

Making data a strategic asset



Introduction

The Center for Digital Government (CDG) in July 2022 conducted a national survey of 141 leaders from mid-sized counties and cities.¹ The goal was to gain insight into data modernization, data-driven decision-making, and data challenges. Overall findings indicate organizations are investing broadly in data modernization; however, they may be missing opportunities to fully leverage what's truly possible with cloud-based solutions and advanced data tools.

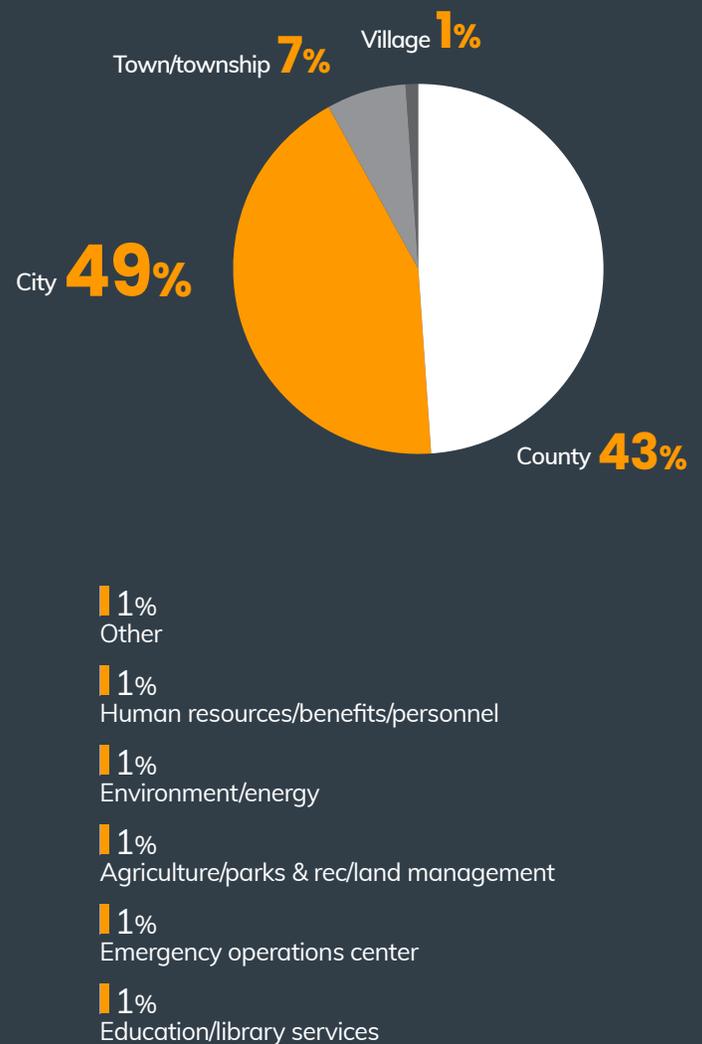
Respondent demographics

The following data shows respondents' demographics by the branch of government they work in and the function of their agency or department.

Function of agency or department



Branch of government



**Some percentages will not add up to 100 due to rounding.*

Findings:

