

Lopez, Donna

From: Saul Tannenbaum [saul@tannenbaum.org]
Sent: Thursday, May 23, 2013 8:33 AM
To: Cheung, Leland; Councilor Marjorie Decker; vanBeuzekom, Minka
Cc: Lopez, Donna
Subject: Comments on the Gartner report and its implementation for today's committee meeting
Attachments: Open Data for Cambridge.pdf

Leland, Marjorie, Minka,

Attached, please find my comments on the Gartner report and its implementation. In summary, it's a good report that's a bit generic. The Council should insist and support on its implementation as well as sharpen it for Cambridge specifics. That sharpening should include elevating the E-Gov Community Representative committee to the level of other advisory committees and including experts on municipal innovation.

But, as a more important principle, Cambridge, through the Council, should set a policy of open data. This is now the operating principle for the Federal government and, in an effort to make this conversation productive, my communication includes a rough effort of taking the current Federal policy and modifying it for Cambridge.

I am copying Interim City Clerk Donna Lopez in order to include this as part of the Committee's record and request that, when the Committee report is transmitted to the Council, that my communication be included.

- Saul

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May 23, 2013

Councilor Cheung, Members of the Cable TV, Telecommunications and Public Utilities Committee:

I write as a citizen who has been interested and appalled by the City's inexplicable lack of interest in joining most of the rest of Cambridge in the 2nd decade of the 21st century. I also write as a former IT professional who has been a part of IT assessments, written and developed strategic plans, and has employed Gartner as consultants. I read the Gartner report as an informed citizen, aware of the particular issues of Cambridge and the strengths and weaknesses of the methodology of Gartner has employed.

Gartner gives Cambridge failing grades across a set of metrics with which it assesses IT departments. There is no explaining this away, no special pleadings that should make this acceptable. Gartner talks about this as the "maturity" of an IT organization but "maturity", in IT terms, is a more polite way of assessing whether an organization knows what it's doing. Gartner's assessment comes down to "No, the IT organization does not know what it's doing as often as one expects."

Gartner's answer to this, its strategic plan, is straight out of the enterprise information technology playbook: build a structure of governance to align the IT department with the City's goals and needs. This is absolutely required and I would urge this Committee and, later, the whole Council, to provide full support to City staff as they implement this recommendation.

Gartner also notes that Cambridge has underinvested in Information Technology. Each time it is mentioned, the Gartner report includes a footnote with the City's dissent. This indicates, at best, a reluctance to invest in IT as a strategic asset and, at worst, a philosophy of where the primary motivator is cost control. The Council should ensure that the City invests properly in technology.

Gartner, as well, provides a 180-day playbook for implementation of its recommendations. This plan is well-founded and reflects industry best practices. The Council should support its implementation and this committee should schedule a check-in half way through this time period to assess performance.

But Gartner's recommendations are, as one would expect from them, rather generic. There are two key areas where the Council can serve to sharpen them for Cambridge.

First, the Council should insist that E-Gov Community Representative committee rise to the level of other Cambridge advisory committees. Its meetings should be announced in advance and meeting materials and minutes made available on the web. The operation of this committee should model the best use of technology to increase participation and civic engagement. The committee, like other advisory committees, should expand to include members who have domain-specific expertise in municipal technology. This might include members of Code for America, The Rappaport Institute for Greater Boston of the Harvard Kennedy School, or The Center for Civic Media or the Department of Urban Studies and Planning at MIT, or entrepreneurs associated with the Cambridge Innovation Center.

Second, the Council should move to provide policy guidance to the City and adopt the principles of open data, principles that are the current guiding principles for the Federal government.

While the Gartner report speaks correctly of Information Technology being a strategic asset, information itself is an asset. Cambridge should manage information in a way that promotes openness and interoperability. Doing so will increase operational efficiencies, reduce costs, improve services, support City goals, and increase public access to valuable government information..

Making information resources accessible, discoverable, and usable by the public can help fuel entrepreneurship and innovation. For example, the MBTA made real time bus and subway location data freely available, creating an industry of application development at no cost to the tax or fare payer.

Aligning technology with values is not new to Cambridge. Cambridge is at the forefront of sustainability that, in turn, drives decisions about, for example, what sort of automobile technology to acquire, or how to design, heat and cool a building. Information technology is no different. There are always arrays of choices in implement computer systems, just as there are myriad cars to buy. Choosing an electric or hybrid car is a function of policy and values. Similarly, when it comes to implementing an information system, policy and values should drive an open choice.

