

# Online spaces for urban citizen engagement: A comparison of civic apps

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*--Paper prepared for the Data for Policy Conference, Cambridge, UK, September 15-16, 2016--*

## Introduction

Online opportunities have changed the way citizens and governments alike search, find and use information. Discussions on social media, special interest forums and comment sections have become major vehicles for citizen debate on any conceivable subject. The growth of political and civil society information on the web is further developing into an important resource for civic and political information based on government, community organisations, interest groups and others sharing knowledge (Norris, Fletcher, and Holden 2001; Mossberger et al. 2008). Along these lines, cities are increasingly using technology to enable people to engage with urban challenges in their neighborhoods. One way to do that are citizen apps. Those are digital tools to facilitate the communication among citizens and between government and citizens. Many of these apps have however failed due to low or short-term take-up by citizens and design choices that limit engagement opportunities. Many government apps solely act as online platforms for information and data stored in other forms (Breedon 2012) and focus on either distributing information to citizens or receiving alerts about local problems rather than facilitating citizen engagement (de Lange and de Waal 2013).

Distinguishing the ways such apps mediate the relationships between citizens and between government officials and the public is thereby an important one. This has to do with the way citizens are

positioned by the app. The app can facilitate reporting, where citizens highlight an issue, such as a pothole, that requires fixing in their neighbourhood. In this scenario they cannot see if neighbours have also put in requests to have the street fixed. On government side, such apps help to get a sense for streets and neighbourhoods that need fixing, but no information on the effect of this complaint is given to the citizen (user-feedback app) (Peixoto and Fox 2016). Another way to engage is to give citizens a platform where they connect among each other as well as aggregate those issues for government input (civic action app) (Peixoto and Fox 2016). This means citizens can see initiatives being suggested, for example putting in new bike parking spaces, and can support this idea to give it more prominence in the eyes of government. Both forms exist among civic apps currently in use. For this paper, we want to draw attention to these different ways to engage citizens and identify challenges and possible solutions to make such engagement sustainable at city level.

## Challenges of online citizen sourcing

The set of challenges presented in this section are a combination of a review of 42 online civic engagement apps and the current literature on technological engagement mechanisms. Both point towards the issues of making diverse views visible to the individual user while also showing that online civic action has an effect on policymakers.

Current literature on ICT-enabled citizen engagement covers a range of issues that focus on citizen uptake and the interaction among citizens through online forms of communication as well as the expression of citizen voice and its impact on government. Thus, challenges inherent to online citizen engagement can lie within individual motivations of citizens, but also in the way that policymakers react to this engagement by, for example, making visible changes or publishing (aggregated) results of what a larger group of people have been voicing. Questions raised in this context by Peixoto and Fox (2016) are ‘*does the public see what the public says? Does the ICT platform document and disclose how the public sector responds?*’ (Ibid, 1).

These questions are at the core of much of the literature published on the challenges of online citizen engagement. Halpern and Gibbs (2013) point out that many government apps act as a ‘mobile gateway’ to information and data stored in other forms (Breedon 2012) and focus on either distributing information to citizens or receiving alerts about local problems from them. They rarely facilitate the dynamic elements of citizen engagement. In short, they fail to address the citizen-to-citizen dimension of engagement (Halpern and Gibbs 2013). Noveck (2016) and Nelimarkka et al. (2014) raise concern in connection to the diversity represented in these applications. Nelimarkka et al. (2014) suggest that civic engagement platforms should facilitate participant consideration of diverse viewpoints to mitigate negative impacts that “filter bubbles” can have in democratic processes.

Finally, citizen engagement brings up privacy and data protection concerns. The platforms gather a noteworthy amount of information on citizens. This includes information about people’s whereabouts, circumstances, activities, concerns, and especially political opinions. From the European data protection law’s perspective, if a citizen can be identified, directly or indirectly, those data are personal data and even sensitive data, that are governed by the law, most significantly by the General Data Protection Regulation (2016/679).