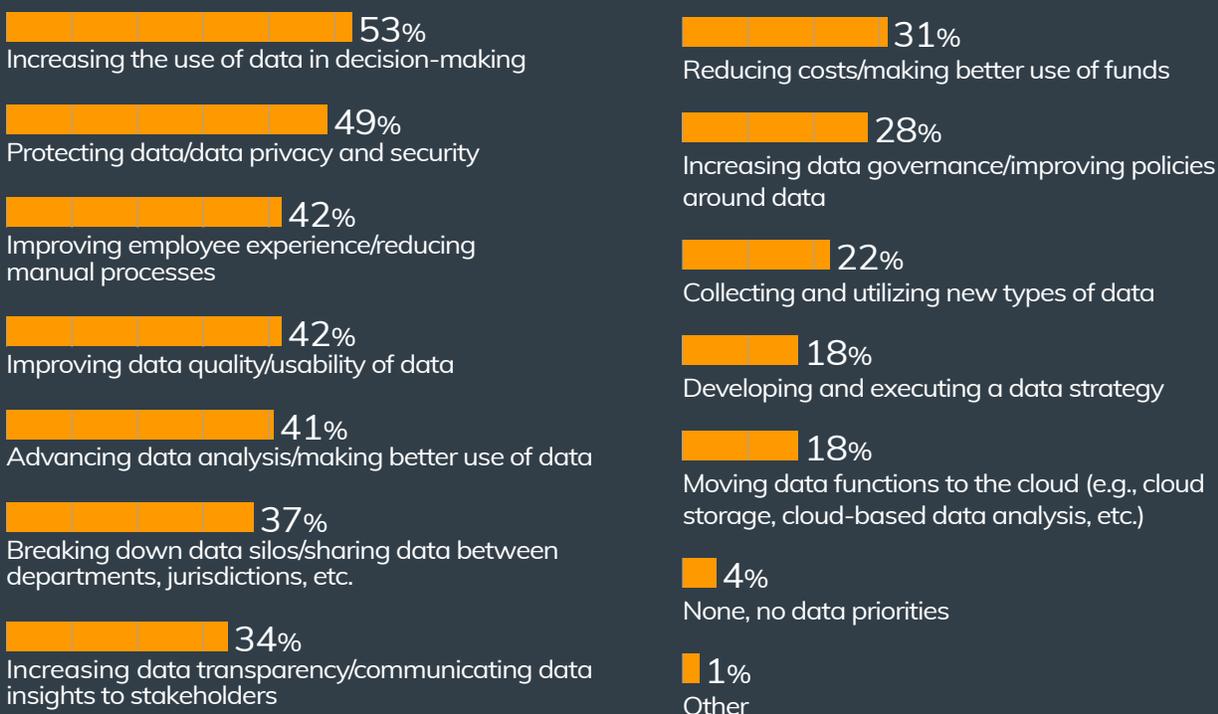
Increasing the use of data in decision-making is a top priority.

More than half of respondents (53%) said increasing the use of data in decision-making is their top priority. Protecting data/data privacy and security (49%) was also a high priority.

Many priorities—improving decision-making, increasing security, improving employee experience/reducing manual processes, and lowering costs—may be considered high-level strategic goals. However, many of the other priorities (for example, improving data quality and advanced data analysis) are a means to the end. In other words, they help achieve strategic goals such as improving decision-making.

Given the range of priorities selected in the survey question, it's clear organizations see data as a valuable tool. They also understand the capabilities they need to use their historical, real-time, and predictive data as effectively as possible.

What are your organization's top priorities around data? Please select up to 5.



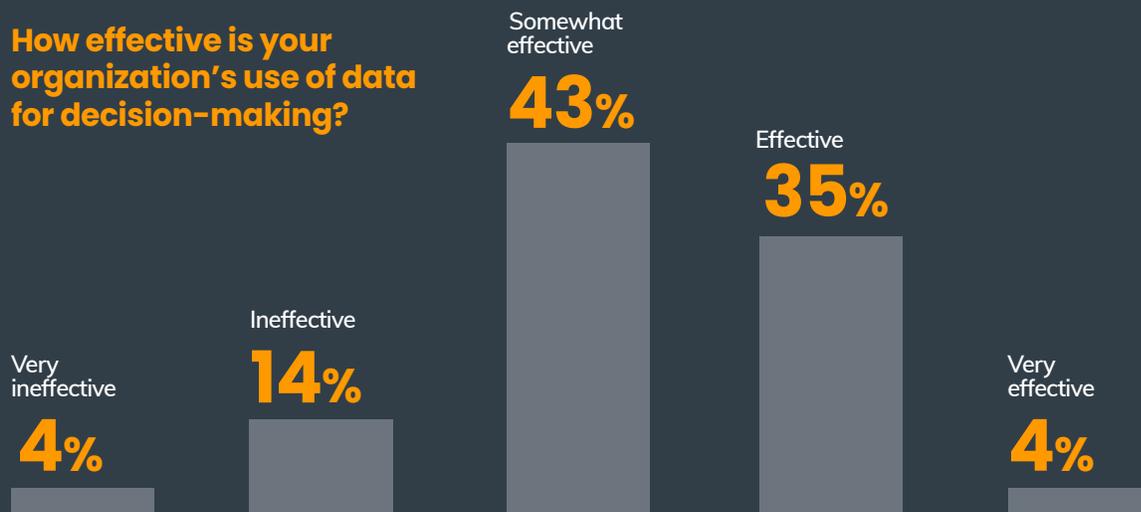
Organizations have a significant opportunity to improve how they use data to inform decisions, deliver constituent services, and be more productive.