For these purposes, “open data” means publicly available data structured in a way that enable the data to be fully discoverable and usable by end users. In general, open data will be

- *Public.* The City should adopt a presumption of openness to the extent permitted by law and subject to privacy, confidentiality, security or other valid restrictions
- *Accessible.* Open data are made available in convenient, modifiable, and open formats that can be retrieved, downloaded, indexed, and searched. Formats should be machine-readable (i.e., data are reasonably structured to allow automated processing). Open data structures do not discriminate against any person or group of persons and should be made available to the widest range of users for the widest range of purposes, often by providing the data in multiple formats for consumption. To the extent permitted by law, these formats should be non-proprietary, publicly available, and no restrictions should be placed upon their use.
- *Described.* Open data are fully described so that consumers of the data have sufficient information to understand their strengths, weaknesses, analytical limitations, security requirements, as well as how to process them.
- *Reusable.* Open data are made available under an open license that places no restriction on redistribution.
- *Complete.* Open data are published in primary forms (i.e., as collected at the source), with the finest possible level of granularity that is practicable and permitted by law and other requirements. Derived or aggregate open data should also be published but must reference the primary data.
- *Timely.* Open data are made available as quickly as necessary to preserve the value of the data. Frequency of release should account for key audiences and downstream needs.
- *Managed Post-release.* A point of contact must be designated to assist with data use and to respond to complaints about adherence to these open data requirements.

Specifically, a policy like this would require the City to collect or create information in a way that supports downstream information processing and dissemination activities.

This includes using machine- readable and open formats, data standards. It also ensures information stewardship through the use of open licenses and review of information for privacy, confidentiality, security, or other restrictions to release. Additionally, it involves the City building or modernizing information systems in a way that maximizes interoperability and information accessibility, maintains internal and external data asset inventories, enhances information safeguards, and clarifies information management responsibilities.

In order to advance this discussion, I've taken the Federal Open Data Policy (<http://www.whitehouse.gov/sites/default/files/omb/memoranda/2013/m-13-13.pdf>) and adapted it for Cambridge.

Signed,

Saul Tannenbaum, 16 Cottage St.

cc: Interim City Clerk Donna Lopez

Open Data Policy - Managing Information as an Asset

This policy will apply to all new information collection, creation, and system development efforts as well as major modernization projects that update or redesign existing information systems and apply to management of all datasets used in the City's information systems. City departments are also encouraged to improve the discoverability and usability of existing datasets by making them "open" using the methods outlined in this policy, prioritizing those that have already been released to the public or otherwise considered high-value or high-demand.

- I. Collect or create information in a way that supports downstream information processing and dissemination activities

City departments must consider, at each stage of the information life cycle, the effects of decisions and actions on other stages of the life cycle. Accordingly, to the extent permitted by law, departments must design new information collection and creation efforts so that the information collected or created supports downstream interoperability between information systems and dissemination of information to the public, as appropriate, without the need for costly retrofitting. This includes consideration and consultation of key target audiences for the information when determining format, frequency of update, and other information management decisions. Specifically, departments must incorporate the following requirements into future information collection and creation efforts:

- A. Use machine-readable and open formats for information as it is collected or created. While information should be collected electronically by default, machine-readable and open formats must be used in conjunction with both electronic and telephone or paper-based information collection efforts. Additionally, in consultation with the best practices and to the extent permitted by law, agencies should prioritize the use of open formats that are non-proprietary, publicly available, and that place no restrictions upon their use.
- B. Use data standards. The City must use standards for information as it is collected or created in order to promote data interoperability and openness.
- C. Ensure information stewardship through the use of open licenses. Departments must apply open licenses, to information as it is collected or created so that if

data are made public there are no restrictions on copying, publishing, distributing, transmitting, adapting, or otherwise using the information for non-commercial or for commercial purposes

II. Build information systems to support interoperability and information accessibility.

Through their acquisition and technology management processes, agencies must build or modernize information systems in a way that maximizes interoperability and information accessibility, to the extent practicable and permitted by law. The City must exercise forethought when architecting, building, or substantially modifying an information system to facilitate public distribution, where appropriate. In addition, the City CIO must validate that the following minimum requirements have been incorporated into acquisition planning documents and technical design for all new information systems and those preparing for modernization, as appropriate:

- A. The system design must be scalable, flexible, and facilitate extraction of data in multiple formats and for a range of uses as internal and external needs change, including potential uses not accounted for in the original design. In general, this will involve the use of standards and specifications in the system design that promote industry best practices for information sharing, and separation of data from the application layer to maximize data reuse opportunities and incorporation of future application or technology capabilities
- B. All data outputs associated with the system must meet the requirements described above and be accounted for in a data inventory
- C. Data schema and dictionaries have been documented and shared with internal partners and the public, as applicable.