In March 2016 we carried out a global review of 42 online civic engagement apps (see Appendix A) that are largely based in the US. The apps were found through an online search over the span of two months using keywords such as ‘civic engagement platform’ ‘online voting’ and ‘petitions’. They range in scale - from local/neighbourhood (e.g. My Sidewalk) to platforms dealing with global issues (e.g. MakeSense.org). They also include software mostly focused around discussions (e.g. Parlio), petitions (e.g. 38degrees, Change.org), polling/voting (Brigade, Represent.me), fundraising (e.g. OneBillionMinds), and ideas generation (e.g. OpenIDEO). We also included a defunct platform (WiserEarth.org), while a few others became inactive since the review (Parlio and Causes.org).

For each app we considered the following questions:

- How does it work (brief explanation of the mechanics);
- Who is it for (key traits of the target demographic);
- Whether or not it is compelling to use (looking at user experience and emotional rewards like “up-voting”, “+1” or “liking”);
- Whether or not it seems effective at producing social change (intended as the goals it had set itself).

The result of the review were rather sobering. Many platforms had either a fairly complex mechanic, demanding entry point requirements (i.e. high level of education, previous knowledge of civic issues etc.) or a poor user experience that intrinsically limited their uptake (e.g. number of users). Moreover, we found the following correlation between the variables: A) depth (or quality) of citizen engagement; B) breadth of civic engagement (or popularity) and C) likelihood to effect change. As a rule of thumb, and with the notable exception (i.e. petition websites) it seems that the occurrence of variable A) excludes variable B), and that the absence of either A) or B) tends to exclude C). In other words, engagement is either specific and in-depth or broad and when there is no engagement, the likelihood for change diminishes.

Based on the review of the apps and the aspects raised in the literature, the following elements stand out: There are variations in how much depth citizens can engage in and how broad their participation is. These two elements are connected, as depth increases the threshold for engagement based on the level of education or previous knowledge about the subject and thus reduces the apps popularity. This corresponds to the individual motivations of citizens to engage by giving a more nuanced answer to the question, does the public see what the public says? It shows that even if the public sees what the public says, it does not automatically lead to higher engagement levels, since in-depth discussion might deter other citizens from engaging.

### Citizens Connect and Neighborland

By looking at two apps in more detail, [Citizens Connect](#) and [Neighborland](#), the goal is to tease out some of the general findings identified in the literature and the review of several apps. The selection of the two apps was motivated by their application in more than one city, which hints towards an underlying mechanism and tool that is transferrable to other cities and their continued usage. The two apps also aim to achieve similar goals, citizen opinion seeking and problem identification while using different elements of engagement to achieve them.

Citizens Connect, launched in 2009, is a mobile application that allows residents to report public issues directly from their smart phones into the City’s work order management system. Preliminary findings show that in recent years citizens have submitted reports with slightly higher frequency and covering a larger geographic range; the same study determined that the app has increased engagement among young, renter residents, a group that is underrepresented in reports submitted through traditional channels (Citizens Connect 2016). The app is currently available in the city of Boston and Philadelphia. It can be categorized as a user feed type, since it does not depend on a particular data source, but builds on the information that users provide. This is facilitated by an interface provided by a local government agency. The

success and effectiveness thus depends on two things: “a) how well people are providing information feeds to the application, and b) how efficiently the applications communicate with the government provided interface to direct the user feeds to the appropriate government agencies” (Desouza and Bhagwatwar 2012, 111). The goal of the app can be described as two-fold, on the one hand it seeks the opinion of citizens on problems in the city and, on the other hand, aims to convey these problems to the relevant government agency.

Neighborland is a self-defined communications platform that aims to empower organizations to collaborate with their stakeholders in an accessible, participatory, and equitable way. It largely works with place-based projects and combines physical and online tools. Facilitators upload ideas and votes from workshops and events in public spaces to the platform. This data can then be used to map civic voices in the city. Several US cities are currently using this tool to engage citizens. The app can be described as a hybrid type, as it is initiated by government (data), but the interaction with citizens creates its value. Similar to the Citizens Connect app, it has the goal of acting as a discussion forum as well as identifying problems (Desouza and Bhagwatwar 2012).

