How Using Data Makes the City of Boston Stronger

Mayor Martin J. Walsh 17 November 2016

Summary

The public sector is frequently thought of as being slow and costly, inefficient and bureaucratic. The City of Boston aims to change that perception for the better using data to implement change and improvement in real-time. Mayor Martin J. Walsh has undertaken a robust commitment to the collection and use of data across Boston to ensure that constituents have an open line of communication, via an app on their personal media devices, with City leaders. For cities to continue to grow and thrive, they must adapt to and adopt these novel technologies, which will enable better responsiveness to their citizens.

When it comes to speed and efficiency, the public sector doesn't always have the best reputation. We've all heard the complaints: government is slow and costly, inefficient and bureaucratic.

It doesn't have to be that way. The City of Boston is a $2.98 billion organization. If it were in the private sector, it would be a Fortune 1000 company, and deeply data-driven as a matter of course. There's no reason why city

governments shouldn't also embrace the use of data. And, in fact, we have an obligation to our stakeholders—also known as taxpayers, voters, constituents, and We the People—to deliver services in the most effective, efficient, and equitable manner possible. In today's world, that means making a serious commitment to using data.

That's what we have set out to do in Boston. When I became mayor in 2014, I knew we needed to look at how we could use data in more robust, creative, and efficient ways. Not only would it save us money in the long run, but we could vastly improve how we deliver city services to our constituents.

An example of this? Trash cans. If you've ever walked down the street in Boston and noticed trash cans with solar panels and blinking lights, you've seen it. These cans can feed us data about real-time fill levels of trash all around the city. And once we have that information, we can optimize our trash pick-up routes to the streets that, according to data, need it most.

Oftentimes, the best data comes directly from constituents. That's why we created a 311 app. It's a way for constituents to report problems they see on the street in real time. See a pothole that needs filling? Take a photo of it and, in a matter of seconds, report the issue on the app. Many times you'll not only get a picture of the filled pothole, but a photo of the team that filled it. Digital submissions allow us to geolocate where our reports are

coming from, so we can more effectively distribute city services, while adding a personal touch.

These systems are not only more responsive, they also grow the streams of data we have to work with. How do we make more meaning from them? Our vision is to use data to build accountability, transparency, and a performance-driven culture right into the structure of city government. We started by asking each cabinet chief to set data metrics to define their qualitative visions. Those metrics are displayed on a dashboard in my office. Sitting at my desk, I can look up and see the number of calls coming in to 311, a map tracking the number of neighborhood visits I've made in the last 30 days, and a revolving set of data points, like the number of buses that arrived on time, or the number of potholes filled that day.

One of our inspirations for looking at this data comes from a beloved Boston pastime—baseball. As even casual fans know, data (or "advanced stats") has transformed talent evaluation and team-building in baseball. Bostonians, from the labs of M.I.T. to the front offices at Fenway Park, have been at the forefront of this movement.

In baseball, simple equations like a batting average have been supplemented by more complex ones, like "wins above replacement," which aims to measure a player's overall value to the team compared to others at the position.

Similarly, we set out to develop metrics that would give us a more practical and immediate sense of how we're doing, by taking many different variables and rolling them up into a single score that we can quickly react to, to stop problems before they happen.

So we invented a new performance management system with that goal in mind, and called it "CityScore." With CityScore, we take all the relevant data points and variables that reflect our performance across the city, we score them against our targets, and we combine those numbers into a single score. Anything exceeding a score of one means we've exceeded our overall targets, and below one means we need improvement. With CityScore, I can easily see the areas where we are exceeding targets, and those we have to focus on more. It's all right there, in real time.

Not only have we made our CityScore public, but its formula is now available for public use around the world, so others can use the template and adapt it for their city. It will be up to other mayors to decide which factors need to be weighted more in their cities.

