THERE SHOULD BE AN APP FOR THAT:

CITIES, CITIZENS AND SMARTPHONE APPLICATIONS


Kellye Mazzoli

Texas Certified Public Manager Program

December 1, 2013

Contents

THERE SHOULD BE AN APP FOR THAT:

CITIES, CITIZENS AND SMARTPHONE APPLICATIONS

## INTRODUCTION

As of October 2013, according to Pew Research Center, there is only 19% trust in government to do the right thing always or most of the time.  Unfortunately for local government this general lack of trust tends to spread across all levels of government.  So as local governments are trying to survive with fewer resources, how can they also increase transparency, improve operations, and at the same time provide meaningful engagement for citizens while being more efficient?

This paper has been written to answer that question by showing how an amazing software innovation called an "app" has the potential to revolutionize the openness and efficiency of communications between city governments and their citizens.  The next few pages will serve as an introduction to apps, explain how they work, and describe what cities are currently doing with them.  The final pages of the paper will discuss what the future may hold for apps and their use by cities that want to communicate better with citizens and by citizens who want improved access to their city officials.

## ALL ABOUT APPS

### Defining App

One study shows that Americans, when asked how many apps were on their mobile devices, they reported a low number. Later in the same survey, the company

defined app and asked again how many apps were on their mobile device. This time

the number increased significantly. So while it appears that Americans may not be

clear on what an "app" is, they do know how to use them.

The first step to understanding apps is to define what they are? An online

definition of "app" is "an application, typically a small, specialized program downloaded

onto mobile devices." (dictionary.com) This is a simple definition for a simple word. But

there is much more to it. App is shorthand for application. It is represented by an

image or icon on a smart device screen that can be clicked on. Once clicked on, a user

will have access to the information made available by the developer. So in essence,

apps refer to software applications that are programmed to run on a phone, computer,

tablet, gaming console, television or other device. Even Windows 8, the newest

operating system for a desktop computer, no longer refers to software as "programs,"

but instead as apps. Google now has a suite of applications that competes with

Microsoft Office programs and is referred to as Google Apps.

Apps are downloaded to accomplish specific objectives. For instance someone

may download an app that serves as an electronic grocery list keeper. This app would

likely have features to help create, store, and then access a person's grocery list as

needed, like when they are at the store. The app includes an icon or picture that could

be clicked on to access the software containing the grocery list. While a grocery list

could easily be written on paper, an app adds other features which make it more useful.

For instance, some grocery list apps allow a person to quickly add an item by just

scanning its barcode. Another feature might be connecting with another person in the

household so both parties could add items to the list.  Then the lists would sync and show up on both devices in real time.  The potential of apps and the availability of convenient features are limited only by the developer of the app and their ability to think it and program it.

## Where Do Apps Come From?

An app must be created.  It is true that developers create apps. But so do everyday citizens.  Employees of large and small companies may develop apps as can non-profit organizations, government, and so on.  Anyone has the ability to create an app.  If done to correct specifications, the app can be added to an app store for mass distribution and even monetization.

Now that the app is created, how does it get on a device? Some apps come pre-installed on the device when it is bought.  Other apps can be downloaded from the Apple App Store or the Google Play Store for free or a fee.  Which store is used will depend on the brand of device that is purchased and the operating system of that device.  Similar to a computer which has an operating system, like Windows, so does a phone or tablet.  Most phones and tablet users have Apple iOS or Google Android platforms.  If you own an iPhone, iPad, or iPod, you will download apps from the Apple Apps Store.  Most other devices now operate on the Android operating system, and those users can download their apps from the Google Play Store.

## The Stats Related to Apps

As of May 2013, 91% of American adults currently own a cell phone and 56% own a smartphone. (Pew Internet, 2013)  Throughout the world, millions of apps are

downloaded daily on smartphones and tablets.  Gartner, Inc. estimates that 2013 will see 102 billion app downloads worldwide, an increase from just 64 billion in 2012. (Lunden, 2013)

These statistics tell an important story when compared to previous years. In May 2011, only 35% of adults owned a smartphone. Now a majority own them. (Pew Internet, 2013)  Between 2011 and 2012, the average number of app downloads increased 28% meaning that Americans have on average 41 apps. (Lunden, 2012) Implications for cities could be astounding not only for engaging citizens, but also when used by employees to increase their job productivity. Citizens have greater access to smartphones and they are utilizing more apps to connect to businesses and others through social media as well as their government.