Only 39% of respondents rate their organization's use of data in decision-making as "effective" or "very effective." Respondents also noted their top data-related challenges are lack of skilled staff (49%) and too many manual data processes/not enough automation (43%).

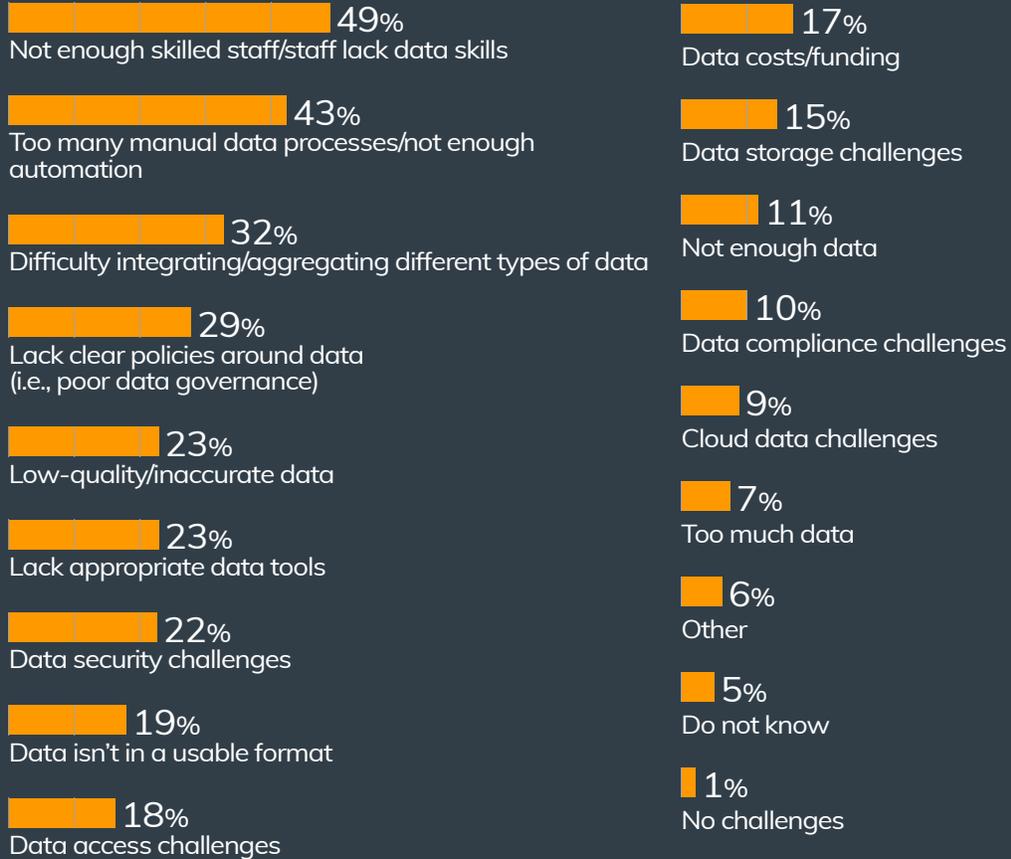
Most of their challenges overall fall into three categories:

- The technical infrastructure needed to collect, store, access, integrate, automate, and protect different types of data
- The data governance needed to catalog data appropriately, consistently apply and enforce policies, and ensure data's trustworthiness
- The operational/business challenges related to staff skillsets, productivity, funding, and compliance

How effective is your organization's use of data for decision-making?



What are your organization's top challenges around data? Please select up to 5.



Unstructured text data is a challenge, but it doesn't have to be.

