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Testimony of Joshua Breitbart, Policy Director of People's Production House before the New York City Council Committee on Technology in Government regarding Int. 991 – Creating Open Data Standards

June 29, 2009

My name is Joshua Breitbart. I am the Policy Director for People's Production House. People's Production House provides young people, immigrants, and low-wage workers with a comprehensive education for the information age, combining media production, media literacy and media policy. We work in public schools and with community organizations in all five boroughs. We support policies that increase opportunities for members of the public to participate in local journalism.

Let me start by saying that this is a great bill. It would continue New York City's leadership in transparency and the use of technology in government and I applaud this Committee, the Chair, and the bill's co-sponsors for moving it forward. I want to discuss four areas where this bill would have positive impacts on our city – the areas of journalism, broadband adoption, government efficiency, and quality of life – and make two small suggestions for how it could go even further.

Creating open data standards is key to helping my organization fulfill our mission of public participation in journalism. As a reformed blogger myself, I can tell you that access to government documents in a timely manner and in a useful format makes it much easier to do solid local reporting. That is true whether you are an unpaid citizen journalist or a professional beat reporter for a local daily. We are spoiled in New York City with multiple daily papers, but even so we are feeling the events of the national crisis in journalism. The Sun closed not too long ago. Readership at the Post is in precipitous decline, down more than 20 percent. The New York Times recently terminated its "City" section.

As a solution, some have proposed government subsidies for particular corporations or lifting cross-ownership caps so broadcast license holders can purchase newspapers without the need for a waiver, but the simplest, most efficient action government could take would be to create open data standards as proposed in this bill. The effects would be even across our society and bring many additional benefits.

People's Production House spurs broadband adoption by showing people how they can use the Internet to build community and improve their lives, especially through digital media production. This bill supports that strategy and we believe it would stimulate demand for broadband in our city. Policymakers now widely understand that compelling content is key to increasing broadband adoption, but some still approach it as if they were adding more channels to the TV. The Internet is a two-way medium; the power comes not merely from the ability to find what you want, but from the ability to shape what you find. Having open data standards makes that possible. The bill paves the way for what the Department of Information Technology and Telecommunications (DoITT) referred to as "value demonstration" in its recent request for information on broadband adoption programs. DoITT deserves praise for their acknowledgement that we need to demonstrate the value of the Internet to people if we want them to use it and I am sure there are many people eager to use the City's rich data assets to contribute to that effort.

I also commend DoITT for the way it already presents public data in interesting and useful ways. NYCStat and NYCityMap are cool websites. However, the DoITT way is only one way. Current best practice in the field of broadband adoption programs acknowledges that different communities, even if they want the same information, want it in different forms. This is obvious if you think about it in public health terms: you wouldn't use the same AIDS awareness advertisements to reach teenagers, adult African American men, and sex workers, even though the underlying piece of information – that condom use prevents transmission of HIV – is the same. This bill takes that lesson to a grander scale, giving all New Yorkers greater ability to learn and share essential information about our city, deputizing us in public education campaigns.

This brings us to the area of government efficiency. The Washington, D.C., government stimulated the creation of free software applications using its available data through a program called Apps for Democracy, which "produced more savings for the D.C. government than any other initiative," according to then DC Chief Technology Officer, now federal Chief Information Officer, Vivek Kundra.

As successful as Apps for Democracy was for DC, what New York City could do based on this bill would be more effective by an order of magnitude – not just because we are bigger and better and have more data, but because of a basic network effect. You are more likely to write an application that will work for both New York and DC than if there is only data available from one city.

I do not think it will be just us two, either. While this would be a first-of-its-kind law at the municipal level, other cities have adopted open data standards on an agency-by-agency basis. I was recently part of an all-day planning meeting with the City of

Philadelphia discussing its proposal for the National Telecommunications and Information Administration's \$4.7 billion Broadband Technology Opportunities Program where the topic of open data standards was raised and widely seconded. Interestingly, it came out of the "Economic Recovery and Jobs" working group, which thought it would be a helpful step in assisting small businesses and entrepreneurs in gaining access to government services and identifying market trends from public data. The group also thought it would spur tech start-ups, as well as support other goals, such as government transparency and efficiency.

In addition to inspiring cool, affordable apps for our local government, open data standards assure interoperability of government applications. When a government agency chooses a proprietary standard, is is picking a long-term winner that stifles competition and innovation. You tie yourself to the company that owns the standard, leaving you in a bind if the vendor goes out of business or you want to switch vendors. If you need to translate from one proprietary standard to another, your costs can multiply. Having open data standards means different city agencies can work together more efficiently, with assistance from the citizenry.

Let me add that, especially with Vivek Kundra as the CIO, I suspect that this bill would make New York City a stronger candidate for federal funds, including from the stimulus package, which emphasizes transparency, accountability, and innovative broadband adoption programs. And these days, every extra federal dollar counts.

Federal money and government savings and broadband usage and journalism are all important, but in the end, we are talking about the people in the city and what we can do to make it a better place. This bill sends a strong message that our government sees the residents of the city not simply as consumers of government services, but as active participants in the governing process. It takes civic engagement to a whole new level where people are devising solutions, not just identifying problems. This bill would give us new tools to clean up our streets, improve public safety, and save energy – in ways we cannot imagine without the mass collaboration that open data standards facilitates.

I would like to offer just a couple of suggestions that could strengthen this already-wonderful piece of legislation.

First, you might consider specifying that all City documents and websites be accessible to commercial search engines. I have not reviewed this at the local level so I cannot say for sure that it is a problem currently, but the federal government only finally addressed this last year with the E-Government Reauthorization Act. Before that, you could not Google for many federal documents or datasets, even though you could navigate to them on the web, meaning that information was "Hiding in Plain Sight," to use the title of a report from the Center for Democracy and Technology on the subject.

Second, where feasible, all applications on City websites should have what are called open APIs or application programming interface. This would mean that developers could build upon what the city has already done, in addition to building their own tools from

scratch with the available data. This is very common in the corporate world as a way to make tools more useful and popular, leading to the kind of "mashups" with things like Google Maps where you can add your own sets of essential locations. The construction date of my house and neighborhood crime statistics are great, but why can't I add my grandmother's encyclopedic cartographical knowledge of Brooklyn bakeries to DoITT's NYCityMap application?

