Govlaunch

DATA 101

A guide for local governments

in partnership with **molti**

Data 101: A guide for local governments

June 2021

Data guide & podcast series

This guide has been produced by Govlaunch with content inspired by the Govlaunch community and with support from **molti.com** - a flexible business process management platform enabling better collaboration across stakeholders.

To supplement this free resource, the Govlaunch Podcast is interviewing local government innovators from communities of all sizes to talk about their approach to data, what tools they are leveraging and important considerations for other local governments seeking a strong vendor partner.

You can subscribe wherever you get your podcasts or follow the Govlaunch Podcast here.

Data 101: A guide for local governments

Local governments, regardless of size, have access to a treasure trove of data. Everything from citizen requests to emergency response times to permitting and business licensing. Local government operations hinge on large datasets. The data collected in a local government, if used correctly, can be instrumental in improving service delivery, gaining valuable insights from the community, and operating more seamlessly across departments.

So why is accessing and utilizing this rich and insightful data so hard?

For starters, local governments (all governments, really) are traditionally very siloed. The nature of government operations and the vast services they deliver lend itself to a highly segmented and beastly structure.

Despite this, we are encouraged to see more emphasis being placed on breaking down these silos, working more collaboratively, and delivering a more streamlined and consistent experience for residents and staff.

A big piece of this is getting departments to work together off common or shared datasets so that more strategic, overarching themes can be tackled.

Not many in local government have experienced the true power of data or have seen firsthand how it can be a driver in strategic operations. In this guide and in our corresponding [podcast series,](#) we're tapping into a few success stories from those who have put data to work and how these insights have helped with everything from redefining priorities to bringing stakeholders together to improving meeting efficiency and ultimately, to delivering better outcomes and services to their communities.

As Govlaunch works with our global community of local government innovators to build the wiki for local government innovation, we're highlighting a series of resources to help governments break down data silos and more effectively organize and engage with the data available to ultimately improve performance and service delivery. These conversations, best practices, and case studies feature communities and companies who are implementing transformative ideas, and highlight how others can follow their lead.

Some words of advice

Each local government is at a different lifecycle stage in their journey toward more data-driven governance. Some are well on their way with open data portals utilized by staff and residents and some are leveraging technology for [participatory budgeting](#), allowing the community to play with the data itself. Most, however, are still struggling to get various departments' excel sheets to "talk" with the department next door.

No matter your progress, we aim to provide actionable next steps to continue (or begin) your work to harness and leverage the wealth of data available to you to ultimately make government work better.

A number of local governments around the world are demonstrating what can be achieved when data is put at the forefront of the decision-making process. Other governments can learn a lot from their lead. Here, we will share 6 tips from the City of Miami, Florida's CIO & Director of Innovation and Technology, Mike Sarasti, which are applicable to anyone in local government looking to better leverage their data.

When Sarasti was hired five years ago, he was tasked with boosting innovation by improving current processes. His first priority? Putting his city on the path to becoming a data-driven government.

"Data is at the heart of innovation," Sarasti explains.

Sarasti's team reframed conversations about what was working — and more importantly, what wasn't — by pulling in data. "When people were speaking at a high level and throwing around reasons why something wasn't working, I was able to turn to the data and show them the reality," he says.

Local governments of all sizes can take a data-centric approach to governing. While it's a process that doesn't happen overnight, any government looking to make better data-driven decisions can follow these six tips to get the process started:

1. **Triage what data you have access to and clean up clunky datasets** – Don't dismiss the datasets you already have – it's the historical data that can provide insight into future trends. Plus, by having insight into what data you have, you can get a better sense of what data you need.

2. **Break down silos** – Data is most powerful when viewed holistically. Information needs to flow seamlessly and avoid getting stuck or bucketed within departments where others can't get a full-picture view.

3. **Increase the number of digital services** – The more digital services that are provided to residents, the quicker and more easily data is collected. This also removes the need for manual data entry – a time intensive process that wastes valuable resources.

