stress in this guide is that there’s an existing multitude set of orgs that have traditionally used government data to scrutinize government. These orgs should intentionally be made part of open government contests and campaigns: journalist community organizers, better-government associations, civic watchdog groups, etc.

Having software developers and data analysts working directly with such civic stakeholder groups increases the possibility that what’s revealed by the data will get used for accountability. What A4M did to address this was to give additional judging points to apps that came from partnerships that included a civic stakeholder groups. We also set up what we termed “Hack Salons” which brought together community orgs with software developers around specific issues. We learned that there is mutual suspicion –civic coders expected the community organizations wanted “something for free” and community organizations were loath to give time to something that they thought was a “gimmick.” It took effort to learn to speak both languages and find common ground. The idea lives on in Code for America-sponsored Chicago Civic Idea Hack ([ideahackchicago.com](http://ideahackchicago.com)).

Yet even where an accountability mechanism exists, the data sometimes could be more complete in terms of contributing to transparency. Such was the case in Chicago when Mayor Daley opened one of the first data sets, a list of all Freedom of Information Act (FOIA) requests submitted to the city. However, the data did not include a field noting whether or not the request had been fulfilled. So everyone could see what people were requesting, but there was no way to determine if the city was actually fulfilling those requests. Incomplete data. The City of Chicago addressed that problem to some extent by hiring a Chief Data Officer (Brett Goldstein) whose job it was to proactively participate in “citizen data” sessions and otherwise listen for what was missing in data. Goldstein took it upon himself to attend hackathons, Hack Salons, tech conferences, Meetup groups and the like to hear what folks were saying about the City’s data.

The potential for accountability also depends on the kind of data that is made available. We’ll discuss different kinds of data in Ch. 6, but in short, sometimes data just doesn’t lend itself to citizen engagement. Consider geographic data like elevations or census tract boundaries—this information might be necessary to build apps, but in itself doesn’t engage citizens on any particular issue.

## **Government efficiency**

A common critique of CACs is that apps created by competitions face hurdles to long-run sustainability and thus struggle to affect government efficiency. It’s tough to know the extent of the drop-off, however because contest coordinators have not required app developers to run or submit analytics. As Peter Corbett has suggested “One lesson I’ve learned is we don’t really know [how many are still functional two years later] because we don’t have the analytics for each of the apps. If you’re running an application development challenge, it would be great to give your developers individual Google Analytics codes so you can track usage. We didn’t do that.”<sup>[1]</sup>



A major challenge is that government procurement rules prevent apps created by CACs to be quickly adopted by government agencies. For example, “truck route finder,” a cool app developed for A4MC was meant to be adopted by the city’s industrial corridors as a way to help trucks avoid low viaducts and street closures, find gasoline stations, and generally assist truck drivers as they navigate the city. Such an app would be a tremendous help to the city in terms of competing for industrial jobs. Yet the software, although developed with input from the industrial corridor managers, had not been acquired through the official procurement process and therefore could not be brought in-house.

In addition, there is pressure on CTOs and CIOs to concentrate their efforts on opening up government data and leaving the development of the apps themselves to (non-governmental) local developers. There’s tension between the goals of government efficiency and spurring innovation. If government builds the app and it addresses an efficiency goal, it might be at the (perceived or real) expense of supporting innovation among local software developers. A heated argument ensued in the winter of 2011-12 when the City of Chicago for Chicago released an app for snowplow tracking.<sup>[2]</sup> A debate about the role of government and government workers among local open civic data enthusiasts ensued. Some argued that the City was right to take the lead on some app generation; others argued for a more government-hands-off approach.

Logan Kleier, Portland’s CISO, supports the notion that one way to make open government data competitions more sustainable is by engaging the government workforce. “Starting with a small group of departments who might not know that their data could be useful to each other would be a good first step,” Kleier said in an interview.<sup>[3]</sup> In addition, state law usually prevents government workers from entering a competition itself because the government is a partner in the CAC. We had to disqualify a fabulous app for manufacturing site locators because it was developed by an agency associated with the City.

The right balance has to be found between “gov development” and “civic coder development” to get usable apps with potential for government adaption.

More recently there’s been some discussion about the problem of bringing apps to a scale which would create broader governmental efficiencies. As Mike Mathieu suggests, “[s]imply put, civic apps don’t roam across political jurisdictions.”<sup>[4]</sup> Just think, for example, how much more useful the A4MC “truck route finder” could be if the developer was able to integrate data from across regional governments—viaduct clearances not just in Chicago, but also in cities between the highway and Chicago industrial areas.

## **Private sector activity**

Still others have pointed out that few private sector businesses have been built as a result of an apps competition. Although open government data has been conceived as a platform upon which to build “a rising tide of entrepreneurship,”<sup>[5]</sup> so far the number of businesses arising out of a CAC is small. NYC BigApps 1.0 winner MyCityWay won millions in venture capital and now covers 70 cities. A4MC winner SpotHero won a place in Excelerate, a tech incubator that provides mentorship and funding to promising start-ups. Nevertheless, there is no guarantee CACs themselves will launch new businesses. One private sector success related to Civic Apps Competitions is the increased usage and popularity of

Socrata, Inc., based in Seattle Washington which provides the technology backbone for governments to release open data. It powers a plethora of local initiatives including Chicago, Portland, San Francisco and New York (it also powers many of the federal government's open data websites including data.gov).