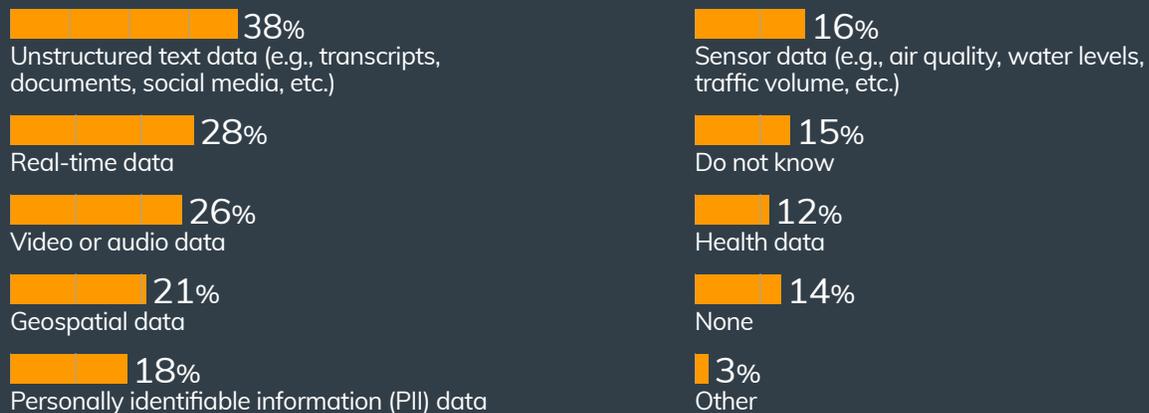
Although respondents reported challenges with a variety of data types, they most commonly reported challenges with unstructured text data (e.g., transcripts, documents, and social media).

In fact, the top four challenging data types—unstructured text data (38%), real-time data (28%), video or audio data (26%), and geospatial data (21%)—all involve unstructured data. Audio/video data is by its nature unstructured. Both real-time data and geospatial data often include unstructured data along with structured fields. This unstructured data adds context and is important for analysis and filling out the incomplete picture provided by structured data.

“The problem of unstructured data is a legacy technology issue,” says Brian Cohen, CDG vice president. “Systems were designed and data was captured in formats that were never conceived to be used in the ways we use data today. Organizations need to figure out how to balance the unstructured data with the real-time data they’re collecting and integrate those together into a single repository or in a use that’s of value to them.”

As they modernize to extract greater value from their data, many organizations turn to cloud-based data lakes. Leading cloud-based data lake platforms provide the flexibility, scalability, integration, and security needed to easily access and work with any data format, including unstructured data. These platforms also break down silos and enable the integration and performance required for complex workflows, analytics, machine learning, automation, and other advanced data processes.

Is your organization experiencing challenges with any of the following types of data? Select all that apply.



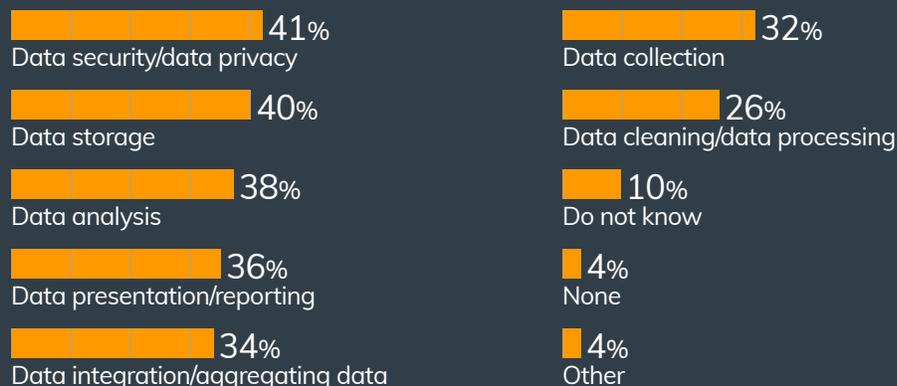
Organizations are invested in modernization across many data functions.

Eighty-six percent of respondents reported modernization plans for at least one data function, and 76% reported modernization plans for multiple data functions. Although respondents most often reported their organization plans to modernize data security/data privacy and data storage in the next 12 to 18 months, each data function was selected by at least a quarter of respondents.

Modernizing multiple data functions in the same timeframe can be a significant investment and undertaking, and it reflects government IT and business leaders' recognition that the only way to remain resilient and relevant is to modernize. The urgency of the pandemic and the innovative workflows, remote work environments, and personalized digital constituent services rolled out in the early months of the crisis served as a proof point for data modernization. These experiences also heightened expectations for data-driven services and operations across all stakeholders.

As indicated in previous survey responses, most mid-sized jurisdictions lack the IT staff and range of skillsets needed to accomplish modernization goals on their own. Professional services and/or support and guidance from the organization's trusted technology partners will be essential to executing strategic data plans. These partners have already developed tools, processes, and best practices to support data modernization, and internal teams can work side-by-side with them to build skills and get hands-on experience.

Which data functions, if any, is your organization planning to modernize in the next 12 to 18 months? Select all that apply.