*Table 1. Citizen apps categorized based on the types identified by Desouza and Bhagwatwar (2012).*

Citizen App	Cities	Data Source	Type of App	Goals
Neighborland	Oakland San Francisco San Jose LA	Hybrid-type	Civic action	Citizen Opinion Seeking Problem Identification
Citizens Connect	Boston Philadelphia	User Feeds	User feedback	Citizen Opinion Seeking Problem Identification

Comparing the two apps, Citizens Connect is largely focused on issue reporting. This makes it closer to a 'expression on social issues' type activity and ultimately serves the purpose of government receiving

information (user feedback). Neighborland is a 'civic action' type platform where citizen interaction is facilitated. The aspects raised in the citizen interaction are then made accessible for government officials.

This suggests that the user-driven source for information in the Citizens Connect app improves the link between citizens and government, however cannot facilitate the connection among citizens, since the input into the app is individual and the response by government is also on a one-by-one basis. The hybrid version, Neighborland, lets citizen create their own projects and other citizens can join in. Further, due to its physical component there are open workshops where people meet and discuss face-to-face. This creates a more unstructured environment when it comes to the information that government receives, but a more connected option for citizens living in these neighborhoods. The threshold for engagement is kept low in both apps. Whereas Neighborland enables the suggestions of citizen-created initiatives, it also offers a simple endorsement button for support. Citizens Connect also requires minimal effort to report issues by pre-identifying the location of the user and offering a range of issues to report.

### **Preliminary conclusions**

Taken together, the review of both the literature and the apps points towards a research gap in how citizens use these apps over-time and what their motivation is to either stop or continue its usage. The two models highlighted in Citizens Connect and Neighborland point towards some gratification mechanisms that make these models sustainable. These include gaining support from other citizens for a project proposed to the city (endorsements). There is further a closed feedback loop in the sense that citizens can follow-up on their complaints or projects. For Citizens Connect for example, once a case is closed, users can learn whether the city team did the work. In some cases, users can also see a photo of the team and, in a limited number of cases, they can see a photo of the completed work (e.g. a filled pothole).

For future research, these gratification mechanisms need to be linked up with a set of literature looking at the role of political efficacy in civic engagement in the sense that the more an individual has the sense of personal competence in influencing the political system, the more they will engage (Finkel 1985; Herbst 1999; Min 2007). Further, group belonging has repeatedly been part of studies, in terms of offline group membership and also online groups. And finally, privacy or rather identifiability affect online deliberation. Halpern and Gibbs (2013) find that 'personalisation or identification of site members may ensure higher levels of politeness in online discussions, with participants interacting longer than in more anonymous channels' (Ibid, 1167).

### **Policy recommendations**

Citizen engagement activities will increasingly shift online or have an online component. For government to connect/facilitate/follow-up on these activities, it requires a platform where government can tap into information on who is engaging and which elements connect directly to national/local decisions. Whereas however much focus has been on the government-side of this, preliminary findings show that the interaction among citizens and the transparency of what other citizens have to say about a specific problem or neighborhood play a significant role in online engagement. Another aspect is the visibility of change. Has the online engagement led to a change in the neighborhood/policy/government institution? This is a relevant question for government stakeholders to answer for continued engagement of citizens.

Another aspect is the inclusion of diverse viewpoints and with it equal opportunities for all citizens to engage. This implies not only an offline dimension to the engagement efforts, but also mitigating effects of online bias by utilizing, for example, an uncertainty minimizing sampling algorithm that strategically displays suggestions from individuals who hold similar and dissimilar viewpoints (Nelmarkka et al. 2014).