## Competition ROI

Apps for Democracy famously cost Washington D.C.'s Office of the Chief Technology Officer \$50,000. D.C.'s CTO estimated that the value of the apps created was \$2.3 million, a 4000% return on investment.<sup>[6]</sup>

These numbers have doubtless been cited in support of hosting apps competitions launched since then—we certainly included them in our Apps for Metro Chicago proposal. However, a closer analysis of the ROI claim reveals flaws in calculating both the value of the apps created and the cost of hosting a competition

The CTO calculated the value of apps by estimating the market value of the hours worked, then adding the external contracting costs and internal time that procuring the apps would have required. But there is no reason to think that DC would have procured every single one of the apps submitted to the competition. Furthermore, this calculation assumed that all the apps would be sustained over time. Thus, the value of the submitted apps to Washington DC was over-stated.

And then there is the question of the “investment” —the cost of hosting the month-long competition. Apps for Democracy was hosted by Washington D.C.'s office of the Chief Technology Officer, but it was actually run by digital marketing firm iStrategyLabs. A close read of the reports on the outcome of the competition shows that the only costs counted are those borne by the Office of the Chief Technology Officer. As MCIC found, there is a great potential for hidden “in kind” costs in a competition (hosting civic hackathons, media engagement, venues for awards ceremonies, etc.) so that the “real” budget could have been over \$50,000.

What is at issue here is the trade-off between a quick ROI and a long-run payoff. Real development of apps that are effective and sustainable and build a community of users is, as we discuss in the following chapters, difficult and expensive. When Bryan Sivak took the CTO office in 2009 he declined to run Apps for Democracy for what would have been its third year. At the time he was reported to not have “[given] up on the idea of engaging smart and creative software developers for the public good; he simply wants a more meaningful relationship with them.”<sup>[7]</sup> What MCIC learned from trying to do just that—develop a meaningful relationship with software developers—is that that approach ran us \$300,000 (we discuss our costs in [Chapter 4](#)). Outreach to community groups, sustaining public interest through three rounds meant to build time for continued app improvement, partner coordination and all the rest is time-consuming.

## Next Chapter: What CACs Create

As we've seen, the traditional goals of CACs—supporting transparency, efficiency and economic growth—are problematic. But problematic isn't the same as wrong. In the next chapter we'll show how CACs do help governments meet those goals.

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- [1] <http://radar.oreilly.com/2010/05/government-innovation-from-the.html>
  - [2] <http://gridchicago.com/2012/plow-tracker-not-ready-for-prime-time/>
  - [3] Personal communication, July 15, 2012
  - [4] <http://techpresident.com/news/22298/three-problems-civic-hackathons>
  - [5] <http://www.whitehouse.gov/innovationfellows/opendata>
  - [6] Corbett, 2009 (<http://www.appsfordemocracy.org/>)
  - [7] <http://www.governing.com/topics/technology/Government-Apps-Move-from.html>

# Chapter 2. Benefits of Civic Apps Competitions

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Apps for Democracy was followed by the Sunlight Labs competition “Apps for America” in 2009. Clay Johnson, in charge of the competition, continues to work in the open government space. He says and our experience with A4MC compels us to agree, that the point of open data “isn’t to litter the web full of disposable web apps that are soon forgotten about. It’s to build sustained developer interest around this data.” John Tolva, Chicago’s Chief Technology Officer is of the same mind. After A4MC ended he said, “The apps were fantastic, but the real output of A4MC was the community of urbanist and coders that came together to create them.”

We can talk about this process as building a “community of practice,” an informal network of peers with different skills, learning about a common subject together. It’s not enough just to know about the data; in a community of practice, people use it.

Civic Apps Competitions (CACs) can do this - focus attention and interest on civic data and create an arena where people’s creativity and work are recognized and shared. A well designed CAC engages non-profits, businesses, government departments and community organizations, as well as developers. It may in the process create “app litter,” but can also focus on building connections for long-run development.

The problem is, the benefits of engaging a community of practice around open data aren’t as easy to quantify as a simple return on investment metric. We found, and believe others have too, that there are other less-quantifiable goals.

We’ve broken out the three broad goals outlined in [Chapter 1](#) into seven outcomes that can be evaluated:

## Accountability

1. Raise awareness of available open government data sources
2. Focus energy on building apps on open data
3. Improve government transparency by making open data accessible

## Government Efficiency

1. Create apps that benefit people and businesses
2. Crowdfund data publishing priorities

## Economic Development

1. Drive innovation
2. Build a community of practice around open government data

We’ll explore these seven outcomes in detail later in this chapter, but we’d like to start with a story.

Elizabeth Park's experience with Apps for Metro Chicago illustrates how participating in a CAC brings new people into a community of practice around open government data.

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## Case Study

In the summer of 2011, Elizabeth Park was the Marketing Director for the American Society for Clinical Pathology in Chicago. Six months later she had launched two mobile apps: IFindit Chicago and IFindit Illinois. What happened in between? She entered the Apps for Metro Chicago Competition.