4. **Create a data governance policy** – Clearly map out how data can and should be used to ensure it stays secure and best practices are followed. Part of this includes setting clear goals that define why data will be used.

5. **Find the right technology partner** – Manual review of data can take weeks, but gathering meaningful insights can be instantaneous with the right technology partner. Modern solutions also allow for quick creation of user-friendly dashboards, charts and other visualizations to help tell the story behind the numbers. This can be useful for stakeholder buy-in as well. Sarasti says, "Once you are able to pull out a story within the data, share that with leadership and use that narrative to show what is possible."

6. **Take action** – Once you have the data in hand, it's time to do something about it. And remember: don't think of data that doesn't paint the picture you want as a failure, but rather a learning opportunity. Sarasti notes that when he first started, "everyone thought that their job was to communicate the best version of the story. In fact, it's the opposite. I want to know where all the problems are because that's where we need to dedicate our attention."

One of the biggest challenges local governments face when making a change is where to start. The key is to start small. "Just do the thing," Sarasti says. "Everyone gets hung up like, 'what are we going to do? Where are we going to start?' It doesn't matter what that thing is, just do it." If you do, you just might be surprised how much of an impact data will make.

Data in action

While by no means a comprehensive list, here are some of the most popular or cutting edge ways local governments are putting data to work, plus some innovative spins applied by members of the Govlaunch community around the globe.

Open data portals & dashboards

Local government websites are being overhauled across the board in response to demand for more mobile friendly and self-service platforms. Some have gone as far as to provide chatbots to better engage digitally with site visitors. And at least some form of open data (typically GIS) is a big component of these new, more modern websites.

One of the easiest ways to foster strong engagement with citizens is transparency. Local governments are recognizing this, and many are embracing open data dashboards to give the public a peek behind the curtain at how their government is working. While some open data dashboards provide interactive visualizations of the data, a basic dashboard can be as simple as regularly publishing datasets and graphs.

While there have been some great [success stories around open data,](#) there is an equal number of failures. When setting out to deliver an open data initiative, it's important to start with the basics. Things like making sure you have accounted for all data, getting the data in a format that is consistent and can be combined with other data sources, etc. As with every big innovation project, the key is to [start small, demonstrate success (and work out any kinks) and build from there](#).

Examples of innovative use of dashboards & open data:

- [Macon-Bibb County redefines 'Smart City' with focus on open data – not tech](#)
- [Mahoning County, OH explores all facets of public expenses with its Open Finance dashboard](#)
- [Ottawa, ON upgraded its Open Ottawa portal to improve transparency and tell stories through data](#)
- [Maple Ridge, BC shows the possibilities of open data through its Open Government Portal](#)
- [Hawkesbury, NSW consolidates incident and climate data into Disaster and Emergency Dashboard](#)
- [Perth, WA allows data collaboration and narratives through Open Data Portal](#)
- [Irving, TX turns open data policy into opportunities for engagement with local youth](#)

GIS

Utilizing GIS or Geographic Information Systems is a popular form of open data sharing, largely because of the ease of access to this data and the relatively minimal cleanup (if any) necessary to quickly display it on a dashboard. GIS can be hugely helpful by converting raw data to a visual map, enabling better interactive engagement with residents and more digestible data to help staff make informed decisions.

Many local governments are looking to GIS portals to aid staff and the public with data visualizations from everything from COVID resources to mobility to tourism information.

Some local governments are even using GIS data to create worlds in the popular video game, Minecraft to encourage residents to better understand their cities and make suggestions on how to improve them.

For more on how local governments are using GIS for COVID response and beyond, check out this story.