I also want to emphasize the reference to mobile devices in § 23-302.b. of Int. 991, "All public records shall be formatted to enable viewing by web browsers and, where practicable, mobile devices." The most common problem in viewing information on a mobile device is that it has been formatted in a way that limits its usefulness to web browsers on personal computers. Making the public records available in their raw or unprocessed form should address this, but having the information accessible by mobile devices is key to fulfilling the goals of this bill.

Research from the Pew Internet and American Life Project shows that the disparities in the adoption of broadband and personal computers in the home are less pronounced with mobile devices. African Americans and Latinos in particular are avid users of mobile devices for non-voice data applications. This bill would support delivery of New York City government information to those devices and, as a result, to African Americans, Latinos, seniors, young people, low income households, non-English speakers, people with physical disabilities and practically every group that suffers from a digital divide.

I applaud this committee for taking this important step to strengthen local journalism, promote broadband adoption, make government more efficient, and improve quality of life for all New Yorkers. People's Production House looks forward to assisting in whatever way we can.

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TESTIMONY BEFORE THE NEW YORK CITY COUNCIL COMMITTEE ON TECHNOLOGY AND GOVERNMENT ON INTRODUCTION 991: OPEN DATA STANDARDS

June 29, 2009

Good morning, good government, transparency and community advocates. Council Members Lappin, Gonzalez, James, Liu, and de Blasio, thank you for recognizing the importance of this issue and for sponsoring this introduction. Council Member Brewer, thank you for chairing this committee, for being the first to propose this kind of ground breaking legislation, and most of all for being an amazing legislator and role model for so many.

My name is Benjamin Kallos, I am here before you today as a co-founder of the Open Government Foundation, Inc. (the "Foundation"), a New York State not-for-profit which aims to bring greater transparency, accountability and openness to government by making information available online for all to see.

Government is like any one of us, because it is comprised of so many of us, and it is subject to the same sicknesses and disease. Unlike us, we know the cure for most of the government's worst ailments and maladies. If we may be the first of many to quote him today, Justice Louis Brandeis famously wrote, "[p]ublicity is justly commended as a remedy for social and industrial diseases. Sunlight is said to be the best of disinfectants; electric light the most efficient policeman." Transparency and openness in government should be likened to medicine or a vaccine. Like Buckley's, a medicine taken to cure a recurring ailment like a cough, "It Tastes Awful. And It Works." Like a vaccine, dreading the shot is often worse than the shot itself. While we have all acknowledged the value of vaccines, requiring measles, mumps, rubella amongst others, for all children who attend public schools, we must make sure our elected and appointed officials get a similar vaccine against corruption. While transparency might cause momentary pain, as when member item information was recently released and scandal uncovered, new reforms were created to avoid future corruption, leaving both City Council Members and New York City healthier in the long run.

Transparency, accountability and openness, (T.A.O.) can be brought to government through open data. In December of 2007, thirty open government advocates, including Lawrence Lessig of Stanford, Micah Sifry of the Sunlight Foundation, who founded the Personal Democracy Forum occurring today and tomorrow, David Moore of the Participatory Politics Foundation, Carl Malamud of Public Resource.org, as well as Google, Yahoo, and O'Reilly Media, got together and drafted the eight principle of Open Government Data that we urge you to integrate into Introduction 991 of 2009:

1. Data Must Be Complete - All public data that is not subject to valid privacy, security or privilege limitations must be made available.

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- 2. Data Must Be Primary Data must be published as collected at the source, with the finest possible level of granularity, not in aggregate or modified forms.
- 3. Data Must Be Timely Data must be made available as quickly as necessary to preserve the value of the data.
- 4. Data Must Be Accessible Data must be available to the widest range of users for the widest range of purposes.
- 5. Data Must Be Machine Processable Data must be reasonably structured to allow automated processing of it.
- 6. Access Must Be Non-Discriminatory Data must be available to anyone, with no requirement of registration.
- 7. Data Formats Must Be Non-Proprietary Data must be available in a format over which no entity has exclusive control.
- 8. Data Must Be License-free Data must not be subject to any copyright, patent, trademark or trade secret regulation. Reasonable privacy, security and privilege restrictions may be allowed as governed by other statutes.

Finally, compliance must be reviewable.

In order to achieve our objective of bringing openness, transparency and accountability to government, we decided to start with the legislatures, and created OpenLegislation.org: "A Fifty State Project to OpenLegislation to You the People, Setting Your Legislation and Laws FREE, One State at a Time." This choice was not made by accident, rather it is on the advice of Lawrence Lessig the Founder of Creative Commons, a license intended to reform our Country's creativity stifling copyright laws. Lessig stepped down last year to begin work on a new project, Change Congress, with the acknowledgement that in the end, some changes cannot happen without some leadership and cooperation from the legislative bodies our government.

Our initial legislative focus is making voting records accessible to the public. This has been identified as recently as last year by good government groups like the Brennan Center as necessary for achieving the "hallmarks of a robust legislative body: accessibility, accountability, deliberativeness, and representativeness." Further, the Brennan Center says that "much of the legislative process remains opaque; records are difficult to obtain without burdensome 'freedom of information' requests," the results of

¹ Still Broken: New York State Legislative Reform 2008 Update, Brennan Center (2008), at 27 also available at: http://www.brennancenter.org/content/resource/still_broken_new_york_state_legislative_reform_2008_update/.

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which "can take weeks to bear results" suggesting that committees "publish all of their work on the Internet, including attendance records, vote records, and debate transcripts," in order to provide crucial access and understanding for the legislative process.4

Earlier this year, our Foundation sent out a Freedom of Information of Law ("FOIL") request to the New York State Assembly and Senate as well as the New York City Council. FOIL is the only means for good government groups and reporters, let alone citizens, to gain access to most government information. It is worth mentioning that most of this information must be made available within five to twenty days and paper records often have a statutory cost of twenty five cents per page.

