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December 15, 2014

John Bercow MP
Speaker of the House of Commons
Speaker's Commission on Digital Democracy
House of Commons
London, SW1A 0AA

Dear Speaker Bercow,

Thank you for your national and global leadership in addressing the use of new technology to improve governance through a Digital Democracy Commission. I respectfully submit the laws, legislation, policies and practices that I have encountered and continue to advocate for locally, nationally, and now, through this opportunity, internationally, in order to bring a democracy conceived in ancient Greece into the modern era by creating a digital democracy.

Executive Summary

Democracy must be a "government of the people, by the people, for the people." Today, that means freeing government from the chains of a bureaucracy intentionally created to maintain the status quo. Digital democracy can help facilitate a more agile government that is as responsive to the needs of its people as the private sector is to its clients. In so doing, digital democracy cannot simply replace more traditional forms of record-keeping and communication, but must meet the people where they are, and to open democracy up to new possibilities.

Digital democracy can provide new tools to support making laws, representing citizens, scrutinizing the work and performance of government, encouraging citizens to engage with democracy, and facilitating dialogue amongst citizens. While implementing digital democracy, the Digital Democracy Commission has an opportunity to build free and open source software tools in the United Kingdom that can be shared with localities as well as globally.

The recent experience of legislators in New York City, New York State, and the United States of America has illustrated the importance of several key components of a digital democracy:

- *Law* is a constantly changing code, and we must treat it as such when designing publication platforms. The free and open source software model can inform the principles by which the law is created and disseminated. If residents are presumed to know the law, then the law must be published for free online for anybody to access.
- *Legislation* should be treated as a work in progress, which can be drafted, commented on and followed by any interested resident.

- *Representing citizens* can be improved using a customer relationship management (CRM) software as well as a single point of contact such as a phone number like 311 or platform with an open API like open 311 for non-emergency government service requests and tracking of those requests until issues have been resolved.
- *Scrutinizing the work and performance of government* is essential but dependent on underlying laws that provide for open meetings along with their video and webcast, freedom of information law, open 311, open legislation and law, along with placing public notices and data online in a human and computer readable formats available through open application program interfaces (API) in as close to real time as possible.
- *Encouraging citizens to engage with democracy* can be improved upon by local government officials and agencies by using a combination of low- and high-tech tools to communicate with and serve citizens.
- *Facilitating dialogue amongst citizens* through programs that encourage and allow substantive resident involvement in government decision-making, such as Participatory Budgeting, result in better understanding of the decisions of government.

The solutions offered and those that the Digital Democracy Commission will ultimately recommend should be scalable and versatile both horizontally and vertically across democracies everywhere at all levels of government. The Commission has an opportunity to continue and maintain the digital democracy brand as a convening point for the sharing of free and open source software tools and knowledge globally.

Making Laws

The law is living and breathing. Court interpretations, executive branch implementation and enforcement, and new legislation that reflects changing values are all forces continually shaping and reshaping the law. Most changes are small and imperceptible to the general public, but, taken together, they can have a dramatic social and economic impact. Historically, participation in lawmaking has been limited to a select few with resources, access, or a special interest in the outcome.

Although the Internet of Things has changed our daily lives, including how we communicate, share, and shop, government maintains the status quo of a bygone era with one-directional communication to a broad audience and inputs to a select few.

It must be noted that, through the years, the use of democratic tools has risen, such as referendums that allow citizens to create laws by petitioning them onto the ballot. This tool has allowed for policy changes like term limits that self-interested legislators might never have affected on their own. However, referendums are few and far between, and are rarely passed without funding from a special interest, a benefactor, or the grassroots.

Legislation

Legislation must be freely available to the people through the dominant communications method of the time, in its most convenient, accessible and reusable form. During the 19th century that

meant being published in books available for onsite inspection, and in the late 20th century it would have meant posting online. In the 21st century, legislation must be published online in human- and computer readable format, with all meta-data such as sponsors, votes taken and other legislative actions. It must also be available using a standardized international schema through an open application program interface (API) and bulk download.