Elizabeth first learned about the Apps for Metro Chicago Competition (A4MC) at TechWeek Chicago, a technology and entrepreneurship conference. She went because she likes to learn what's current, and to brush up her professional skills. Most of the presentations were too technical for her, but then she made a connection with someone on the A4MC panel.

The competition had just launched and the audience was full of developers peppering Chicago's Chief Data Officer Brett Goldstein with questions about the types of apps the city wanted. Goldstein turned the questions right back on the audience, pointing out that the city wanted to mine the creativity and participation of its citizens. What do the people want? Elizabeth was blown away: "He was throwing down the gauntlet and challenging people to get involved with open data," she said.

Elizabeth decided to enter the competition then and there. "I thought, 'what can I lose?' I can do something civic, something I care about. It just made me want to do something really interesting," she said. She liked that the challenge was structured as a competition, because it provided a timeline with a definitive end point. It's easier to try something new when there's a goal and an incentive, in this case a shot at winning the Community category.

Elizabeth went to the database and was immediately struck by the amount of data about food, clinics and shelter. She called the Women, Infants and Children Program of Chicago (WIC) to see if the program was using any those data sets. WIC is a federal grant program that provides food, education and health care referrals to low-income new mothers and young children. As she investigated, Elizabeth discovered that WIC did not use the data, but that program participants frequently ask about clinics, shelter and food—information that could be provided through the data.

Next, she checked the A4MC website, which included a list of apps suggestions submitted by the public. Matt Peron, treasurer at Illinois Hunger, had submitted an idea for an app that mashed up city data on public services.

Elizabeth had hit on a problem in need of a solution. WIC and Illinois Hunger could better serve their constituents if they could easily and quickly provide information about a range of public services. So she decided to build an app that could just that.

Her next step was to decide whether to build a mobile or a web app. Her goal was to make a tool that people could use directly, so she did some research and found that 70% of low income people have a cell phone, and 50% of people making under \$30,000 a year have a smart phone. So she challenged herself to make a mobile app—a challenge all the more impressive because she didn't know how to write a single line of code.

Now she needed to build a team. She knew she couldn't afford to hire an experienced professional, so she went to the Illinois Institute of Technology resume book of recent graduates. She made some calls and found Laura Guenther, a user interface specialist who was developing iPad apps for Kraft Foods that help kids learn about making healthy choices. Laura was interested in building useful civic apps, so she teamed up with Elizabeth and brought in another developer to write the code.

It took the group seven or eight weeks to build [iFinditChicago.com](#), a mobile app to “serve Chicagoans by providing quick information regarding access to food, shelter and medical care in their area.” All three team members were working full time jobs throughout the project. Elizabeth's experience was “a big leap of faith for me,” she said. “I had no experience managing a tech team.”

Elizabeth asked Matt Peron from Illinois Hunger to serve as a beta tester. He not only agreed, he rounded up several other organizations to help test, too. Ultimately WIC, the Illinois Hunger Coalition, the Heartland Alliance, Feeding America and the Greater Chicago Food Depository all agreed to beta test the app.

The team's hard work paid off; they won first prize in A4MC's community app challenge. But that was just the start for Elizabeth and her team. Elizabeth was invited to present [iFinditChicago.com](#) to the Illinois Innovation Council, a group of leaders convened by Governor Pat Quinn to advance the innovation economy. Brad Keywell, the co-founder of Groupon was impressed with her research. Until then he didn't know the stats on low income smart phone adoption. That experience really resonated with Elizabeth: “Until we realize how people use tools, we're going to miss opportunities,” she said.

As a result of her presentation, Governor Quinn introduced Elizabeth to Illinois Chief Information Officer Sean Vink, to expand the app to cover all of Illinois. She was also connected to the state Commission to End Hunger. As a result, Elizabeth launched [iFinditIllinois.com](#) on February 8th, 2011—just 6 months after she first heard about Apps for Metro Chicago.

Since A4MC, Elizabeth has been contacted St. Anthony, a homeless outplacement hospital in San Francisco, to build a similar app for the Northern California city. She has also been talking with Streetwise, a magazine dedicated to helping the homeless in Chicago, to discuss how it might use technology to better serve its mission.

Today Elizabeth is a regular presence at local hackathons and tech meet-ups. “Entering A4MC irreversibly put me on a new course—it laid the foundation for Act 2 of my career, which is socially/civic minded solutions using technology to scale impact,” she said. “It inspired me to think outside of my 9 to 5 job. I have a lot to contribute. I can create a viable product. It's hard to believe that back in June I'd never even dabbled in this!”

## What Civic Apps Competitions Achieve

We like this case study because it beautifully illustrates the range of benefits that apps competitions can create. Let's take them one by one.

### Accountability

#### 1. Raise awareness of available open government data sources



Clearly Elizabeth and her team became aware of open government data through the competition. But one of the most interesting points in this case study is the list of institutions that were either unaware of available and potentially helpful open government data, or simply weren't using it. WIC, Illinois Hunger, the Heartland Alliance, Feeding America and the Greater Chicago Food Depository all discovered open data resources as a result of A4MC.