In our experience, the New York State Assembly followed FOIL to the letter, quickly responded within the 5 day statutory time line, quickly delivered an electronic copy of every single bill and vote since 1995, which we promptly posted online at NewYork.OpenLegislation.org. The New York State Senate has since delivered committee voting information for 2007 and 2008, which was also promptly posted on the same site. Although both legislative bodies have been cooperative, many State Legislative records remain in paper form. For example, the New York State Assembly's committee votes for 2008 number 5,356 pages and at the previously mentioned statutory 25 cents per page will cost \$1,339.00.

While the State Legislature has been compliant, the New York City Council has requested ninety days just to respond to the same request and our appeal, detailing how the City Council could and should comply with FOIL was recently denied. There are many instances where government bodies have demonstrated bad faith in non-compliance, requiring litigation to release public information, costing government and those exercising their rights hundreds of thousands.

While some critics of open government or this legislation might argue that freedom of information and open meetings law provides for sufficient access, we would simply point to our current interaction with this very institution where transparency, accountability and openness remain blocked while we wait three months for a response that the law dictates, and other legislative bodies have demonstrated, should take no more than five to twenty days.

In fact, in our Foundation's efforts to set legislation free we've learned that government has incentivized itself to keep information secret. The government generates information that has value by virtue of the fact that it affects constituents. The government then pays a vendor to help it internally manage that information. At the same time as that vendor is getting paid by the government, the vendor becomes the only source of the data in manageable form. The vendor then licenses access to the

² Id. at 3, 12.

³ Id. at 11.

⁴ Id. at 3, 12.

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public who need it so badly that they are willing to pay for it. We have been advised that should the State Legislature begin using our website or should they implement our free source code, it would save millions a year in management fees and eliminate costs in the tens of millions currently paid by the public to a vendor to gain access to the same information that should be made free by the government rather than a not-for-profit.

In an open, free democracy it shouldn't be up to the government to decide what information is important enough to be released to the citizens for free. Instead, all non-private data should be released in its entirety, and citizens should be empowered to decide what information they will consume, when they will consume it, how, where and why. Our mission is simple: wherever government neglects to release critical data to the public, whether through apathy, indifference, or impracticability, we will step in and use every means available to release the information for free ourselves.

When Council Member Brewer sent out a call for testimony, that was rightfully distributed widely throughout the open government Internet communities, asking the Internet community to help "[highlight] the advantage to web developers if there was city data available in an open data format..." Given our recent experience, having developed a website for State data and wishing to develop a website for City data, our Foundation heard this call loudly and clearly.

Data must be available over the Internet in accordance with the eight principles of open data to facilitate development, because in its absence, three problems virtually preclude any developers from building websites or applications to benefit New York City.

First, if the data is not available over the Internet, developers can't aggregate it, because it isn't there to collect. If the data is not freely available over the Internet, it requires burdensome, technical, lengthy, and expensive FOIL requests, discussed earlier, to actually gain possession of the data that is needed to power the website or application. Development is a technical, specialized field, and most developers are not lawyers, are not good government experts, and are not otherwise skilled maneuvering through bureaucracy. As a consequence, if the data is not freely available over the Internet in accordance with open data principles, and if enlightened volunteers do not otherwise obtain the data and release it to the developers in accordance with open data principles, the developers simply won't attempt to get access themselves and will instead focus on other development projects such as those in other cities, states or on the federal level.

Second, if the data is not in an open data format, developers won't be able to use it to create websites or applications. Again, developers are in a technical, specialized field, and they like presenting technical information to a user in simple and useful way. Many developers don't like to parse through flat files that result from FOIL-type requests. This poorly formatted data only presents yet another obstacle to making New York City's data useful. Our Foundation can testify that data obtained through a FOIL request, must be parsed into a format that can be easily manipulated by a website or application,



which is time consuming, difficult, and requires an esoteric skill set that is uncommon even in the most dedicated developer. Without data formatted in a way that is easy to acquire, use and manipulate, developers will not be able to create website or applications to benefit New York City.

Third, without strong legislation, government agencies are extremely unlikely to do what this introduction would require of their own accord. Our experience has shown that government is slow to take initiative and sometimes seeks to avoid compliance with the existing FOIL law. Once your introduction is passed into local law it will encounter similar resistance in compliance like FOIL. Our Foundation recommends adding a self enforcing provision aside from litigation to provide remedies to citizens, good government groups and journalists for failed compliance, which would state that City agencies may not charge FOIL's statutory fee for any records produced in exclusively physical paper form, after July 4, 2010. Without this legislation and strong incentive for compliance New York City will not be leading our nation with open data standards, let alone keeping up with national trends.

These three obstacles, taken together, effectively preclude developers from building websites or applications, without a well funded team consisting of lawyers, good government experts, developers, and computer scientists. Without this legislation, New York City will continue to fall behind Chicago, Seattle, and Washington D.C., and even lesser metropolitan areas, like Denver, Minneapolis/St. Paul and Atlanta, where open data will continue to improve quality of life, attracting our best and our brightest, slowly continuing to drain our local economy of its most valued assets, our residents.

Thank you again for considering the adoption of open data standards. We look forward to working with the New York City Council to make open data a reality in both the short and long term.



TESTIMONY OF SAMI NAIM, ASSISTANT COUNSELOR TO THE MAYOR, ON INTRO. NO. 991 BEFORE THE NEW YORK CITY COUNCIL COMMITTEE ON TECHNOLOGY IN GOVERNMENT CONCERNING OPEN DATA STANDARDS JUNE 29, 2009

Good afternoon Chair Brewer and members of the Committee. I am Sami Naim, Assistant Counselor to Mayor Michael R. Bloomberg, and am here to testify on behalf of the Administration on Intro 991. Joining me today is Ariel Dvorkin, Special Assistant for Policy and Governance.