## References

- Breeden, J. 2012. The 10 best federal mobile apps. *GCN*, 22 June, <https://gcn.com/Articles/2012/07/16/Agencies-build-digital-government-with-apps.aspx?Page=3>.
- Citizens Connect. 2016. About, <http://newurbanmechanics.org/project/citizens-connect/>.
- de Lange, M. and M. de Waal. 2013. Owing the city: New media and citizen engagement in urban design. *First Monday* 18 (11).
- Desouza, K. and A. Bhagwatwar. 2012. Citizen apps to solve complex urban problems. *Journal of Urban Technology* 19 (3), 107-136.
- Finkel, S. 1985. Reciprocal effects of participation and political efficacy: A panel analysis. *American Journal of Political Science* 29, 891-913.
- General Data Protection Regulation (2016/679), <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32016R0679>.
- Halpern, D. and J. Gibbs. 2013. Social media as a catalyst for online deliberation? Exploring the affordances of Facebook and YouTube for political expression. *Computers in Human Behavior* 29, 1159-1168.
- Herbst, S. 1999. The cultivation of conversation. In M. McCombs and A. Reynolds (Eds.), *The Poll with a Human Face: The National Issues Convention Experiment in Political Communication*. Mahwah, NJ: Lawrence Erlbaum, 187-210.
- Min, S. 2007. Online vs. Face-to-Face Deliberation: Effects on Civic Engagement. *Journal of Computer-Mediated Communication* 12, 1369-1387.
- Mossberger, K, Tolbert, CJ and R. McNeal, 2008, *Digital Citizenship: The Internet, society, and participation*. Cambridge, MA: MIT Press.
- Nelimarkka, M., Nonnecke, B., Krishnan, S., Aitamurto, A., Huang, A., Newsom, G., Gregory, C., Patel, J., Catterson, D., Crittenden, C., Scott, J., Garland, C., and G. Goldberg. 2014. Comparing three online civic engagement platforms using the "Spectrum of Public Participation" framework. Paper presented at University of Oxford: Internet, Policy, and Politics Conference on Crowdsourcing for Politics and Policy (IPP2014). Oxford, UK, [http://ipp.oii.ox.ac.uk/sites/ipp/files/documents/IPP2014\\_Nelimarkka.pdf](http://ipp.oii.ox.ac.uk/sites/ipp/files/documents/IPP2014_Nelimarkka.pdf)
- Norris, D., Fletcher, P. and S. Holden. 2001. Is your local government plugged in? Highlights of the 2000 electronic government survey. Washington DC International City/Council Management Association.
- Noveck, B. 2016. *Smart Citizens, Smart Sate, The Technologies of Expertise and the Future of Governing*. Cambridge, Massachusetts: Harvard University Press.
- O'Brien, D. 2013. Citizens Connect - A Smartphone Application that Reduces 'Broken Windows', Boston Area Research Initiative.
- Peixoto, T. and Fox, J. 2016. When Does ICT-Enabled Citizen Voice Lead to Government Responsiveness? *Opening Governance* 47 (1), DOI: 10.19088/1968-2016.104.

## Acknowledgements

Sarah Giest's travel to the Data for Policy conference is being funded by the [Centre for Innovation](#) at Leiden University.

## Appendix A

### List of reviewed apps

<i>38 Degrees</i>	<i>Kuorum</i>
<i>Brigade</i>	<i>Liquid Feedback</i>
<i>Causes.org</i>	<i>Loomio</i>
<i>Change the future</i>	<i>MakeSense.org</i>
<i>Change.org</i>	<i>My Sidewalk</i>
<i>Cidadedemocratica.org.br</i>	<i>Neighborland</i>
<i>Civic Lab</i>	<i>Nextgen</i>
<i>Civinomics</i>	<i>One Billion Minds</i>
<i>Civocracy.org</i>	<i>Open town Hall</i>
<i>Democracy OS</i>	<i>OpenIDEO</i>
<i>DreamTeamHub</i>	<i>Parlio</i>
<i>Every Voice</i>	<i>Politics UK</i>
<i>Fix my street</i>	<i>Represent</i>
<i>Fullmobs.org</i>	<i>State</i>
<i>Ideaconnection.com</i>	<i>Thinkable.org</i>
<i>Ideaken.com</i>	<i>Udemy</i>
<i>Ideas for Change</i>	<i>Vote for policies</i>
<i>Ideascale</i>	<i>Voxe.org</i>
<i>Innocentive</i>	<i>We Are Ready Now</i>
<i>Issuevoter.org</i>	<i>WePower</i>
<i>Kune / Social Global Net</i>	<i>Wiser.org (formerly wiserearth.org)</i>