## 2. Focus energy on building apps on open data

The difference between an awareness campaign and an apps competition is that the competition provides a structure that supports building projects. Elizabeth liked the timeline because it motivated and organized her team. The competition also provided several incentives: winning apps would get both recognition and prize money. While Elizabeth's team was primarily motivated by a desire to build something useful, recognition and prize money were certainly welcome.

In addition, the competition gave Elizabeth's team the legitimacy it needed to recruit big name institutions to beta test their app. Elizabeth connected with Matt Peron through the competition website, and he introduced her to additional organizations that could help beta test. Without his influence, it's unlikely she would have connected with these other organizations as easily.

## 3. Improve government transparency by making open data accessible

The data Elizabeth's team used was all freely available, it just wasn't being used. Most people are not able to locate relevant information in a giant spreadsheet quickly and easily. [iFinditChicago.com](http://iFinditChicago.com) made city government more transparent by providing an easy way to find and use information about city services.

In the future, this transparent data can be used to keep governments accountable. For example, now that citizens have an easy way to analyze the distribution of food banks, they can push for more local food choices. Mashed together with demographic data, the public also could demonstrate areas where social services are under-served.

## Government Efficiency

### 4. Create apps that benefit people and businesses

Governor Pat Quinn deemed [iFinditChicago.com](http://iFinditChicago.com) so useful that he asked Elizabeth's team to build [iFinditIllinois.com](http://iFinditIllinois.com) so people and institutions across the state could use it also.

It's too soon to know whether or not [iFinditChicago.com](http://iFinditChicago.com) will last, but we do know that Illinois has moved forward with a state level version, and an institution in San Francisco is planning on building similar app. Even though most competition apps don't long outlast the awards ceremony, they can lend credence to the benefits of open government data

Even if the original [iFinditChicago.com](http://iFinditChicago.com) app falls into disuse, it has already helped people, institutions and businesses by providing a tangible demonstration of open data apps.

### 5. Crowdsourcing public data priorities

Governments collect millions of lines of data, but publishing resources are limited. Developers

interested in entering CACs can have great ideas for apps, and then find that the data set they need isn't available. CACs create a clear channel for communicating data priorities, which organizers will experience as soon as the data request emails start rolling in.

Because Elizabeth looked to the data first and built on what she found, her case doesn't illustrate this benefit. However, during the competition we received dozens of requests for data sets that were not yet public. We passed them on to Chicago's CDO; there's the opportunity for him to use the "wish list" to prioritize the publishing of new data.

## **Economic Growth**

### **6. Drive innovation**

Innovation is all about solving tricky problems in new ways. IFinditChicago solved a problem for the public sector; other apps used open data to create for-profit apps. The most famous one from Chicago is perhaps SpotHero, an app that connects people who need parking spaces with people who have them. SpotHero was accepted into Excelerate Labs, a local start-up accelerator, in 2012. But as yet another example, as discussed above, an energetic level of private sector activity with open civic data as its fuel has yet to be experienced. Everyone is waiting for the "civic" equivalent of private sector innovation that has come about because of federal data; for example, BrightScope, built with 401(k) reports from the Bureau of Labor Statistics, or The Weather Channel, built with satellite data from the National Weather Service.

### **7. Build a community of practice around open government data**

We can't stress enough how building a community of practice around open government data is one of the most important reasons for a CAC.

For example, what's most notable about Elizabeth's experience is the sheer number of people, companies, governments and non-profits she connected with in the course of building her app. We've mapped them out here in [Figure 2-1](#).