As of 2009, New York State and City legislatures were struggling to meet a 20th-century standard, as legislation was available to view online, but voting records and other actions were only available for inspection on site. By June of 2009, inspired by the Participatory Politics Foundation's work on OpenCongress.org, I lead a team to use freedom of information law (FOIL) to obtain a copy of the state's legislation, including voting records, and publish them online at OpenLegislation.org. By the end of 2009, the New York State and City legislatures had put the legislation and voting records online permanently. During this modernization, the Democratic Party, which briefly controlled the New York State Senate, the upper house of the state legislature, incorporated an API, electronic mail alerts, and the ability to comment on legislation directly on the Senate website.

In 2014, a Progressive Bloc in the New York City Council elected a new City Council Speaker and, with her, a set of broad, sweeping reforms to the legislative body's rules, including open legislation and an open technology plan with similar goals to those of the Speaker of the House of Commons' Commission on Digital Democracy. The Council's Open Legislation policy will meet the 21st century standard by making proposed bills and passed laws available with all associated information online, in human- and computer readable format, in as close to real time as practicable, at no cost without restriction and accessible through an open API to third parties.[i]

During the legislative reform process, a challenge emerged: Technology did not exist to provide open legislation, and commercial vendors who earn income providing this technology are resistant to a change that would empower competition from a world of computer-literate, civically engaged citizens.

In order to overcome the status quo and the special interests of vendors seeking to preserve their business model, I joined with a city legislator from the other side of the United States, San Francisco Supervisor Mark Farrell, to form an organization called the Free Law Founders. The organization has the support of OpenGov Foundation, Sunlight Foundation, Participatory Politics Foundation, and MIT Media Lab, with a growing membership of legislators and executives from all over the United States.

The Free Law Founders' goal is to build a free and open source digital democracy platform for the drafting and hearing of legislation as well as its publishing into law and authentication.

Among the partners of the Free Law Founders, each is developing its own solutions for components necessary for a digital democracy platform. While some might be concerned about internal competition, so long as all agree to the same standards, localities will benefit from a choice within each component of the larger system. Monocultures produce a single product that succeeds or fails with the project as a whole, while cultures of competition allow for

interchangeable components which will be selected naturally based on adoption and popularity with developers and the community as a whole.

We have adopted the United States Legislative Markup (USLM) schema established by the Office of the Law Revision Counsel of the United States House of Representatives. We will be working with Congress on updating the USLM schema to accommodate other bodies. We stress the importance of setting one international standard for all levels of government. Setting information standards will lay the groundwork for the competition between legislative platforms that has been essential to the success of the free and open source software movement.

In order to create a digital democracy platform with the most support and the widest possible adoption, we must expand our thinking from our own individual-use cases to all related use cases. Legislation is code created by legislatures at all levels, from the municipality of New York City to the state of New York to the federal government of the United States. Similarly, regulations are code created by agencies at corresponding levels of government, often in response to new legislation that has become law.

Ultimately, government has a chance to learn from the free and open source software community. Whether it is software code or legislative code, it is still code.

Law

In laying out our core principles, the Free Law Founders developed a Declaration of Independence of Law:

> "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.--That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed,"[ii] that laws are "wholesome and necessary for the public good,"[iii] that *ignorantia juris non excusat* "is a maxim of universal application that every man is presumed to know the law, and it would seem inherent that freedom of access to the laws, or the official interpretation of those laws, should be co-extensive with the sweep of the maxim. Knowledge is the only just condition of obedience,"[iv] that "such material as the laws and governmental rules and decisions must be freely available to the public and made known as widely as possible; hence there must be no restriction on the reproduction and dissemination of such documents."[v]
>
> We find that despite our aspirations our system of government is no longer free to the governed to access in the method of the times.

Today, the Laws of New York, which include the City's Charter and Administrative Code are published by the New York State Legislative Bill Drafting Commission (LBDC). Three versions of the law that are certified by the Assembly Speaker and Senate Temporary President are printed and sold by McKinney's, Gould's, and the New York Consolidated Law Service (CLS).

The print publication is then sold to Westlaw, LexisNexis and other online legal information vendors that sell access to their services. While the courts have held that the law itself cannot be copyrighted, the terms of use for online legal information vendors forbid the use or reproduction of their texts.

In a bizarre setup, the New York City Council currently pays for Westlaw subscriptions for attorneys and staff to access the very City laws it is responsible for making.

Every person is presumed to know the law. However, in the millennia since Hammurabi first placed a code of laws on cuneiform tablets on public display, we as a society have gone astray by forcing those who are governed to pay for access to the law. Free and open source software is based on certain software freedoms, the precondition to which is access to the code. Government cannot be truly accessible to the people and the people cannot be expected to know the law until we set the law free.