Organizations may not fully appreciate all the cloud can do for them when it comes to advanced data functions.

Respondents indicated many areas where cloud services can have a positive impact on data modernization, including disaster recovery/continuity of operations (48%) and data storage (48%). However, they were less likely to recognize the impact of cloud services on advanced data functions such as process optimization (30%) and artificial intelligence (AI), machine learning (ML), and analytic tools (23%).

CIOs and other leaders may need to educate both business and IT teams to think beyond cloud-based functions like disaster recovery and storage. They need to consider the art of the possible for cloud-based solutions such as AI, ML, and analytics. Focusing on more mundane functions such as data cleansing, processing, aggregation, and reporting is also important.

Without a broader understanding of what's truly possible with a modern, cloud-based data strategy and advanced data tools, organizations may miss important opportunities to use data to innovate, collaborate, improve workers' and constituents' experiences, address ongoing staff recruitment and retention challenges, streamline operations, and more.

A case in point is constituent services. When the survey asked, "What cloud data services, if any, does your organization need to improve the constituent experience," 36% of respondents chose "none" or "do not know." The high proportion of "do not know" responses suggests respondents need more clarity on how cloud data services can support and enhance the constituent experience. If this knowledge doesn't exist among IT and non-IT leaders, it's unlikely to exist or be supported at lower levels of the organization. If jurisdictions aren't using AI, ML, and analytics, constituents will miss out on the personalized, adaptive, just-in-time services they desire. And internal organizations will miss opportunities to save staff time and money.

Where can cloud services have the greatest positive impact on data modernization for mid-sized governments? Select up to five.



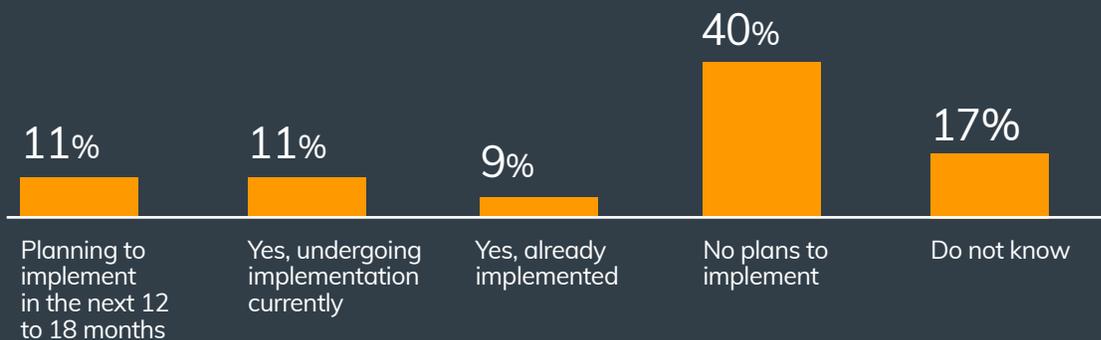
Organizations that have implemented cloud-based advanced analysis techniques are realizing significant benefits.

Only 9% of respondents have already implemented cloud-based advanced analysis techniques such as AI, ML, and business process automation. Another 43% reported their organization is undergoing implementation or planning to implement cloud-based advanced data analysis techniques in the next 12 to 18 months.

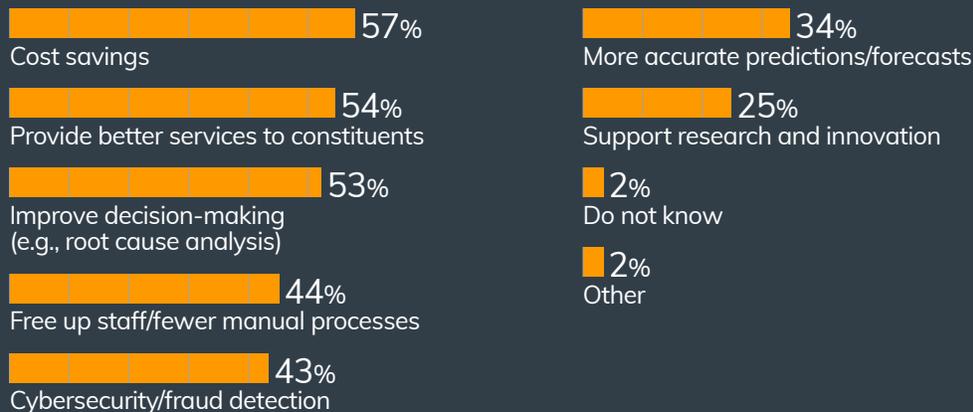
More than half of respondents in the sample that have implemented advanced techniques reported the main benefits are costs savings (57%), providing better services to constituents (54%), and improving decision-making (53%). In addition, 44% said these techniques free up staff/reduce manual processes.