## CITIES USING APPS TODAY

### Apps for Employees

Local government employees are using apps to complete their work.  Sometimes an employee is required to use certain technology to complete their work and some of the time it is by choice.  If employees are bringing their own devices to work, it is likely they are accessing apps from that device to help them do their job.  If employees are issued tablets which have apps preloaded, they will likely use those apps.  For instance, dropbox is a popular app among individuals as a place to virtually "drop" documents in a virtual "box."  They can then be accessed from anywhere on any device with an internet connection.  What does this mean for cities?  Council members can access

agendas and supporting documents as is being done cities like Farmers Branch and Addison, Texas.

The City of Lewisville, Texas uses Google Apps instead of Microsoft Office for word processing and document collaboration. Southlake is now using Gmail as its organization-wide email system.  Using Google Apps and Gmail allows for storing of documents in the "cloud" which makes them easy to access while in the field or even during a council meeting.  Google Apps is innovative because documents can be shared between users and collaborated on in a single place.  This leads to cost savings and efficiencies because there is only one version of a document stored in one space. Everyone with access can see it, work on it, and see what other changes have been made to it.  Lewisville uses Google Apps to integrate geographic information with data to improve operations of its fire department.  They successfully added school floor plans to maps for fire fighters to access electronically.  When the department receives a fire call for a specific school, it is able to respond quicker with more information than before. (Kirkland, 1-2)

Arvada, Colorado is another example of a local government improving its operations by having employees utilize smartphones in place of computers. Smartphones are easier to carry, and they can access the internet.  For employees, this means quicker access to residents' requests and with specific GPS location information and photos included with the initial report. (Jackson, 37-9)  In Boston, once an employee satisfies a request, a photo can be snapped and sent back directly to the resident who filed the request. Citizens can also receive rewards for reporting and

utilizing the app by gaining "Street Cred." (Towns, 2013)  In Chicago, employees were able to use smartphones to increase their response to violations.  In 2007 between 500 and 700 citations were issued per month using the old paper ticket method.  In 2010 between 2,500 and 3,500 citations were issued using the smartphone app method of entry. Not only did productivity increase, but did so with the use of less expensive smartphones over a typical laptop for field work. (Towns, 2011)

**Apps for Citizens**

Most typical city apps for citizens include general information about the city, community events, and even local businesses.  More robust apps include the ability to pay water bills, report code complaints, etc.  MyLA311, used by the City of Los Angeles, is one of the most comprehensive apps from a city on the market today.  It includes features to submit a service request for graffiti removal, pothole repair, and bulky-item pickup; paying a water or electric bill; and searching for city facilities to use such as the nearest parks, libraries, fire and police stations, golf courses, public pools, tennis courts, golf courses, parking lots. (City of Los Angeles California)

Philadelphia 311 is another example of a great app for citizens to use to help keep their city beautiful through reporting of typical issues like graffiti or potholes.  In addition, Philadelphia is seeking to create an even more useful app for citizens by adding features to its repertoire such as information on voter polling places, facts about upcoming issues, and even a sample ballot based on where citizens reside. (Schwartz)

Boston has an "apps showcase" on its city website.  Beyond just its "Citizen Connect App," which provides the typical 311 reporting features, the city has expanded

it and linked it for all Massachusetts cities to use.  Plus there is an app to help report

bumpy streets and even apps being designed to connect students with youth

opportunities throughout the city. (City of Boston)

Small and midsize cities also have apps available for citizens. A quick look at the

CivicPlus Request Tracker App shows over 250 cities that can make reports with its app.

CivicPlus allows use of the app typically when a city becomes a customer of its website

services.  This can help keep the cost down for smaller cities that are not ready to

invest in a custom app and want an all-inclusive option. (CivicPlus)

**Apps by Citizens**

Other than giving citizens easy access to reporting issues, what other ways are

cities using apps to engage the public?  Today it is all about hacking.  Are local

governments opening its data to hackers? Yes.  While the idea of hacking produces

images of losing money, privacy, or unknowingly sending unsolicited emails to friends

and family, being hacked can produce positive results.  Cities are encouraging hacking

by opening data to citizens who "hack" the data.  Engaging hackers has led to the

creation of many apps which can help solve some the most pressing urban issues for

cities. Houston, Nevada City, New York City, San Francisco, and many more around the

world are hosting these types of hackathons frequently.