Representing Citizens

Open 311

311 is a special phone number in the United States and Canada providing access to non-emergency municipal services to both reduce the burden on the 911 emergency services phone number and to provide improved constituent service.

Originally launched in Baltimore, Maryland in 1996, the program has expanded across North America, though not universally. There has also been some adoption worldwide, with a handful of Councils offering the service as 101 in the United Kingdom.

In 2001, New York City Public Advocate Mark Green suggested implementing a multilingual 311 system as a single point of contact to divert non-emergency calls for municipal services from New York City's overloaded 911 system. At the time, New York City had 39 hotlines and more than 350 phone numbers for city services.[vi] Implemented by Mayor Bloomberg, New York City's 311 is the largest municipal government contact center in the United States. New York City's 311 is available 24 hours a day, seven days a week, in 180 languages by phone, text, web, mobile app, Twitter and Facebook, receiving 50,000 calls daily, 5 million website visits annually, and 190 million calls since its inception.[vii]

In 2010, Chief Information Officer of the United States Vivek Kundra launched a national standard for Open 311 , so that 311 complaints could be submitted using any app through the same API in Washington, D.C., Portland, Los Angeles, Boston or San Francisco.[viii]

The 311 service provides a single point of entry for any resident to request any non-emergency service from government and follow up on the results of their request through the resolution of the problem. 311 is an essential tool for representing citizens because it empowers anyone to call a number to report a problem, track it, and, more often than not, see that problem fixed.

Customer Relationship Management

Representing citizens well is nothing less than good customer service, and it can be improved through the technological support of customer relationship management (CRM) software. Leading products for private sector companies include Salesforce.com, SAP, Oracle, and Microsoft Dynamics. Government offices, be they legislative or executive, can manage, organize, track, automate, and synchronize interaction and service delivery for constituents.

Congress has been using Intranet Quorum, a proprietary product produced by a subsidiary of defense contractor Lockheed Martin, for over 20 years. The system is currently being used by Members of Congress, State Governors, and legislators at all levels, including the New York City Council.

CiviCRM is a free and open source licensed CRM geared toward non-profits and the civic sector. As a result of its free and open source license it is highly customizable, with an ever-growing feature set. In 2009, the New York State Senate adopted CiviCRM, creating a new code base of BluebirdCRM, while contributing improvements back to the CiviCRM code so that everyone using the system could benefit.[ix] The New York Senate CiviCRM implementation provides each of the 63 State Senate offices with case management, constituent contact management, and electronic communications tools tied into the State's list of registered voters.

The City of New York is represented on a federal level by the President of the United States of America, two United States Senators, 13 Members of the United States House of Representatives; on a state level by the Governor, Attorney General, Comptroller, 65 Assembly Members, and 26 State Senators; on a city level by a Mayor, Public Advocate, Comptroller, five Borough Presidents (one for each borough), and 51 Council Members. Every elected official needs a CRM. If government adopted a free and open source CRM, then every part of government would provide a better service to our constituency.

Scrutinizing the Work and Performance of Government

It is said that "Eternal vigilance is the price of liberty." Vigilance requires all members of a free society — including members of the government, those who are governed, and the press — to scrutinize the work and performance of government. However, certain policies must be enacted in order to empower everyone to scrutinize and improve the performance of government.

Open Meetings

The official convening of a government body for the purpose of conducting business must be publicly noticed and open to the general public. Records from the meeting should be made available and posted online including but not limited to agendas, minutes, materials, and where available, audio or video or transcripts.[x]

Open Meetings Video and Webcast

Few residents can engage government between 9a.m. and 5p.m., but by opening meetings through video and livestream, anyone can participate from the convenience from their couch or computer. In 2007, New York State Governor Eliot Spitzer issued an Executive Order mandating that public meetings conducted by the State be recorded to be streamed and archived online. In 2010, the New York City Council began streaming hearings, when then-Council Member Gale Brewer introduced legislation, which finally passed in 2013 as Local Law 103, mandating video of public meeting by the City of New York with webcasting where possible.[xi] As part of New York City's cable franchise agreement, the local cable provider offers a channel dedicated to live and re-broadcast of hearings on television. Though many hearings often appear to be sparsely attended, I will often receive tweets from online viewers, not to mention when constituents stop me to review a point made at a recent hearing that they watched last night on television from the comfort of their home.