These benefits alone help address some of the most pressing business challenges that mid-sized jurisdictions experience today. The key to moving forward will be for organizations to craft a strategy for implementing these tools, training staff on how to use them, and ensuring both business and IT teams feel a sense of ownership and buy-in that encourages them to use these tools to address challenges and devise new and better ways to serve their communities.

Is your organization using cloud-based advanced data analysis techniques?



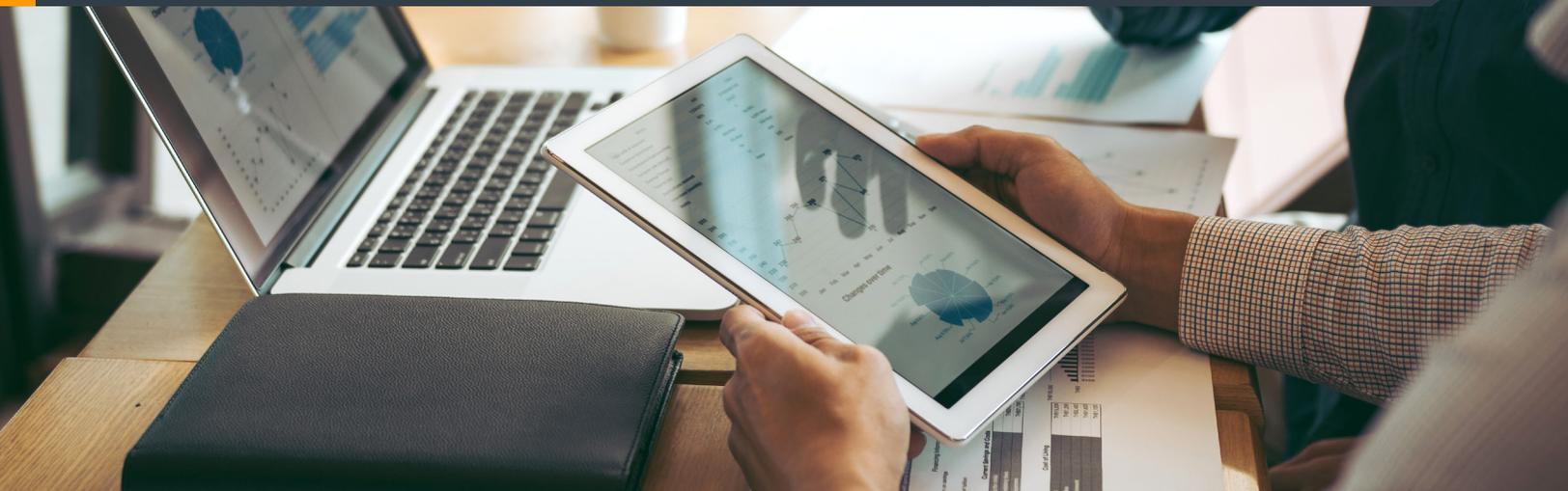
What are the main benefits for your organization in using cloud-based advanced data analysis techniques? Select all that apply. (n = 61)



Putting data to work

The future is here, and mid-sized jurisdictions are ready to put data to work. As they move forward with data modernization efforts, CIOs and business leaders would do well to engage with peers in government and the private sector, attend webinars and conferences, and confer with partners to expand their vision of what is possible with advanced data analysis techniques and how the cloud can help them fully realize that vision.

Cloud-based solutions provide the reliability, scalability, security, integration, and rapid deployment that is vital to making data a strategic asset. To ensure the best outcomes for their data modernization initiative, organizations will want to seek a cloud partner with deep expertise in the infrastructure, governance, advanced data techniques, and best practices needed to transform data into actionable insights, highly satisfying customer journeys for constituents, and more efficient business processes throughout the enterprise.



This piece was written and produced by the Center for Digital Government Content Studio, with information and input from AWS.

1. CDG defines mid-sized cities and counties with a population between 50,000 and one million people and cities with a population between 25,000 and 500,000.

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