The impact of data and analytics on local government

Municipal governments around the world are adopting data and analytics to improve planning and operations.

Michael Ward, director of municipal services for the Government Analytics Program (GAP) at the Collins Center for Public Management at the University of Massachusetts Boston puts the mission this way: "We want to use data to fix stuff."

GAP focuses on helping cities become more data-driven. The GAP programme provides entry-level data and analytics services for smaller municipalities (population: 100,000 or less) throughout Massachusetts. GAP's clients are taking simple steps, for example, coding their accounts, to better address common financial challenges like police overtime.

"We help them get a very clear picture of the issues driving overtime, including is there a day of the week, is there a time of day, is there a season or an officer or a unit that is a particular problem?" Mr Ward explains.

"Vehicle maintenance is another favourite topic of ours," Mr Ward says.
He notes that smaller cities do not track vehicle maintenance digitally. “In your average departments of public works, where it’s a struggle to get the capital funds to buy a new dump truck, you have equipment that’s 20 to 30 years old. They may be spending as much every year to repair a truck as it would cost to buy a new one that’s never down and more energy efficient, but they have no way of demonstrating that.”

GAP helps public works departments track exactly this kind of crucial budgeting data.

Bringing data and analytics to smaller towns is primarily a collaborative, relationship-building process. “We’re really focused on asking questions like: What is your problem? What keeps you up at night? What makes you less efficient? What makes you less effective?” Mr Ward says.

Mr Ward’s teams use existing city data and get quick wins early on to show local leaders that analysing data in this way is an effective tool for better planning. “You want quick wins at two levels, you want it at the departmental level and you want it at the chief executive level. You want to give people something to get excited about.”

One of the cities moving forward on this front is Washington, DC, which has created a new data initiative called The LAB@DC. Although the range of issues being explored by the LAB is diverse, the goal is consistent: Use data and analytics to address traditionally intractable urban challenges.

Two thorny issues being looked at through the LAB’s powerful data lens are how to fight rat infestations and how to better understand the impact of police body cameras.

Many older cities struggle with rat infestations due to high human population densities, which make food easier for rats to find, and ageing buildings, which give rats access to areas for nesting and breeding.

LAB@DC is analysing generalised data from citizens’ rodent abatement requests in an attempt to identify areas where rodent infestations may be under-reported. The goal is to use predictive analytics to control unreported populations before infestations worsen.

A second LAB initiative, whose results were released on October 20, 2017, is a major data analysis of the impact of police body cameras on police-citizen interactions. This study is particularly important because DC has one of the largest police forces in the United States. The two-year effort
leveraged existing data on police interactions by combining them with data from thousands of randomised body camera trials, where some officers wore body cameras while others did not.

The research produced what some might consider a surprising outcome. The LAB’s report concludes, “Law enforcement agencies (particularly in contexts similar to Washington, DC) that are considering adopting body worn cameras should not expect dramatic reductions in documented uses of force or complaints, or other large-scale shifts in police behavior, solely from the deployment of this technology.” Additionally, the study reveals that body worn cameras have limited evidentiary value.

This study will surely be referenced by police forces worldwide that are considering the adoption of body worn cameras.

Using existing data on police interactions in DC made the body camera trial more affordable. David Yokum, director of the LAB, is quick to point out the power of existing pools of data across a range of potential studies. “Where there is already city data being collected for other purposes besides research, there’s a massive opportunity for doing evaluations, including randomised evaluations, at much lower cost because there’s this administrative data that’s out there.”

Alongside the power of leveraging existing city data, Mr Yokum notes another important story emerging.

“On the government side, historically, agencies are siloed, so their data sources haven’t been connected. Now attempts are being made to connect them. For example, now you can begin to ask questions about how education systems impact health or how they impact the way people move about the city,” Mr Yokum says.

“That’s a whole new frontier. It’s not necessarily that the data sets are millions of rows, although they might be—what’s more powerful there is you’re getting data from different sources to talk to each other for the first time,” Mr Yokum says.

The LAB team is currently working on projects in public safety and justice, government operations, education, human services and economic opportunities, but the potential list is much larger. “Over time, in a place like the District, there are a lot of different policy areas we need to be working on,” Mr Yokum says.

On the other side of the world from Washington, officials in Indonesia have already come to this conclusion. In 2012, the United Nations and the Indonesian Ministry of National Development and
Planning established Pulse Lab Jakarta, bringing together experts from the public and private sectors in a coordinated effort to apply real-time techniques for analysing existing data sources to government planning.

Pulse Lab Jakarta created a data analysis tool that in part used text analytics and text mining tools from SAS, applied to social media data, to comb through three distinct sources of public feedback: 1) a national feedback tool called LAPOR! for citizens to file complaints, 2) regionally managed SMS sites for complaints and 3) tweets from within affected regions about issues of concern.

Pulse Lab Jakarta was able to provide near-real-time analysis of citizen reporting on a range of social and infrastructure issues, tracking and flagging complaint volumes as they spiked. The analysis included accurate location information about the complaints, thus allowing regional governments to prioritise and plan their responses to citizen concerns on a range of issues from electric power continuity to consumer goods prices to poverty alleviation programmes.

Pulse Lab Jakarta demonstrates that combining social media, which captures a richer array of social issues, with more formal complaint mechanisms like LAPOR! provides an essential tool for regional governments in Indonesia to identify and act on citizens’ concerns.

Clearly, exploring the new frontier where analytics and government policy intersect has only just begun.

Learn more about how SAS is helping companies innovate with data and analytics.

Sources:
Evaluating the Effects of Police Body-Worn Cameras: A Randomized Controlled Trial
Mining Citizen Feedback Data for Enhanced Local Government Decision-making
How The UN’s New Data Lab In Indonesia Uses Twitter To Preempt Disaster
Boston Has More Rat Sightings Than New York
Rats! The Regions With the Most Sightings
Scientists Hunt Hard Evidence On How Cop Cameras Affect Behavior
Pulse Lab Jakarta

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