Freedom of Information Law (FOIL)

The public has a right to know the documents, communications, and other information leading to public policy decisions. Public information will be provided in a timely manner to any member of the public upon request. Freedom of information requests and their response times should be tracked publicly in a centralized location, and once the information is provided, it should be available online so it does not need to be requested again.[xii]

Open 311

311 provides a phone number for government services that cuts across the bureaucracy of a large government to provide residents with a single point of contact to get most problems resolved. A robust 311 system not only helps connect residents with the proper government agency to address their issue, it also greatly lessens the amount of non-emergency requests directed toward emergency services. Through the adoption of an open standard and API governments can empower third parties to build applications like SeeClickFix.com to provide residents with a convenient way to report problems. Once information is reported, making it available using an open API and open data standard will empower government, the press and residents alike to review service requests and results in order to better scrutinize the work of government.

Open Legislation

Legislation must be online with email or text message tracking, commenting, accompanied by testimony, video, and transcripts from hearings. In 2009, the New York State Senate adopted rules for their body that mandated the aforementioned transparency around legislation. It is now available through an "Open Legislation" portal at NYSenate.gov. Prior to 2009, the voting records for elected officials in the State legislature were only available online through a paid service from the State or upon request in person or by mail.

In a keynote speech entitled "Hack The Law" at the MIT Media Lab Legal Hackathon online conference in June 2014, Free Law Founders members, including me, issued a "Free Law Challenge" to civic hackers to create a free and open source democracy platform for legislatures.[xiii]

Open Law

If every person is presumed to know the law, the least government can do is make it freely accessible to all through the dominant communications channels of the time. In 2014, New York City enacted a law to set our laws free so that any person can freely access and download it.[xiv] Now that residents will have access to the law, they will be better empowered to change the law.

City Record Online

Government publishes notifications in newspapers to meet a standard of transparency from the 19th century. Few if any residents read through the public notices section of a newspaper to learn of meetings where important decisions will be made. To improve democracy and enable participation, government notices of government meetings and upcoming decisions must be online in human and computer readable format so that both government and third parties are empowered to make the information useful through an application. New York City enacted a law that I authored and introduced earlier in 2014 to put its public notices publication, The City Record, online.[xv]

Open Data

Putting a live feed of government data online in computer readable format from 311, transit, traffic, and more empowers government and residents to hold agencies accountable by using facts and figures to make better arguments and decisions. Making the data open and computer readable will allow third-party developers to create new tools to address old problems and new challenges as they arise. New York City enacted a landmark open data law in 2012, sponsored then-Council Member Gale Brewer, who is now Manhattan Borough President.[xvi] Much of the city's data is now available at a centralized Open Data Portal, which is reviewed annually to ensure compliance and plan expansion to include more information.[xvii]

Encouraging Citizens to Engage with Democracy

Low levels of civic engagement lead to disconnected societies and deprive residents of the chance to receive key city services. The more government can engage with residents and offer a seamless user experience, the more residents can get out of their local democracies.

Despite the Internet of Things, governments remain grounded in the physical reality of maintaining both physical and digital infrastructure. It is important that digital engagement by government is grounded firmly in using every communications method available to provide access to government for everyone.

Low Tech

The simplest ways to engage consistently to help build civic communities are often "low tech," but that makes them no less crucial. The City Council of New York offers mailed newsletters to 60,000 families from voter rolls, offering a chance to share information, events and contact details proactively to the widest range of residents possible. Council Members also routinely use traditional media to list events and spread the word on important news.

In my office, we make a particular effort to meet with residents, because no technology can substitute for personal interaction. Each month, we hold forums for residents to ask questions and learn more about city agencies and services. So far, I have held a Town Hall with agencies including the Department of Health to discuss New York City's Ebola response, two bike safety forums, a commercial bike safety forum, a safety along the 2nd Avenue Construction forum, an emergency preparedness forum, and a senior health fair. I also have a monthly open house, "First Friday," where residents can come to discuss community issues directly with me.

Sometimes, the residents who most need assistance—like seniors or mobility-limited New Yorkers—cannot travel to my office. My social work team goes into the field four times per month at locations throughout the district, including at senior centers, public housing and 12,000-person Roosevelt Island.