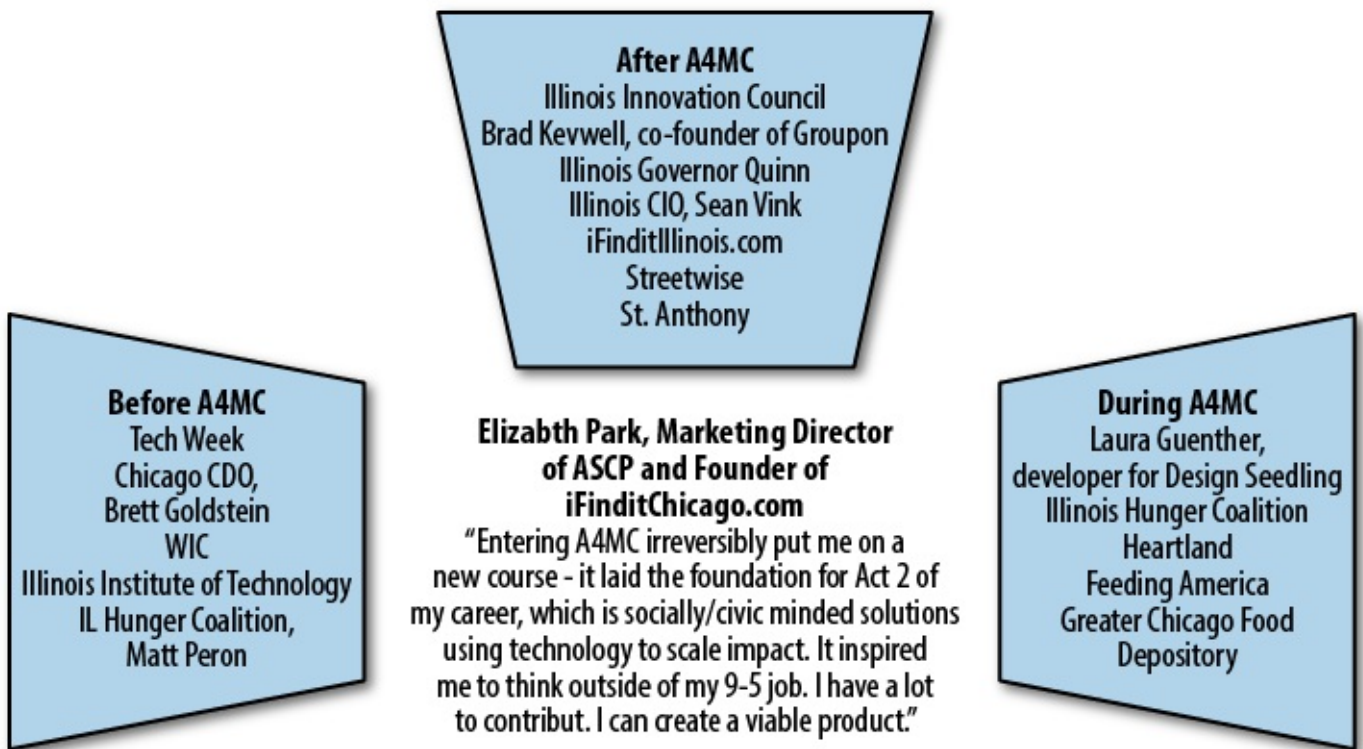


Figure 2-1. Elizabeth Park as community hub

There isn't a marketing campaign in the world that could have created this network. It took a competition to inspire Elizabeth to reach out to all these different people and groups.

Today Elizabeth, along with dozens of other A4MC participants, remains deeply engaged with the Chicago open government data and technology community. She was most recently invited to speak at Chicago DataDive, a hackathon designed to connect developers with non-profits in need of data help.

Apps for Metro Chicago transformed Elizabeth from someone vaguely interested in technology to an active and engaged participant in projects and communities built around open government data.

Our experience with A4MC and Clay Johnson's perspective noted above is becoming perhaps the most important theme in the open government data community. Alexander Howard reports on a spate of similar opinion from open data evangelists, technologists, journalists and private sector entrepreneurs in 2011.<sup>[8]</sup> He quotes a White House "Champion of Change", Waldo Jacquith: "There isn't an inherent problem in app contests, I don't think, but they're probably not worth bothering with unless there's a simultaneous effort to foster a community around those data." Speaking to the usefulness of just the apps themselves, Anthony Townsend, Research Director at the Institute for the Future, recently tweeted "[Health apps are awful] but might as well be [said] about city data contest apps too."<sup>[9]</sup>

## Next Chapter: Goals and Metrics

Benefits are all well and good, but in our next chapter we translate them into goals and metrics.

<sup>[8]</sup> "Everyone jumped on the app contest bandwagon. Now what?" <http://radar.oreilly.com/2011/08/app-contests-sustainability-usability.html>

<sup>[9]</sup> July 11, 2012, @anthonymobile

# Chapter 3. Identifying Goals and Metrics for Your Apps Competition

Why are you holding a civic apps competition? What are you trying to achieve? These are important questions, because the goals you identify for your competition will direct every aspect of the design and planning process.

A review of 15 civic apps competitions shows remarkable consistency in the stated goals; organizers wanted to improve transparency, cut government costs, benefit people and businesses, and drive innovation.

While these goals are a good starting point, they are vaguely defined and difficult to measure. In addition, they don't capture any of the benefits of building a community of developers, businesses, and institutions interested in using open government data.

This is a short chapter where we're going to tease out how to measure benefits of civic apps competitions that we covered in [Chapter 2](#). This discussion might help you decide among goals, or prioritize them. At the end of the chapter we've included a table pairing each goal with a range of metrics, so if text isn't your bag skip to [Table 3-1](#).

## Translating Benefits into Goals and Metrics

### 1. Raise Awareness of Available Open Government Data Sources

"Raising awareness" is a communications term that means getting the word out to the public about an issue. Traditionally this is measured by the number of media hits the issue receives.

For a CAC, raising awareness means to inspire as many people as possible to participate in the competition. So in addition to pursuing coverage of the competition in the news media, CAC organizers can segment their audience and develop a communication strategy tailored to each group.

For example, all CAC organizers want to engage developers. Working through local meet-ups, listservs, and tech stars is a much more effective way to reach developers than getting a story in the local daily paper. Tracking the number of threads, tweets and meet-ups is a more robust way to measure awareness in your target community.

### 2. Build Apps on Open Data

The key to this goal is quantity of apps, not quality. Generating a large pool of submitted apps is the *raison d'être* of a CAC, and it's a robust way to measure engagement with the competition data. After all, even a poorly designed app is the result of hours of work from a developer engaging with the competition data.

Participation in competition events such as hackathons, brainstorming sessions, and meetings with

community leaders can be a secondary metric to measure efforts at building apps on open data. A developer who spends a day working with competition data is engaged with app building, even if she doesn't ultimately submit an application to the competition.