Examples of innovative use of GIS mapping tools:

- Albany, WA develops a suite of GIS mapping apps that explores city services and resources
- Haninge, SE launched a new online map allowing users to review detailed plans and locate sites
- Launceston, SA turns years of LiDAR scans of city center into a Minecraft world
- Lane Cove, NSW constructs its Urban Tree Inventory with the help of TreePlotter INVENTORY
- Providence, RI compares neighborhoods across data categories with Neighborhood Snapshot platform

IoT (sensor data)

One form of data usage that is becoming more common across local governments is sensor data. Basic sensor data can be instrumental in cutting costs as evidenced by the shift toward smart lighting initiatives and the installation of smart waste bins in recent years. Live sensor data also allows local governments to take advantage of IoT technology or "Internet of things."

While this term is becoming more widely understood in local government circles, plainly put, it is the network of physical objects—a.k.a. "things"—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the Internet. This network of data (typically streaming live) aims to paint a holistic picture and enable better data-driven decision making across a variety of areas. IoT is having an

impact on data driven decision making from everything from traffic and fleet management to trash collection to climate change.

Here are some of the leading examples of innovative use of sensor data / IoT shared on Govlaunch:

- [Coral Gables, FL develops a Smart City Hub to track the progress of smart district projects](#)
- [Ottawa, ON partners with Invest Ottawa to create Canada's first Smart Farm](#)
- [Whyalla, SA tracks foot traffic and distancing compliance on new jetty with smart devices](#)
- [Kingston upon Hull City Council, GB adopts CityOS as a unifying platform for smart city assets](#)
- [Brisbane, QLD creates City Life Dashboard to guide departmental responses to COVID-19](#)
- [Waterford City and County Council, IE unifies smart public assets with IoT sensor network](#)

Digital twins

IoT technology has given rise to another technology centered on connectivity: Digital twins.

Viewed as "[next-generation urban modelling tools which make use of ubiquitous data [to generate] realistic digital representations of physical city systems, assets and processes providing digital simulation and management environments to aid decision-making](#)" the potential for this technology is just starting to be realized.

With preliminary use in the urban planning realm, city digital twins allow visualization of spatial data which act as a model or virtual replica of the built environment displayed in real-time 3D and 4D.

Much like the [budding use of AR](#) or augmented reality in local government, these technologies present obvious benefits for urban planning matters, but have potential to aid in stress testing of various scenarios, from disaster response to climate change mitigation. There is also potential to fundamentally change the audit function around decision making as impacts of certain decisions can be visualized and scrutinized. The effect of this alone may spur a new age of more collaborative, data-driven decision making between local governments and their citizens.

Examples of local governments leveraging digital twins:

- [Darwin, NT coordinates with territory and national researchers on digital twin project](#)
- [Herrenberg, BW uses digital twin to inform long-term planning with accurate data and public feedback](#)
- [Helsinki, FI partnered with Bentley to develop a city-scale 3D model as open data for simulations](#)
- [Stockholm, SE partnered with Bentley to illustrate urban planning with "digital twin" 3D city model](#)

- [Boston, MA partnered with Esri to create a digital twin to analyze shadows cast by new buildings](#)
- [Rotterdam, ZH partnered with VIKTOR to prevent a local bridge from overheating with a digital twin](#)
- [Helsinki, FI partnered with Zoan to launch a VR tourism platform using a digital twin of the city](#)
- [City of London Corporation, GB places city planning into virtual reality with Square Mile VR project](#)

Examples of innovative work with data

[Ipswich, QLD becomes Australia's first local government with a Transparency and Integrity Hub](#)
In response to public concerns about tax rate transparency, the City of Ipswich developed an open data hub allowing visitors to access data on procurements over $200,000 through raw data or visualizations. Councilor expense reports along with expenses for council-owned properties are available for public viewing. The current version houses five years of data with real-time capabilities on the horizon.

[Canada Bay, NSW connects sensors to wireless network in smart bin pilot](#)
Ninety-five public garbage bins are equipped with sensors that detect bin capacity and temperature. Real-time data are sent on the Long Range Wide Area Network (LoRaWAN) to city officials. This yearlong pilot allows waste management staffers to improve response times while creating a public Wi-Fi network.