"Policy Night," the second Tuesday of each month, allows residents who are active and engaged on a particular issue to develop with their neighbors an action plan for making change. This model incorporates volunteers into the governing process and provides them with information and resources, while allowing them to maintain their independence.

Following the successful implementation of the programs, we are in the planning stages for a "State of the District" event to bring together residents across nearby neighborhoods; a telephone town hall for homebound residents; and a "Ben in Your Building" program that will enable me to meet personally with groups of residents in their own homes.

High Tech

Our "digital democracy" involves integrating new technology into the old business of governing to improve public service. I use mass-email technologies to send email to our list of tens of thousands of residents, and can track open rates and click rates to use data to generate better emails. We use this to send our monthly e-newsletter, invite residents to events and share important updates – for example, in extreme weather events.

The website for a legislative body can be built to provide members of the body with individual websites that each can edit on their own. The New York State Senate provides each Senator with a website, hosted on the same domain, that allows them to share a profile, district map, contact and constituent service request forms, legislation, calendar of events, photographs, electronic mail signup and lists, social media through Facebook, Twitter tweets, YouTube videos, and Instagram photos, as well as news such as blogs, constituent stories, reports, press releases, and

press coverage. The New York Senate website was built using Drupal, a free and open source Content Management System (CMS), with the code posted on Github freely available for anyone to use.

My website is designed to be interactive, user friendly and to promote deepening levels of engagement. My primary site is BenKallos.com, and it is independently designed and also built using the free and open source software platform of Drupal. On the site, we include press releases, press coverage, issue positions, and aggregate information on key issues (such as a local fight against a waste transfer station being built in the district). It serves as a one-stop shop to find information on my views and what I am up to. Residents can find and RSVP to all of my events.

A few features promote new levels of engagement and involvement and can be adapted to other local elected officials. Residents can read through some of my own "solutions" for a better city and submit their own ideas on my site. They can read through my legislation and comment on it directly through my site, through other legislation commenting platforms such as Madison or treat legal code just like software code by pulling it and pushing it back with changes through the Github code repository. Residents can read and sign on to petitions. An app my office built entitled "Light Up Second Ave" identifies areas along a construction site that are particularly dark. Residents can also submit their own locations by plopping a pin on a map of the district. "Light Up Second Ave" is an example of a crowd-sourced app that can harness group knowledge to make peoples' lives better. These kinds of programs have the potential to make a great impact on local digital democracy by harnessing the power of the community's knowledge.

President Barack Obama has a "We the People" website that allows residents to ask questions of their Executive. With enough signature petitions, any question is reviewed and responded to by the administration. This model ensures a level of interactivity with average citizens, if only enough mobilize around an issue.

Facilitating Dialogue Amongst Citizens

Representative government has always struggled with two frustrations: lack of inclusion and lack of understanding. Most individuals' active participation in civic society ends with casting their ballots and paying their taxes. It is rarely seen where exactly that tax money goes and, equally importantly, how it ended up there. Participatory budgeting addresses both frustrations by empowering community members to directly decide how to spend a part of the public budget.

Participatory Budgeting

First developed in Porto Alegre, Brazil in 1989, participatory budgeting now exists in over 1,500 cities around the world. The process was brought to New York City in 2011 by four Council Members: Brad Lander, Eric Ulrich, Jumaane Williams, and Melissa Mark-Viverito, who is now the Speaker for the Council. In just three years, participatory budgeting has expanded from 4 to 22 out of 51 council members, with each pledging at least one million dollars of capital funds.

I am currently working with my community as we implement the first cycle of participatory budgeting in our district. Participatory budgeting is grassroots democracy. Community members develop ideas, work with government agencies to turn those ideas into projects, and then vote to decide which projects will receive funding. It makes budget decisions clearer and more accessible and gives real power to people who want a say in how their tax dollars are spent in their community.

Conclusion

Scalability and Versatility both Horizontally and Vertically

Governments of all levels throughout the world are struggling to solve the same problems. The solutions and principles proposed here are meant to be universal. Any applications facilitating a digital democracy must be free and open source as well as scalable and versatile, both horizontally and vertically. If platforms are designed according to free and open software principles, a successful component of a freedom of information platform in New York City can freely be vertically integrated by the State of New York and the Federal government of the United States or horizontally integrated by other cities. As tools are built and programs implemented it is important that the Commission regularly examine progress and change to accommodate changes in technology, governance, and values for continual iterative improvement.