Transparency and accountability have been the cornerstones of the Bloomberg Administration since day one. Indeed, over the last seven years, we have worked hard to provide New Yorkers with the information they need to hold their government accountable. A few recent examples include:

- **NYC Stimulus Tracker**. A new tool that allows citizens to track how the City is using funds that stem from the federal American Recovery and Reinvestment Act. The website enables the public to see what projects are being paid for with stimulus dollars, when the contracts for these projects are approved, and which contractors are involved.
- NYCityMap. An interactive map feature that allows users to search by any address, intersection, community district or City Council district as well as by hundreds of place names and to add desired layers atop these chosen locations, such as aerial photos of the City, building and property information, poll site locations, census data, neighborhood health profiles and statistics, restaurant inspection information, locations of educational facilities, locations of transportation hubs, and much more.
- Citywide Performance Reporting. A revolutionary online tool that gives New Yorkers access to critical performance measures from more than 40 City agencies in an easy-to-understand snapshot format. CPR was recently nominated for a prestigious "Innovation in Government Award" from the John F. Kennedy School of Government at Harvard University.
- *eSubmit*. A new program offered by the Department of Buildings that allows developers to submit required items and supporting documents electronically, facilitating public review of construction projects in neighborhoods across the five boroughs.
- ARIS Parent Link. A Department of Education service that we are developing which will allow every parent or guardian of a student attending public school to track their child's current and past academic performance.

And just this morning Mayor Bloomberg announced five technology initiatives to improve accessibility, transparency, and accountability in City government. One of the initiatives that we are particularly excited about is "NYC Big Apps," the City's first annual software competition, which we

believe will enhance the transparency of City data. Modeled on Washington, D.C.'s successful "Applications for Democracy" initiative, NYC Big Apps will encourage the use of publicly-available, operational City data to develop open-source applications – commonly referred to as "mash-ups" – that will benefit New Yorkers, improve business efficiency, and save taxpayer dollars. With NYC Big Apps, developers will be encouraged to create innovative applications with nearly 80 raw data sets from across 32 City different agencies and commissions to make living, working, and playing in New York City easier and more enjoyable than ever.

The bill before you today is intended to build upon the progress the City has made, and we commend the Council for its desire to make government more open, accountable, and transparent. However, Intro 991, as currently drafted, raises a number of complex operational and fiscal issues that are of concern.

First, the bill's definition of "public record" would require a full review of the City's record holdings to determine which records would be required to be released to the public pursuant to the Freedom of Information Law or FOIL. Currently, the City stores at least 2.5 million cubic square feet of documents in off-site facilities, in addition to the records that exist in agency offices and facilities. This roughly translates into six billion, two hundred and fifty million pages of documents.

Second, the task of reviewing these documents would fall on agencies with limited resources. Currently, agencies dedicate at least two people to review documents pursuant to FOIL: a Records Access Officer and Records Access Appeals Officer. These officers are generally City attorneys who serve their agency in a number of ways: advising policy makers, drafting and reviewing contracts, responding to legal claims against the City, and, of course, responding to FOIL requests and appeals. In order to comply with Intro 991, these officers would have to review all of their agency's record holdings to determine which records are proper for disclosure - for example, whether the release of a record could, by reason of its disclosure, violate a legally recognizable privileged communication, such as an attorney-client communication, undermine a law enforcement investigation, publicize a commercial trade secret, or invade the personal privacy of an individual. This is a Herculean task to say the least.

Third, once this review is complete, the bill requires the records slated for disclosure to be converted to electronic format, so that they can be posted on the Internet. According to the Office of Management and Budget, the cost of scanning all these documents is estimated to be more than half-a-billion dollars.

Finally, once the documents are slated for disclosure by agency FOIL officers, and converted into electronic format by administrative staff, IT personnel must then construct and maintain an infrastructure capable of accommodating these records. The Department of Information Technology and Telecommunications has informed me that they would not only need to hire substantial additional support staff and information architects to implement this bill, they would also have to construct an entirely new records management system with disk storage and data processing power capable of meeting the demands of Intro 991.

While we clearly support developments to make government more transparent, accessible, and accountable, the placement of a seemingly limitless amount of data online is not necessarily the most effective approach, especially at a time when public resources are stretched to the limit. Indeed, the vast majority of the records currently warehoused by the City are rarely the subject of FOIL requests

and it is unclear whether placing them online would make them of any more interest to the public. Therefore, it would seem not to justify the extreme expense of doing so.

Of course, moving forward, as we develop new record retention strategies, opportunities to make new data available can be harnessed in a more cost-effective manner. Indeed, NYC Big Apps is the beginning of this kind of forward thinking. Accordingly, while we agree with the spirit and intent of Intro 991, we cannot support it for the operational and fiscal impacts it would impose.

Thank you for allowing me to testify, and I would be happy to answer any questions you may have.

Statement of Morgan Reed

Executive Director, The Association for Competitive Technology (ACT)

Hearing on Introduction 991-2009

June 29, 2009

Chairwoman Brewer, Members of the Committee; my name is Morgan Reed, and I am the Executive Director for the Association for Competitive Technology (ACT). On behalf of our members, I am pleased to testify here today regarding Introduction 991-2009 (Intro 991) — a bill aimed at increasing government transparency and access to data at the municipal level.

ACT is an education and advocacy group for small, technology-based businesses. We represent over 3,000 software developers, systems integrators, IT consulting firms, and e-businesses from across the country. Focusing on the interests of small and mid-size entrepreneurial technology companies, ACT advocates for a "Healthy Tech Environment" that promotes innovation, competition and investment.

ACT supports the goals presented in Intro 991 and looks forward to working with the author to succeed in moving the city of New York towards what we like to call "eGovernment 2.0"

Half a century ago when government agencies started implementing large-scale data repositories and automated services, it was believed that computing systems would be out of reach to all but very large agencies and corporations and consequently systems were architected around increasing the internal productivity and efficiency of those agencies. This era of "eGovernment 1.0" led to a vast array of monolithic databases, large-scale applications and internal reporting structures that have transformed the way government agencies operate. The primary challenge to productivity and efficiency in those agencies has been the inability to share the vast amounts of information that has been created by these systems. Through a quagmire of systemic, bureaucratic and regulatory barriers responses to requests for information either from other agencies, the private sector and the general public have been sporadic at best. This despite the fact that computing technology has found its way into all walks of society.

eGovernment 2.0: Efficient, Integrated, Accessible

The next level of efficiency and service by government, eGovernment 2.0 if you will, will come through the transformation of these systems into accessible data and services, available to related systems across government agencies, the private sector and the general public. While eGovernment 1.0 was about worker productivity, eGovernment 2.0 will be about integration and access. While this transformation will be arduous and time consuming, every effort begins with a set of goals and principles that in this case should serve as a guide for the improvement of existing systems as well as an architectural framework for the new systems that are built each year. Designing government's architecture around access and integration from the start is the key to building the next generation of government information systems.

we can do interesting things with it, but we are forced to wait until the next "fish" is given out to update.