The City of Atlanta hosts Govathon, a hackathon specifically asking citizens to

help the City of Atlanta develop apps for the community.  Atlanta calls on technologists,

developers, designers, subject matter experts, civic veterans and city officials to join

forces.  Its first Govathon led to some great innovative apps like "Crime Blotter" which

shows police reports and incidents on a map. "Park Find" helps citizens find parks based on the amenities desired. "Currb" allows users to feed a meter directly from their phone and receive a notification if time is about to expire so they can add more time directly from their phone or at the meter. (Govathon)

The International City/County Management Association (ICMA) recently held a hackathon of its own called Hackstock for #LocalGov during the 2013 annual conference in Boston. The top hacks focused on ways to help city employees. The winning hack was "a (proposed) means for internal or external queries of public information, ranging from physical assets (sign posts) to capital improvement projects, to determine how much money is being spent based on geography." Furthermore, it is explained that "using this app, a manager could show funds being spent on a particular neighborhood or district." Another winner was "a back-end tool to help get data sets out to mobile work crews for disconnected field work." It would potentially help personnel by giving them the ability to "download the most recent and appropriate data sets and use their mobile devices regardless of the mobile platform." (Korkie)

NYC BigApps was introduced in 2009 to spur creative apps which help improve the lives of those who find themselves in New York. It continues to successfully utilize open data with competitions to solve urban issues. In 2013, the "Big Issues" NYC Big Apps wanted to address included topics related to jobs and economic mobility; cleanweb: energy, environment, and resilience; healthy living; lifelong learning; and other topics not specifically listed. The grand prize winner of the 2013 competition was the HealthyOut app which helps New Yorkers find restaurants with healthy eating

options nearby and is customizable to specific dietary needs or preferences. (NYC Big Apps)

Open data and big hackathons encourage citizens with programming skills to create apps, but there are still other ways citizens are choosing to engage as individuals or groups. One such individual in New Haven, Connecticut, Ben Berkowitz, had a continuous graffiti problem in his neighborhood that he could not get eradicated. After many failed attempts which included many phone calls and starting a neighborhood association, he decided to develop an app he named SeeClickFix. The app launched in 2008. Now it is utilized across many cities to report issues to anyone and everyone who may need to know about it in that city. The concept is exactly like 311 reporting that many cities have adopted. See a problem, click to send photo, get problem fixed. (Kamenetz, 116)

Another group of passionate adults decided to form their own civic hacking group called Open City. The group hosts weekly open hacks in Chicago aimed specifically at utilizing open data to create apps increasing transparency and understanding of its local government. Open City has created an app to stay current on Chicago City Council issues both current and past, plus offers a way to comment on them. Another is called "2nd City Zoning," an app offering an interactive map of zoning for a business to locate its current zoning and explore zoning patterns to help determine best possible locations for a new building. Open City developed "Clear Streets" which builds upon an app that the City of Chicago created. The Chicago app

tracks its snow plows in real time and the Open City app expands on that to show citizens which streets are clear based on plowing information. (Open City)

## CITIES USING APPS TOMORROW

### The Forecast for Apps

A majority of Americans own smartphones. Forecasts show that in coming years, even more Americans will own smart devices which have the ability to run apps. More apps are being downloaded than ever before. This number is projected expected to climb. By the end of 2013, an estimated 102 billion apps will have been downloaded. In just three years, that number will more than double to around 224 billion apps. Also, mobile data traffic is expected to increase by an astounding 300% by 2017. (Lunden, 2013)

The Pew Research Center Internet & American Life Project, Library Services survey of 2012, reports 63% of Americans would be "somewhat" or "very likely" to utilize an app for using and viewing library services. Of the same group, 35% claim to be "very likely" to use such an app. The survey shows that 69% are "somewhat" or "very likely" to utilize a program offered by the library to try out new tech devices/apps. (Pew Internet, 2012) This survey shows that Americans are interested in having apps to use related to city services.

Not only is there interest in practical apps from cities for reporting and accessing services, but also in games that allow someone to build and maintain their very own community. These apps are games like TapTown, City Story, and SimCity. Games offer

a chance for citizens to build a virtual city.  In order to sustain the city, players find they have to balance industry and growth while also keeping residents happy.  Games could be used as teaching tools for citizens to learn about actual urban planning and community development issues from a local government perspective. (Eli)