The Digital Democracy Commission has a unique opportunity to propose solutions that will not only work in the United Kingdom, but will be scalable to local government and versatile for other governments.

Act Locally, Think Globally

The Digital Democracy Commission must have a focus and action plan that is local to the United Kingdom. However, with the exploration that has been undertaken the Commission has an opportunity to continue its work by leveraging its report into a brand and moving forward as a convener of digital democracy efforts throughout the world.

Imagine a tomorrow where progress somewhere can become progress everywhere. As long as digital democracy tools are built using free and open source software with open data standards not only will localities benefit, but so will the rest of the world.

Digital democracy is necessary to bring government into this century as well as to empower the governed, locally and throughout the world.

End Notes

[i] "5.110. Legislative Tracking - The Office of the Speaker shall make available on the internet for use by the public a legislative tracking database containing the number, text, sponsorship and status of all proposed local laws and resolutions, committee reports, agendas, calendar, hearing testimony, transcripts, videos, committee assignments, voting records of members and other associated materials in the public record that can practicably be made available. All proposed local laws and resolutions in the public record as well as any information associated with each proposed local law or resolution available through the database will be provided to the general public in a machine-readable format at no cost and without restriction as soon as practicable, in order to facilitate public engagement with the Council through the use of third-party software." Rules of the Council *available at http://council.nyc.gov/html/about/rule1.pdf*

[ii] Declaration of Independence, July 4, 1776

[iii] Declaration of Independence, July 4, 1776

[iv] *Banks & Bros. v. West Publishing Co.*, 27 F. 50 (C.C.D. Minn. 1886)

[v] Berger, Caruthers, *Copyright in Government Works*, U.S. Copyright Office Study No. 33., 1959

[vi] Michael Saul, "Green Backs Rudy Call for 311 Hotline," New York Daily News, July 6, 2001, available at http://www.nydailynews.com/archives/news/green-backs-rudy-call-311-hotline-article-1.929534

[vii] Mayor Bill deBlasio, "311, DOITT, HPD Launch Updated 311 App Allowing Tenants to File Heat Complaints on their Mobile Devices for the First Time," November 26, 2014, available at http://www1.nyc.gov/office-of-the-mayor/news/533-14/311-doitt-hpd-launch-updated-311-app-allowing-tenants-file-heat-complaints-their-mobile

[viii] Vivek Kundra, "Open 311," White House Blog, March 3, 2010, available at http://www.whitehouse.gov/blog/2010/03/03/open-311

[ix] "New York State Senate's Bluebird," CiviCRM, available at https://civicrm.org/casestudy/node/1390

[x] "Open Meetings Law," Committee on Open Government, New York Department of State, available at http://www.dos.ny.gov/coog/openmeetinglawfaq.html

[xi] Adam Wisniesky, "City Wrestles with New Webcast Law," Gotham Gazette, March 5, 2014 available at http://www.gothamgazette.com/index.php/government/4886-city-wrestles-with-new-webcast-law

[xii] See proposed local law of the New York City Council for a modern freedom of information program: "Creation of a centralized FOIL website," Int 0328-2014, New York City Council, available at http://legistar.council.nyc.gov/LegislationDetail.aspx?ID=1796964&GUID=125D4F8F-E4DE-47CA-882D-2C607A5EA819

[xiii] "The Free Law Challenge," Free Law Founders, available at http://freelawfounders.org/the-challenge/.

[xiv] New York City made this a requirement in 2014 with, *Online publication of city laws*, Int 0149-2014, New York City Council, available at http://legistar.council.nyc.gov/LegislationDetail.aspx?ID=1681066&GUID=0AA72ECF-4B97-41D0-B3B2-965B7AFC0F24.

[xv] *Publishing the city record online,* Int 0363-2014, New York City Council, available at http://legistar.council.nyc.gov/LegislationDetail.aspx?ID=1805811&GUID=2C43AAFE-A6EB-4B58-8DE2-C17D2E059C3D.

[xvi] *Publishing open data,* Int 0029-2010, New York City Council, available at http://legistar.council.nyc.gov/LegislationDetail.aspx?ID=649911&GUID=E650813B-B1E9-4E56-81BA-58261487DA4A.

[xvii] New York City Open Data Portal, available at https://nycopendata.socrata.com/