When governments provide real time access to databases, developers are given to tools to "fish for themselves". By having agencies create and publish APIs for accessing their public data, developers outside government, as well as in other agencies, can quickly build applications, link data and create new efficiencies throughout the city. And while the word API may be a bit daunting, consider it more like handing someone a map and an address. Governments need only to say: here is the way to reach our data, these are the kinds of queries/questions we accept, and these are the kinds of ways you can receive an answer to your question.

By creating these Open Applications Services, developers are free to build upon them in unique ways: an interactive pothole tracker, realtime restaurant health ratings tied to an iPhone zagat guide, economic development resources tied to maps. The list is endless.

What Industry is Doing

Examples of how industry is providing government the technology to implement Open Applications Services can be seen in Amazon's web services platform, and Microsoft's Open Government Data Initiative or OGDI. OGDI is particularly interesting for ACT's developers as it is platform neutral and Open Sourced. OGDI-based web interfaces can be accessed from a variety of client technologies such as Adobe Flash, Silverlight, JavaScript, PHP, Python, Ruby, mapping clients, etc. Developers can write programs which access the data without downloading and hosting it, only using the data they need though the web-friendly (REST) programming interfaces; and Governments can automatically refresh the data so application rather than doing a monthly data dump.

The OGDI model is a clear example of the future of open government data: Technology neutral, real-time data that enables all developers, be they open source, commercial or academic.

The eGovernment 2.0 Partnership: What do we need?

From an industry viewpoint, ACT's recommendations are not new - but represent refinement over the past two decades. What has been missing is the discipline and vision to implement this architecture on a broad scale inside government agencies and it is this discipline that lies at the heart of these recommendations.

Legislation like Intro 991 is an excellent starting point to moving government data into the hands of the people in a way that creates tools for tomorrow's fishermen, and beyond yesterday's old fish.



CITIZENS UNION OF THE CITY OF NEW YORK

Testimony to the New York City Council Committee on Technology in Government on Int. No. 991 – to create open data standards

June 29, 2009

Good afternoon Chair Brewer and other members of the Committee on Technology in Government. My name is DeNora Getachew, and I am the Legislative Counsel and Director of Public Policy of Citizens Union of the City of New York, an independent, nonpartisan civic organization of New Yorkers that promotes good government and advances political reform in our city and state. I am joined by my colleague Rachael Fauss, CU's Research and Policy Associate. We thank you, Chair Brewer, for your leadership on using technology to increase government transparency and accountability, and for holding this hearing on Intro 991, which would create a single portal for City government data, open data standards for City agencies and ensure increased public access to government records and publications.

Citizens Union believes it is not only timely, but also critically important that the Council take steps to make government more transparent. Efforts at the federal and state levels to create data web sites such as data.gov have paved the way for increased public access, and we believe that it is time for the City of New York to create a similar site. Increased access to government records and publications allows the public to assess government performance and decision-making and ensures that citizens can hold their government accountable. As we have testified to before this committee in previous hearings, we believe that efforts to provide more government documents online not only serves to increase transparency, but can also save government resources and time, because it would eliminate many of the formal and informal requests to agency personnel for basic information already provided in existing government reports and other documents.

Citizens Union supports Intro No. 991, which would establish open data standards for City agencies and begin a process to move all public records online, but would like to propose a number of recommendations to strengthen the legislation. The bill has three major sections, which we will address separately public records availability, creation of technical standards and Internet records policy, and the agency compliance plan and roll-out timetable.

A. Public Records Availability

Citizens Union supports Intro 991's proposed singular web portal to host all City agency public records. Under the bill, government records would be required to be available on the Internet through a single web portal, with all records available in their raw form and viewable through web browsers, and where practical, mobile devices.

Given that Intro 991 does not specify where on nyc.gov or a successor site the web portal would be housed or what agency would be responsible for maintaining the website, we believe that consideration should be given to hosting it on the Department of Records and Information Services' (Records) website. Citizens Union previously testified before the City Council's Committee on Technology in

Government on this issue, recommending that the Records website become a "one-stop shop" for City government publications and information given their current function in implementing Local Law 11 of 2003. Local Law 11 requires all city agency publications and reports that must be published, issued, or transmitted to the Mayor and City Council to be posted on the Records' website. We recognize that there have been significant concerns regarding the user-friendliness and timeliness of posting on the Records website, but believe that Records' current role in obtaining documents from City agencies gives it practical experience in this area that may be beneficial in the present case.

Whatever agency is ultimately responsible for maintaining the web portal, Citizen Union recommends that sufficient resources and staffing be provided to ensure that records are posted in a timely manner and that staff have appropriate technical expertise. The Department of Information Technology and Telecommunications (DOITT) should also play a major role in the development of the website, and be available to make the portal as user-friendly as possible. A singular web portal for government records and public information also should ideally be a single source for those looking for a variety of information about City government, including public hearings, agency records, rules changes and the City Record.

Citizens Union also supports the bill's efforts to make all public records easily accessible and useful such as requiring the use web syndication technology, requiring records to be presented and structured in a format that permits automated processing, and not having restrictions on access or use of documents. Tools such as web syndication technology, for example Really Simple Syndication (RSS), which notify the public of updates to specific city records or by agency will allow the public to be immediately notified of documents of interest to them, similar to how they might subscribe to news feeds. Timely access through this technology ensures that the public can weigh in on important decisions that are made by government and effectively hold it accountable. Formats that allow automated processing such as comma separated values (CSV) will allow users to more easily process and analyze government documents by creating programs to analyze trends, look at changes in spending, or conduct other types of analysis. Specifying that there cannot be licensing requirements would ensure that documents are provided in open formats such as PDFs that can be viewed through multiple types of software. Lastly, Citizen Union supports not having registration requirements to access data, as there are many other ways to ensure that access is not abused such as tracking the IP addresses of users.