To be clear, I believe deeply that data cannot replace the feel of a handshake, the look of a neighborhood, the voices at a community event, or the votes in the ballot box. But if we have the ability to use data and data science to better deliver services to our constituents, we should use it. It's our duty to use it.

It's also our hope that municipal strategies like ours will enhance the field of big data more generally. Research suggests that the U.S. economy could be losing as much as $3 trillion annually, just because we aren't using data better. Others have expressed concern that data algorithms can amplify underlying social and economic inequalities. Engaging data science with America's traditional, democratic mechanisms of accountability and equity could be a powerful way to address these challenges. In a way, democracy is the ultimate data feedback system.

If we have the ability to use data to help people, we should do everything in our power to maximize the use of that data to do so. Our work is a small step in making that a reality. We look forward to improving upon it and working with other cities to create an ecosystem around technology in the public sector that will make lives better, one constituent at a time.

Author bio

Martin J. Walsh, a lifelong champion of working people and a proud product of the City of Boston, was sworn in as the City's 54th mayor on January 6, 2014.

Mayor Walsh's vision is of a thriving, healthy, and innovative Boston — a City with equality and opportunity for all, where a revolutionary history inspires creative solutions to the challenges of the

21st century.

Since taking office, Mayor Walsh has focused on strengthening Boston's schools, adding hundreds of high-quality pre-kindergarten seats, funding extended learning time and advanced curriculum at more schools, and securing tuition-free community college for Boston Public Schools graduates.

The Mayor has led Boston to the forefront of the global innovation economy, by attracting industry-leading private sector employers, upgrading the City's digital infrastructure, and using technology to transform government services — from a parking meter payment app to a new City website.

At the same time, he has created powerful tools for low-income workers, including a "learn and earn" job apprenticeship program and an Office of Financial Empowerment. He is the founding vice-chair of the Cities of Opportunity Task Force at the U.S. Conference of Mayors, elevating the national conversation on income inequality.

The Walsh Administration has addressed the tremendous need for housing in the City with an ambitious plan, setting records for new affordable and middle-class homes. In addition, it has built a state-of- the-art homeless shelter and gotten the City on a path to effectively ending chronic homelessness.

The Administration has been hailed by the White House for expanding young people's opportunities and breaking new ground in crime prevention and police-community relations.

Other milestones include the nation's first municipal Office of Recovery Services to prevent and treat substance abuse; the City's first Cultural Plan in a generation, to restore Boston's identity as an arts leader; and, in a sign of strong fiscal management and economic policy, the City's first perfect AAA bond ratings, unlocking unprecedented investments in parks, libraries, and public safety.

Finally, the Mayor has invited the people of Boston to help build a blueprint for the City's future in Imagine Boston 2030, the first citywide plan in half a century. Before taking office, Mayor Walsh served in the Massachusetts House of Representatives, where he was a leader on job creation and worker protections; substance abuse, mental health, and homelessness; K-12 education; and civil rights. He played a key role defending Massachusetts' pioneering stand on marriage equality.

Mayor Walsh also made his mark as a labor leader. After following his father into Laborers Local 223 in Boston, he rose to head the Building and Construction Trades Council from 2011 to 2013. He worked with business and community leaders to promote high-

quality development, and he created a program called Building Pathways that has become a model for increasing diversity in the workplace and providing good career opportunities for women and people of color.

Born and raised in the neighborhood of Dorchester by immigrant parents, Mayor Walsh is driven to make sure Boston is a City where anyone can overcome their challenges and fulfill their dreams. As a child, Mayor Walsh survived a serious bout of Burkett's lymphoma, thanks to the extraordinary care he received at Boston Children's Hospital and Dana Farber Cancer Institute. His recovery from alcoholism as a young adult led to his lifelong commitment to the prevention and treatment of addiction. And while working full-time as a legislator, he returned to school to earn a degree in Political Science at Boston College.

Mayor Walsh continues to reside in Dorchester, where he shares his life with longtime partner Lorrie Higgins.