[London, ON paints a picture of the city in numbers through the Open Data Portal](#)
London's Open Data Portal connects users to data sets in categories like elections, recreation, and budgets. The portal's main page provides an overview of the city through measures of daily road use, tree inventories, and bike routes. The portal enables users to visualize combinations of data sets or create new apps based on public information.

[Des Moines, IA shows Blitz on Blight progress with interactive dashboard](#)
Dashboard users engage with a city map dotted with color-coded properties based on the six-step Public Nuisance checklist. City officials display metrics like total properties covered by the program and demolition costs to bring transparency to blight remediation.

[Baltimore, MD is holding illegal dumping violators accountable through public shaming](#)
The Mayor of Baltimore launched the CleanStat dashboard as part of an initiative within the "Clean It Up! Campaign". This dashboard holds repeat sanitation offenders accountable by publicly posting the top 10 local businesses most cited for illegal dumping each year.

To see more innovative data projects from around the world, [click here](#).

A note about data governance

Before you get too far down your journey to amass, share and use data to drive decision making, it's important to consider data governance (i.e. what laws, internal policies, procedures and best practices will guide your responsible use of data).

Data governance is a foundational component which should be considered by all local governments to ensure their data is being collected, used and shared in a way that protects the privacy of your citizens.

For more guidance on data governance and an example of collaborative data governance in action in the City of Mississauga, Ontario, see [How to co-create data governance with your citizens](#).

Data harnessing tools & platforms

Considering most local governments don't (yet) have an on-staff data scientist, there are a number of products that make it easier for local governments to gather, interact, visualize and glean insights from data. These range from API integrations with various open source datasets to comprehensive visualization and storytelling platforms.

When choosing a product, it's important to keep the specific needs and challenges of your organization...and what functionality you reasonably can leverage with your staffing projections in mind.

It is also important to identify technology partners who understand the needs of local governments and are built to specifically address these needs rather than going with a repurposed private business tool. Tip: [Consider these 7 questions before you implement new technology.](#)

With data-driven governance a budding concept and covering a broad range of tactics, it's no surprise that the types of products available vary widely. This can make identifying and selecting an appropriate partner difficult.

In the [Govlaunch Podcast](#), we're interviewing local government innovators from communities of all sizes to talk about their approach to harnessing their data, what tools they are leveraging and important considerations for other local governments seeking a strong vendor to partner with.

This series highlights technology leaders in the big data space in an effort to help local governments large and small assess what product may be best suited for your unique needs. You can subscribe wherever you get your podcasts or follow the Govlaunch Podcast [here](#).

For a complete list of data tools, [check out our Data 101 collection](#).

Where do we go from here?

Local governments of all sizes are encouraged to look closely at how you are (or aren't) using your data. Start where you are, with what you have. It doesn't require a huge amount of money or resources to start to think more broadly about how to incorporate the community, research the broader context of data, and develop policy that reflects the changing data ecosystem.

Smarter use of data (including responsible data governance) is the future of local government. Only then will local governments be able to offer optimal services that truly meet the needs of the citizens they aim to serve.

Use available resources to share your work with others

Information and resource sharing in local government has never been more important and local governments and companies alike are working collectively to make information more open.

From open resources shared on our platform to companies leveraging their work across local governments to glean insights and best practices, Govlaunch is enabling information sharing and sorting in a medium like no other.

Govlaunch.com is a free resource for local governments innovators to share best practices, projects and disruptive technologies. We've amassed thousands of easily searchable innovation projects and tools shared by local governments across the world.

We believe that together, we can leverage each other's experiences and take on common challenges to make government work better for everyone. Join us!

_____

This Guide has been made possible by Govlaunch partner, molti.com. Molti is a collaborative business process management solution that offers unique tools to help teams manage their projects. Our cloud-based platform helps stakeholders stay organized and securely store files in one easy to access system.