B. Technical Standards and Internet Record Policy

Citizens Union supports the creation of an Internet record policy and technical standards manual on web publishing and e-government for City agencies through a consensus approach, but believes there should be greater specificity in the bill regarding the selection of voluntary consensus bodies, standards, and the public process for weighing in on such standards. In Intro 991, DOITT would be required to develop a manual on technical standards based on standards developed by voluntary consensus bodies to ensure that agencies have guidelines and standards to allow them to meet the requirements of the bill. It is not clear in the bill whether DOITT would use preexisting federal standards or develop new standards in consultation with voluntary consensus bodies. Citizens Union recommends that the bill be clarified to include the opportunity for the public to comment on the use of pre-existing standards, or be able to be part of the process in developing new standards, similar to the federal model.

Intro 991 also requires DOITT to consult with voluntary consensus bodies and, only when feasible, participate in the development of technical standards. Citizens Union recommends that the bill be

modified to clarify how consensus bodies would be selected and under what criteria, as well as the process by which they would develop standards. The composition of such bodies is crucial to ensuring that a broad base of stakeholders is represented, and while Citizens Union does not believe that it is necessary to mandate who should be around the table, the bill could require DOITT to report on the reasons for choosing particular bodies. Additionally, the bill should require the opportunity for general public comment throughout the standards development process.

C. Agency Compliance Plan

Citizens Union supports the goals of the agency compliance plan section of Intro 991. This section would require agencies, in consultation with DOITT, to submit a compliance plan to the mayor and council by January 4, 2010. These plans would detail how agencies intend to comply with the chapter and would include an accounting of all public records under control of the agency and how such records have been classified.

Intro 991 sets forth three separate classes of documents: immediate, legacy, and priority. The three classifications provide for a roll-out period in which "immediate" records would be required to be posted after July 5, 2010, "priority" records would be posted after July 4, 2011, and "legacy" documents would be posted after July 1, 2013. Citizens Union supports this approach to provide roll-out periods for different classifications of records, as it will ease agencies' transition in posting all public records. We recommend, however, that the bill be amended to explicitly require agencies to detail the reasons why records have been classified in the "legacy" or "priority" categories to provide greater transparency in the classification of documents. While we understand that documents which are large and/or complex may pose unique problems for Internet posting, it is important for the Council and Mayor to understand the rationale behind classifications as well as the technical limitations faced by agencies. This is particularly important for ensuring that agencies have the appropriate resources and tools to meet the requirements of this bill. Further, requiring this documentation will provide greater confidence to the public that documents are not being withheld from immediate posting unnecessarily.

Lastly, we recommend that the Council consider amending the bill to create mechanisms to allow for greater evaluation of its implementation. Specifically, this could be in the form of an annual report compiled from agencies' including statistics on the number and types of records available online, the number of hits received by the web portal, and other issues related to implementation. Additionally, the bill should require DOITT to hold a public hearing to assess the user-friendliness of the web portal, solicit recommendations for how to improve the site, and evaluate the timeliness of record posting.

We urge the Council to promptly pass this legislation and consider further efforts to improve its implementation as recommended in our testimony. Citizens Union appreciates the opportunity to share its views and would welcome the opportunity to work with the Council further on ways to continue to improve public access to important government information.



Testimony by Chris Keeley, Associate Director of Common Cause/New York to the

New York City Council Committee on Technology in Government Re: Creation of open data standards for the city of New York June 29, 2009

Good morning Chair Brewer and members of the Committee on Technology in Government. Thank you for the opportunity to speak today. My name is Chris Keeley, and I am the Associate Director of Common Cause/New York. Common Cause/NY is a non-partisan, non-profit citizens' lobby and a leading force in the battle for honest and accountable government. Common Cause fights to strengthen public participation and faith in our institutions of self-government and to ensure that government and political processes serve the general interest, and not simply the special interests.

Thank you for this opportunity to discuss how government transparency can be expanded through the creative use of developing technologies. The stated intention of Local Law 11 of 2003, a ground-breaking bill in its own right sponsored by Chair Brewer, was to position New York City as "leading the nation in using information technologies to improve the efficiency and accessibility of municipal government," and using the Internet as, "a powerful means of accomplishing these twin goals."

Int. No. 991 before us today would further the stated goals of Local Law 11 by clarifying the rules of the road for City agencies and by requiring City records to be made available in convenient and usable formats. In February 2009 testimony before this Committee regarding Local Law 11, Common Cause made three primary recommendations, which I would like to briefly re-visit.

1. In February 2009, we suggested that Local Law 11 should be amended to include data quality standards.

Posting data online can be exceptionally valuable for the public, but only as valuable as the quality of that data made available. Int. No. 991 adopts this Common Cause recommendation and, in fact, takes it one step further by requiring the Department of Information Technology and Telecommunications (DoITT) to issue a record policy and technical standards no later than January 4, 2010. Centralizing these standards under DoITT is a very effective way to ensure records are made available in a consistent manner across agencies.

We thank the Council and this Committee, in particular, for seeking to require DoITT to set expectations for how agencies will comply with their mandate to make government information available to New Yorkers.

In February 2009, we urged the Council to mandate that Local Law 11 should establish administrative mechanisms allowing individuals to seek and obtain correction of information maintained and disseminated by the agency that does not comply with the established quality standards.

This is a recommendation that does not seem to be in Int. No. 991. We urge the Council to consider amending the proposal to require the record policy and technical standards drafted by DoITT to specifically address mechanisms for public input and oversight regarding any short-comings of the data available.

3. In February 2009, we urged the Council to require all agencies to report annually the number and nature of complaints received by the agency regarding the established guidelines, and how these complaints were addressed. We urged this report to be provided to the Mayor, Public Advocate, Comptroller, City Council, and be made publicly available.