### **3. Create Apps That Benefit Residents, Visitors, and Businesses**

CACs tend to receive many submissions for apps that do neat, but not necessarily useful, stuff. My favorite example of this is "NY Party," a game app that puts you on a quest to buy three hotdogs in different neighborhoods. Fun? Sure! Useful? Only if you're Takeru Kobayashi, champion competitive eater.

The most direct way to measure the usefulness of an app is to track the number of times it is downloaded. Unfortunately, this metric is less robust in a competition setting because CAC sites or the app's developers aren't connected to popular app shopping sites like the Apple Store. This makes the competition apps difficult for casual users to find, which makes it difficult for even amazing and useful apps to find an audience.

There are three ways to indirectly measure the usefulness of an app. The first is to track the number of apps built based on an idea contributed to the competition. The CAC site can host an app suggestion page and solicit ideas from the public. In this scenario, an app built in response to a specific request can safely be considered useful to at least one person—the requestor!

The second is to track the number of apps built in collaboration with an institution or business. When an organization participates in a CAC, it's usually because they hope the finished app can improve their business or service.

The third way is to let the judges decide which apps are most useful to the community. This method has the added benefit of allowing a judgment call in the absence of apps built by suggestion or in collaboration.

Using a combination of two or more of these metrics provides a more nuanced picture of the usefulness of the apps created.

### **4. Improve Government Transparency**

CACs improve government transparency by motivating developers to build apps that make it easy for people to use civic data. The most direct way to translate that benefit into a goal is to track the number of different data sets used by competing developers. Every data set made usable by an app is a win for transparency.

CACs also improve transparency by identifying flaws in government data sets. Governments want to publish data that is usable to the developer community, but developers frequently find bugs or errors when working with these data sets. Every time a developer reports a data flaw, the government has more grassroots information about how their transparency efforts are working. CACs can help you track both data flaws, and the rate at which they are addressed, providing your organization two additional transparency metrics.



A CAC could also host a platform that app developers use to request particular data sets (discussed below). If the government responds to a request by creating access to new data, transparency has been improved.

## 5. Drive Innovation

In [Chapter 1](#) we defined innovation in a CAC competition as “a new solution to a problem.” There are two ways to measure the long-term adoption rates of apps over the length of a competition: tracking the number of apps spun out into a business, and tracking the number of apps folded into government and institutions. This is a measure that might take a while to track—some apps, for example, won’t be embraced immediately and will take longer than the length of the competition to fully develop.

## 6. Crowdsourcing Data Publishing Priorities

CACs can be an effective way to crowdsource data priorities, because participating developers or community organizations discover that the data set they need to build out their app isn’t available.

How effective is your CAC at crowdsourcing data priorities? The most direct way to measure is to track the number of data requests that emerge from your competition. You can develop a more complete metric by including whether or not those requests change the government’s data publishing schedule.

## 7. Build a Community of Practice Around Open Government Data

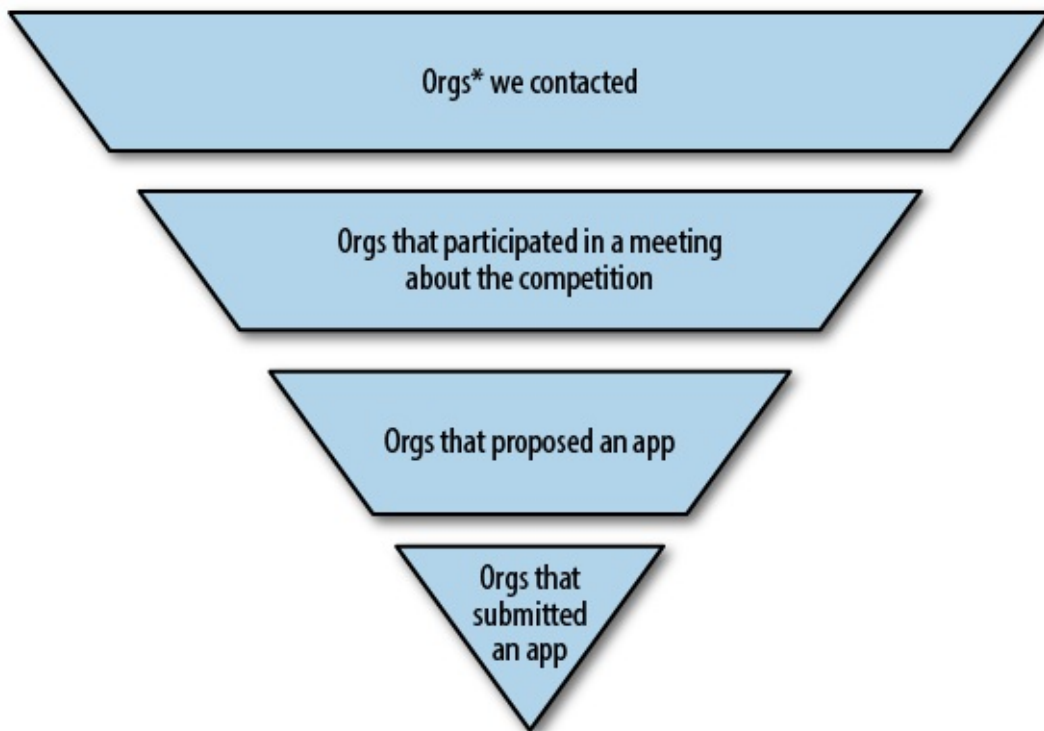
The most valuable outcome of a CAC is that it helps build a community of practice around open government data by fostering new relationships between experts in different fields. Developers, entrepreneurs, NGO workers, government officials, and interested citizens can all participate and build relationships based on a mutual interest in government data.