Brickstarter projects that this future forecast may be closer than expected. Brickstarter is an 80 page document that can be downloaded for free from the internet and details a new way of thinking about community development.  The purpose of the publication is to challenge the current NIMBY (Not-In-My-Backyard) way of thinking, and transform that mentality into YIMBY (Yes-In-My-Backyard) thinking.  The authors of Brickstarter outline a new model of community development which puts decision-making into the hands of citizens and utilizes the ideas of crowdsourcing and crowdfunding to develop a more sustainable community and integrates democratic governing at the same time. So while the idea exists, the technology is currently undeveloped.  Some attempts have been made by CitiNiche in Australia and Sitra in Finland.  They are making strides toward making the Brickstarter ideology a reality. Crowdsourcing city development and engaging citizens on a whole new level may only be a matter of time, the question then becomes if and when will cities be ready to embrace it. (Ward, 51-2)

**Possibilities are Endless**

Imagine tracking the number of miles travelled by individual residents and whether those miles were driven, walked, or on public transit?  Then imagine having the ability to tax each user at the appropriate level based on their mode of

transportation.  What about the idea of truly participatory budgeting?  Instead of just asking citizens "yes" or "no" on a ballot, maybe an app could give multiple viable alternatives for voters to choose from.  Furthermore, what if an app could show a resident the consequences of each choice on the whole city?  What about funding local government initiatives in a way that is similar to crowdfunding for new business products?  Imagine going online to devote $5 or $10 to your street for repairs or revitalization of a neighborhood park.  Then there is the possibility of gamifying the experiences of budgeting, community development, and other aspects of city operations.  In the future, residents could play a real SimCity like game on their device that shows where funds would go and who would be affected if funding was cut on certain projects.  Truly the possibilities for apps are endless and limited only by the imagination of cities, citizens, and those developing the apps.

## CHALLENGES FOR APPS

### It Was All About the Newspaper

According to Texas Open Government laws, municipalities are required to announce many items of upcoming city business in the local newspaper. The Texas Local Government Code, states in Section 52.004 (b), "The governing body shall publish in the municipality's official newspaper each ordinance, notice, or other matter required by law or ordinance to be published." (Texas Local Government Code)  With this being the required avenue of communication, how many residents are cities really reaching when they publish information in the local newspaper?  Research conducted by the Pew

Institute shows that only 23% of Americans receive their news via a print newspaper. Currently, television is still the most used way to get news, but it is on the decline and now at only 55%. Online and mobile news are the only increasing avenues of getting news. This means cities must recognize that citizens are looking for important information in a different place. Online. More importantly, citizens are accessing it on their mobile devices. (Pew Research, 2012)

**Addressing Affordability and Accessibility**

According to the author of City Hall 2.0, "mobile applications are becoming the most rapidly adopted technology in history… low-income residents and minorities are twice as likely to use a mobile phone than a desktop computer…" (Cable, 26) Research specific to Philadelphia shares a similar conclusion where between 45% and 50% of citizens do not have access to the internet, but usage of the 311 mobile phone app shows an even distribution across all areas of the city. Deputy Mayor and Managing Director of Philadelphia, Richard Negrin, further explains from his personal experience of growing up in the community that "…it's sneakers and smartphones. We figured out a way to get the best sneakers and the best smartphones every time they came out." (Schwartz)

## CONCLUSION

In conclusion, evidence shows that people own smartphones and in the future even more will own smartphones or other smart devices which run apps. Research shows that smartphones are used across all demographics and income levels which translates into the ability of apps to reach more people. Other evidence shows there is

a shift in the usage of traditional news outlets for internet outlets which are being accessed via mobile devices.

Cities have a unique opportunity here to address multiple issues of increasing transparency, improving efficiencies, and creating operational systems all while still managing to meaningfully engaging its citizens. Already cities are showing successful partnerships with citizens helping to identify, report, and resolve issues with smartphone apps. If cities continue the trend of opening its data to the public, citizens can drive the creation of truly needed and wanted apps. If the apps are deemed valuable, citizens will utilize those apps on a day-to-day basis to improve their quality of life.

Smart devices and apps make sense as a viable way for cities to be transparent with its data, increase efficiency in operations via apps for employees, and engage citizens in being participants through development and usage of apps. Now is the time for cities to truly embrace valuable apps for the people and even by the people.

Works Cited

Cable, S. (2012). City Hall 2.0. *American City & County*, 127(2), 26.