Echoing the concerns of the last point, it is critical the public is able to maintain a dialogue with the City as online information sharing continues to expand. If New Yorkers making use of this expanded information identify short-comings in the substance or manner in which data is made available, there must be mechanisms to alert DoITT or other appropriate City personnel, as well as defined 'next steps' such personnel must take in order to rectify such short-comings. Such complaints should be tracked to ensure they are dutifully addressed and this tracking information should be made available publicly. Simple 'comment' features such as you find on blogs and on-line submission forms are two simple ways to allow the public to provide their thoughts and concerns to the relevant agency and DoITT. In any case, a more "interactive" approach is warranted.

There have been and remain concerns about agency compliance with Local Law 11 of 2003. We must take advantage of this opportunity to address those outstanding concerns and prevent any of those short-comings from migrating with us into this next generation of government transparency.

In addition to the recommendations we provided in February 2009 regarding Local Law 11, we would like to offer recommendations specific to Int. No. 991.

1. A draft of technical standards manual to be published by the Department of Information Technology and Telecommunications no later than January 4, 2010, should be available online and open for public comment and review by October 31, 2009.

In keeping with the goal of open, transparent government, the record policy and technical standards should be made available for public review and comment prior to its being adopted in final form.

2. The definition of Record should be expanded to include video, webcasts and other such footage.

Under Int. No. 991, 'Records' includes information "in any physical form whatsoever" that is "kept, held, filed, produced or reproduced by, with or for an agency." This is a sufficiently broad definition, but we urge the definition to be supplemented by explicitly listing video, webcasts and other such footage in the definition of Records. It is our hope that the City of New York and this Committee, in particular, continue its consideration of ways to improve government transparency with the use of webcasting technology.

Int. 991 is a great step forward for the City of New York. Should the introduction be signed into law, it would place New York among the leading municipalities in terms of government transparency.

Thank you once again for this opportunity to testify before you here today and we look forward to working with you on this issue. I would be happy to answer any questions.



Testimony of Frank Hebbert, GIS Manager, Regional Plan Association before the New York City Council Technology in Government Committee June 29, 2009

My name is Frank Hebbert. I am the Manager of Geographic Information Systems at Regional Plan Association, a non-profit research and planning organization serving the greater New York region. Thank you for this opportunity to testify on Introduction #991.

Regional Plan Association welcomes the open data proposals in this Introduction.

As a research organization, information created and released by City agencies is vital to our planning and advocacy work. For non-profit and community organizations, data availability is often a limiting factor. A central data portal will make it easier to obtain information and to respond more accurately, speedily and effectively on issues affecting the City.

Benefits for open government and innovation

The Introduction will benefit open government and transparency. Providing a one-stop destination for all city data will help residents make use of information that has previously been buried within a sub-section of the City website, or not directly available.

Easier access to city data will lead to innovation in how citizens interact with government, with social and economic benefits for the city. These future interactions may take place in ways we cannot today foresee - DC's Apps for Democracy project is a leading example, with many innovative tools only possible because of open access to data feeds. Open data will spur software and related industries, and strengthen the City's innovation and attractiveness as a place to live and work.

Improvements to the Introduction

We think the Introduction could go further on geographic data. It does not make specific provisions for greater sharing of currently unavailable geographic data, though the definition of Record in article 23-301 includes prepared maps. We suggest that the legislation open up existing map data services created and maintained by the city. Giving unrestricted, free access to all map data in common digital map formats could be transformative.

The Introduction could be more specific on data formats, and the definition of 'raw and unprocessed' could be strengthened. Data in machine readable and disaggregated form is necessary for the greatest flexibility and innovation in future use.

We welcome the use of consensus standards for formats, and we urge that formats used be non-proprietary. For guidance on data format and structure, the methods used by the DC Office of the Chief Technology Officer should be considered as minimum requirements for any system adopted here.

Thank you for the opportunity to testify today.



Comments to the New York City Council on Intro. 991 - A Local Law to amend the administrative code of the city of New York, in relation to creating open data standards.

Thomas Lowenhaupt, Chair Connecting.nyc Inc. June 29, 2009

I'm Thomas Lowenhaupt, founder of Connecting.nyc Inc., a NYS not-for-profit created to educate New Yorkers about the Internet. The central organizing force behind our work is the .nyc Top Level Domain. Think of .nyc as being like .com, .org, or .gov but just for New York City.

Connecting.nyc Inc. traces its roots to the Internet Empowerment Resolution passed by Queens Community Board 3 on April 19, 2001. I was then a member of the community board and back then we advanced the concept of Open Data through the use of a Creative Commons license for our Community Board's website. And our Internet Empowerment Resolution envisioned using the .nyc TLD as the organizing force for New York City's digital resources.

My goal today is to alert the Council to the possibility of using the .nyc TLD as part of the Open 311 and Intro. 991 initiatives. Basically stated, the .nyc TLD provides an unlimited number of names that might be used to identify digital resources. This includes data acquired as part of the city's 311 operation as well as all other databases.

While the ICANN continues to ponder the process for activating .nyc, New York City can begin utilizing the .nyc resource in the public's interest as infrastructure for assigning intuitive human readable names to its digital resources.

I'd like to also note that the naming power of the .nyc TLD extends to assigning digital names to objects not normally seen as part of the digital world. For example, I'm told that by naming every piece of street furniture – every bench, light post, fire hydrant, tree, etc. – this meta .nyc naming system can become a programmers dream, leading to a more accessible and friendly city for both residents and visitors. It's part of a transition to what's called The Internet of Things.

Beyond the local, the Geneva-based CORE is advancing a common naming structure amongst global cities that would allow for closer cooperation and coordination between the world's great cities.

I thank you for your attention.

Comments by Andrew J. Brust to the New York City Council, Technology in Government Committee, on Proposed Legislation for Open Data Standards June 29, 2009

Introduction

Good afternoon. My name is Andrew Brust. I am the Chief, New Technology at twentysix New York, a consultancy specializing in application development, business intelligence and other software technologies. I am also a native New Yorker and former technology professional with the City of New York. In the mid and late 1980s, I was a programmer for the Department of Parks and Recreation and later I was the Computer Systems Director at the Department of Cultural Affairs. Thank you for allowing me to read my testimony today; I'm sure you can understand that given my career history and my current position, I have great interest in this legislation.