Unfortunately, there is no direct way to measure community building. Some participants will engage with civic data, others will decide to walk away. In addition, the benefits of these new relationships and new ideas keep accruing long after the CAC is over and tangible outcomes like new businesses or policy approaches rarely happen within the scope of the competition.

The best way to manage this ambiguity is to track the actions taken by CAC participants. How many businesses held events connected with the competition? How many developers attended one or more hacking sessions? How many NGO’s partnered with a developer to build an app? Mapping out these connections can give an idea of how successful the CAC was in building bridges between different groups. We mapped those connections in two ways.

The first, in [Figure 3-1](#), is a traditional conversion funnel. This map gives the viewer a sense of how much work goes into recruiting competition submissions.





\*Organizations include non-profits, businesses and communit groups.

Figure 3-1. Traditional “conversion funnel” visualization of apps competition outcomes

The second, in **Figure 3-2**, is a participation map, which shows all the ways people and organizations participated, not just by submitting apps.

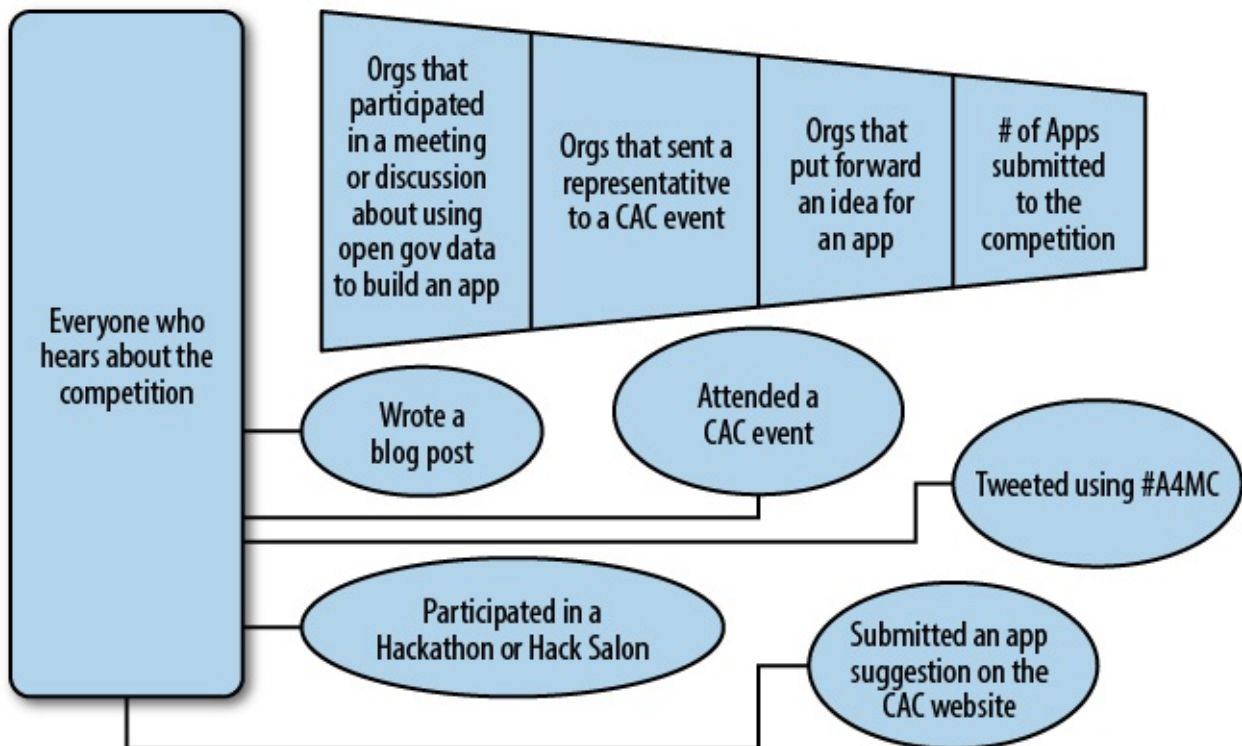


Figure 3-2. Measuring total CAC participation

## Identifying Your Competition’s Ideal Goals and Metrics of Success

Now that you understand how different goals will play out in an apps competition, you can identify the ones that are important to your organization. Next, you will use this information to develop a plan, building in ample learning steps to analyze your success metrics.

Apps competitions can be designed to achieve different outcomes, so your selection of goals will structure your overall strategy. For example, a competition that strives to maximize the number of submissions would be structured very differently from a competition designed to maximize partnerships between developers and community institutions.