City of Boston. (2013) App Showcase. *City of Boston*. (website)
    https://www.cityofboston.gov/DoIT/apps

City of Los Angeles California. MyLA 311 Smartphone Mobile Application. City of Los
    Angeles. (website) http://lacity.org/myla311/index.htm

Civic Plus. (2013) Citizen Request Tracker App. *iTunes*. (website)
    https://itunes.apple.com/us/app/citizen-request-tracker/id355918295?mt=8

Definition of "App." *Dictionary.com*. (website)
    http://dictionary.reference.com/browse/app

Eli. (2010). City building apps gain popularity. The Planning Boardroom. (website)
    www.theplanningboardroom.net/city-building-apps-gain-popularity

Govathon. (2013) City Hackathon by Startup Atlanta. Govathon. (website)
    http://govathon.com/#about

Jackson, N. M. (2011). Mobilizing governments. *American City & County*, May 2011, 37.
    (website) www.americancityandcounty.com.

Kamenetz, A. (2010). iCitizen. *Fast Company*, (151), 116.

Kirkland, J. (2012) The City of Lewisville Has Gone Google. Google Official Enterprise
    Blog. (website) http://googleenterprise.blogspot.com/2012/01/city-of-lewisville-
    has-gone-google.html

Korkie, J. (2013) Hackstock for #LocalGov Winners Announced. ICMA Center for
    Sustainable Communities. (website)
    http://icma.org/en/results/sustainable_communities/resources/blogpost/1690/Hac
    kstock_for_LocalGov_Winners_Announced

Lunden, I. (2012). Nielsen: U.S. Consumers Avg App Downloads Up 28% to 41. *Tech
    Crunch*. (website) http://techcrunch.com/2012/05/16/nielsen-u-s-consumers-app-
    downloads-up-28-to-41-4-of-the-5-most-popular-still-belong-to-google/

Lunden, I. (2013). Gartner: 102B App Store Downloads Globally In 2013, $26B In Sales,
    17% From In-App Purchases. *Tech Crunch*. (website)

http://techcrunch.com/2013/09/19/gartner-102b-app-store-downloads-globally-in-2013-26b-in-sales-17-from-in-app-purchases/

Lunden, I. (2013). Mobile Data Traffic To Grow 300% Globally By 2017 Led By Video, Web Use, Says Strategy Analytics. *Tech Crunch*. (website) http://techcrunch.com/2013/07/03/mobile-data-use-to-grow-300-globally-by-2017-led-by-video-web-traffic-says-strategy-analytics/

NYC BigApps. (2013). BigIssues. *NYC BigApps 2013*. (website) http://nycbigapps.com/bigissues

Open City. (2013). Civic apps built with open data. Open City. (website) http://opencityapps.org/#about

Pew Internet. (2012).  Library Services Survey. *Pew Internet & American Life Project*. (website) http://libraries.pewinternet.org/2013/01/22/part-4-what-people-want-from-their-libraries/

Pew Internet. (2013). Device Ownership. *Pew Internet & American Life Project*. (website) http://pewinternet.org/Trend-Data-(Adults)/Device-Ownership.aspx

Pew Research Center. (2013). Trust in Government Nears Record Low. *Center for the People & the Press*. (website) http://www.people-press.org/2013/10/18/trust-in-government-nears-record-low-but-most-federal-agencies-are-viewed-favorably/10-18-13_1b/

Pew Research Center. (2012). In Changing News Landscape, Even Television is Vulnerable. *Center for the People & the Press*. (website) http://www.people-press.org/2012/09/27/in-changing-news-landscape-even-television-is-vulnerable/

Schwartz, A. (2013). This App Is Expanding 311 To Create A Robust Community Engagement Platform For Philadelphia. *Fast Company*. (website) http://www.fastcoexist.com/1681654/this-app-is-expanding-311-to-create-a-robust-community-engagement-platform-for-philadelphia

Texas Local Government Code, Section 52.004 (b) Acts 1987, 70th Leg., ch. 149, Sec. 1, eff. Sept. 1, 1987. (website) http://codes.lp.findlaw.com/txstatutes/LG/2/D/52/A/52.004#sthash.5kQE56GU.dpuf

Towns, S. (2011). Trading Laptops for Smartphones: The handheld device is proving handy for cities. *Governing*. (website) http://www.governing.com/columns/tech-talk/trading-laptops-smartphones.html

Towns, S. (2013). Boston's New App Rewards Citizens for Reporting Problems. *Governing*. (website) http://www.governing.com/columns/tech-talk/col-boston-app-reward-citizens.html

Ward, M. (2013). Observations on contemporary urbanism and sustainability: Crowdsourcing the city: Brickstarter, CitiNiche, and digital democracy. *Architecture Australia.* 102(5), 51.