The language in Intro 991 seems to speak implicitly to a number of important features, advantages and a technology premise for the City's data sharing platform. But a number of these points deserve to be called out explicitly, so I hope it's OK that I do so briefly here. Beyond those points, there are some less obvious, but equally important, capabilities that I'd be grateful if you'd consider, and I will mention them briefly here as well.

Outbound Interface and Content

Let's start with the interface the system will provide to its users and consumers. I think it's incredibly important that the system provide data in a relatively raw form that developers can work with, rather than in a full-blown end-user interface. The reason why should be clear: developers will provide and produce interfaces and integrated services that use and serve the data. Should the City or various of its agencies wish to do as well, that's fine. But the primary mission should be to provide an information platform that developers and entrepreneurs can innovate on top of.

Of course, if the data is provided in the right format, then transformation of it from machine-readable to human-readable form should be almost trivial. Today, the Atom Syndication Format, which is a particular schema within eXtensible Markup Language, or XML, is a common format for arbitrary, structured data and it can be rendered in human-readable form by most modern Web browsers. The REpresentational State Transfer, or REST, standard is arguably the most popular service protocol for allowing such data to be queried. And so I would certainly recommend that Atom and REST be supported.

But the reality is that other formats are important as well. On the data presentation side, these include JavaScript Object Notation, or JSON, as well as older formats like the longstanding comma separated values, or CSV, format. On the Web service side, Simple Object Access Protocol, or SOAP, is very important too. It was the first format supported by Web services and is still the most popular such format in the enterprise software development space. Each and all of these standards should be

supported. That may sound like a tall order, but with proper design, it's in no way out of reach. The best way for multiple formats, including formats not yet introduced, to be supported, is to implement things in such a way that the data is produced in a single, flexible format that can easily be transformed and re-published in virtually any other format. Similarly, the query logic should facilitate development of "layers" of code around it that support specific service protocols.

Reading and Writing

The system should allow writing data, in addition to reading it. City residents should be able to submit a tennis permit request through this platform, or even pay a parking ticket, or a water bill, or City income tax bill. City natives should be able to request a copy of their birth certificates, and numerous other *submissions* should be accepted, in addition to mere *queries* for information.

Back on the reading side, users and systems should be able to retrieve non-structured data, including archival photographs of specific City lots, maps, titles and deeds, audio from major speeches made by the Mayor and video of Council meetings and hearings as well. Ultimately this could more than make up for the loss of WNYC-TV. The fact is that Channel 31 was a video authority of record, and the loss of it has been significant; the data platform contemplated by this bill, if it supports rich media in addition to textual data, could bring about services that fill the gap left when WNYC was sold off, and go well beyond the services that linear, broadcast television can deliver.

License Issues

Beyond the formats, protocols and content that are produced, this system will require innovations in licensing as well. The availability of the data that this platform could produce will enable unprecedented analyses, products and services, useful for both commercial and social services pursuits. But to make possible a number of different query and data visualization services, applications will need to cache, aggregate, slice and dice the system's data. To do so, they will need to stage the data in local or hosted databases and the City should expressly permit this so as not to impede the innovation that would result.

Beyond a permissive regime around the availability of data, the City will also need to allow companies to make a market, and to charge, for the value-added services they build on top of the public platform. Certainly, companies should not be charging for the mere redistribution of the data, but they should be permitted — indeed encouraged — to build user-friendly front-ends, interesting "mashups," innovative analyses, and inventive integrations of the platform's data.

Google Maps should be able to show where the big potholes are; Zagat should be able to indicate which restaurants have a sterling Health Department inspection record; WebMD should be able to create heatmaps showing which neighborhoods are hardest hit by an epidemic, and the New York Times ought to be able to indicate which boroughs and neighborhoods are getting the most, or least, arts funding.

Retail consultancies should be able to show which precincts are best and least served by certain types of shops. Tourists should be able to see where the cheapest hotel rooms are and where the most

availability exists. Members of this Committee should be able to see how well Verizon is living up to its commitment to deploy FiOS service to all areas of all five boroughs.

Children's Aid Society should be able to illustrate where concentrations of child homelessness and abuse exist. Food for Survival should be able to show which ethnic, geographic, economic and age groups are most susceptible to hunger. And none of these organizations should have to stop and wonder whether they are using or republishing the data in some unauthorized form.

On Being Open

Back to the technical now and, to an extent, the political. Consider carefully your use of the word "open" in the title of this legislation. I think everyone can agree that all data and infrastructure under this initiative should be useable from virtually any platform, programming language and type of device. If that's what is meant by the word "open" in Intro 991's language, then all is well. But if "open" is somehow meant to connote a requirement that Open Source technologies be used to serve or consume the data, or that any software that does so be required to comply with GPL or other Open Source licensing, then we will have a huge problem on our hands.

Rather, the City and its agencies should be permitted to implement the back-end platform as they see fit, whether they do so using Java, PHP, Ruby, C#, Visual Basic or COBOL. I would imagine that agency implementations would need to be signed-off upon or certified by DoiTT, but as long as they produce their output and solicit their input using the correct formats, standards, protocols and interfaces, that should meet the whatever litmus test may exist.

Excelsior

I'd like to close on an issue of civic pride. The City of New York is a unique municipal government within the State. Most cities are contained within counties. The City of New York, as you well know, comprises five counties, and provides the services that in other parts of the State are delivered by special districts, incorporated villages, towns, cities and counties. As such, our data standards system should serve as a model for each of these distinct types of government within New York State. So let's not just do this the right way. Let's do this in an unprecedentedly exemplary, creative and exciting way. Let's make this the time in history when the economy was down, but the great tradition of commerce and ingenuity in the City of New York was nonetheless invoked to bring about innovation, opportunity and a new standard in good government, adopted by other governments in New York, and other states.

Thank you again for the generosity of your time, attention and consideration. And, once again, good afternoon.

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