A case in point is NYC Big Apps, which has organized three civic apps competitions. The first two encouraged developers to create useful apps with the city’s data. The third iteration was a little different. This time, the organizers decided to maximize the number of ideas by encouraging a more general participation. They wanted to get more people involved who could identify problems that could be solved with city data—whether or not they had the developer skills to build out apps.

In order to meet this new goal, New York held a pre-competition strictly to solicit ideas for apps from the public. Over 600 entries were submitted in the ideas round—nearly six times as many entries as the first NYC Big Apps competition.

## Table of Robust Goals and Metrics

Table 3-1. Robust goals and metrics for Civic Apps Competitions

Goals	Metrics
1a: Raising awareness of available government data in the developer community	<ul style="list-style-type: none"> <li># of hits on competition data sets</li> <li># of events held by developers</li> <li># of tweets from local tech stars</li> <li># of apps submitted</li> </ul>
1b: Raising awareness of mission relevant open government data in the non-profit community	<ul style="list-style-type: none"> <li># of requests for data sets from non-profits</li> <li># of apps submitted in partnership with non-profits</li> <li>Diversity of the map of engaged community organizations</li> </ul>
1c: Raising awareness of open government data availability in the general public	<ul style="list-style-type: none"> <li># of press hits</li> <li># of public votes</li> </ul>
2. Build apps on open data	<ul style="list-style-type: none"> <li>Total # of apps submitted</li> <li>Total participation in CAC hacking events</li> </ul>
3. Create apps that benefit residents, visitors and businesses.	<ul style="list-style-type: none"> <li># of apps built in response to requests from organizations</li> <li># of apps built in collaboration with an institution or business</li> <li>CAC judge assessments</li> </ul>
4. Improve government transparency	<ul style="list-style-type: none"> <li># of data sets used by applicants</li> </ul>

	# of flaws identified in government data sets
	# of flaws fixed
5. Drive innovation	# of competition apps spun out into a business
	# of apps integrated into an existing institution or business
	# of apps in use beyond a year
	# of downloads
6. Crowdsource data priorities	# of new data requests from businesses and community organizations
	# of data sets moved to a higher priority release date due to popular demand
7a. Build a community of practice: linking developers and community organizations	# of apps built in collaboration between developers and community organizations
7b. Build a community of practice: linking developers and government	# of apps built in collaboration between developers and government
	# of visits to government data catalogues
	# of flaws identified and fixed in the government data
7c. Build a community of practice: local businesses and developers	# of businesses that hosted or contributed meaningful support to hacking events
7d. Build a community of practice: number of developers participating in the competition	# of developers that attended at least one event
	# of developers that attended multiple events, even if they didn't submit an app
	# of unsolicited blog posts and tweets about the CAC

## Next Chapter: Building Your Budget

Before finalizing the CAC's goals, organizers should conduct a survey of the resources available to support the competition. In the next chapter, we cover that most important of resources: the budget.

# Chapter 4. Building Your CAC Budget

Few CACs make their revenues and expenses transparent. The only CAC we could find that published any budget numbers was Washington DC's Apps for Democracy, which reported an expense of \$50,000. But that number reflects a one-time payment to iStrategyLabs to run the competition. Each NYCBig Apps is about \$100,000 all-inclusive, but a breakout by task isn't available.

We're going sidestep this lack of precedent in two ways: by walking you through the priciest components of a CAC (cash prizes, web platform, administrative support, technical support and competition length); and by publishing for the first time ever what the Metro Chicago Information Center (MCIC) spent on running the Apps for Metro Chicago competition (A4MC) in 2011. Keeping these costs in mind will help you design a competition that fits your budget. We'll also explore the ways that partners and sponsors can reduce your costs.

## Partners

Most CACs require partnerships, and for the discussion below to make sense, we should describe a typical competition's partners—there are five kinds. First, if the City or other government agency isn't running the competition itself, there's likely to be a managing partner—for us, that was MCIC. The city and other government suppliers of data are data partners. Then there are funding partners who put up prize money and fund administration of the competition. Sponsorship partners donate time, space or money for events, give in-kind contributions such as testing devices, or in-kind prizes such as cloud services for winners. An important subset of sponsorship partners are apps sponsors. These are organizations that are interested in supporting the development of a particular kind of app. For example, in A4MC the Delta Institute sponsored the development of a "green app" by putting up a bit of prize money and sponsoring a hack day.

## The Data

Governments collect data in a variety of ways, and sadly the data sets are stored in a variety of ways too. Since developers need clean, structured data to build apps (more on this in the next chapter), you may have to undertake a data clean-up as the first step in the competition. If resources for data development need to be taken into account, that will take a bite out of the competition budget. Depending on your level of readiness, these costs can range from the tens of thousands to the hundreds of thousands. Apps for Metro Chicago benefited from already-structured data sitting on RESTful web servers that had been developed over the course of 18 months before the CAC was announced. While the city government declined to provide information about the cost of preparing the initial 70 data sets that we used to start the competition, we estimate the cost to the city at roughly \$100,000.

## Cash Prizes

Over the past three years, award amounts have grown by leaps and bounds. The biggest prize pool we found clocked in at \$100,000 for 2011's Apps for Communities, which was run by the Knight

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