III. Strengthen data management and release practices.

To ensure that agency data assets are managed and maintained throughout their life cycle, the City must adopt effective data asset portfolio management approaches. The City must review and, where appropriate, revise existing policies and procedures to strengthen their data management and release practices to ensure consistency with these requirements and take the following actions:

- A. Create and maintain an enterprise data inventory
 - B. Create and maintain a public data listing
 - C. Create a process to engage with customers to help facilitate and prioritize data release
 - D. Communicate the strategic value of open data to internal stakeholders and the public
 - E. Ensure that data released to the public are open, and that a point of contact is designated to assist open data use and to respond to complaints about adherence to open data requirements
 - F. Engage entrepreneurs and innovators in the private and nonprofit sectors to encourage and facilitate the use of agency data to build applications and services
- IV. Ensure the privacy of residents or anyone who has business with the City. The City must:
- A. Collect or create only that information necessary for the proper performance of City functions and which has practical utility
 - B. Limit the collection or creation of information which identifies individuals to that which is legally authorized and necessary for the proper performance of City functions
 - C. Limit the sharing of information that identifies individuals or contains proprietary information to that which is legally authorized, and impose appropriate conditions on use where a continuing obligation to ensure the confidentiality of the information exists
 - D. Ensure that information is protected commensurate with the risk and magnitude of the harm that would result from the loss, misuse, or unauthorized access to or modification of such information

Hi Councilor Cheung -

Thanks for taking the time to meet with me yesterday, I thought it was a very productive meeting, and certainly helped me to understand more of the background of the City ITD and Gartner Report. I'm looking forward to further discussion and engagement on the matter. You can see our meeting schedule at the [Code for Boston Meetup Group](#), and I see you've already signed up for the Boston Civic Expo. Feel free to stop by our sessions any time - they are always open to the public - and please let me know how else we can contribute to both the IT Strategic Plan as well as support the City more generally.

My statement on the Report follows:

My name is Harlan Weber, a Cambridge resident of the past seven years, professional web designer, and organizer of the local Code for America Brigade. For those unfamiliar with our organization, the Brigade is a national network of volunteer groups of civic-minded software developers, designers, and urban planners looking to improve government and citizen life through technology. I'm writing today to give my general opinion on the Gartner Report and the overall strategic direction of the IT department, both as a longtime resident and civic technologist.

After reviewing the Report, I find that many of Gartner's recommendations are sound. From my perspective as veteran of the software development industry, the single most important recommendation is "3) Realign ITD Organization"; specifically, the definition of new roles within the organization and the hiring of the right individuals to fill those roles. Time and again, I have found that even a single employee can have an outsized effect on the mentality and culture of a software team, especially those the size of ITD. As ITD molds itself into a more citizen-facing organization, it will require new approaches and skills to augment its current capabilities, many based in private-sector techniques such as user-centered design and Agile development, and the success of the entire Strategic Plan may hinge upon hiring a strong internal champion of these methods.

Secondly, I would recommend that the suggested timeline be amended to switch the order of the Realignment and Governance Model Creation projects. In accordance with the above statement, I feel that the upcoming hires will be better set up for success if they have direct input on the creation of new governance processes.

Lastly, I would strongly encourage the Council to consider an open data policy for City of Cambridge data as a way to address many of the cost, efficiency, and civic engagement recommendations set forth in the Report. For those unfamiliar, "open data" simply means that a given set of municipal data is made freely available and machine-readable. Opening City data for public use is one of the keys to unlocking the power of the rich developer ecosystem here in Cambridge for the civic good. We have to look no further than the MBTA for an example of the real-world benefits of this approach: In November 2009, the MBTA opened their real-time bus data to the public. Within weeks, the developer community and local technology firms created web, desktop, and smartphone apps to display this data to riders. With minimal effort, the MBTA delivered real value to their constituents in a fast, efficient manner and increased their engagement with riders - at no cost to the MBTA. At present, they have 65 apps listed on their

Rider Tools page, only three of which were created by the MBTA themselves. This is one simple example - among hundreds, nationally- of the cost savings, production efficiency, and improvement in the daily lives of citizens that have been created by engaged and creative citizens with access to public data. I would be happy to discuss this matter further with the Council at a later date.

Thank you for your time, and for the opportunity to contribute to this discussion.

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Harlan Weber
Brigade Captain | Code for Boston