Data Governance Program

Data Governance [i]

Data governance can be thought of as how the City ensures its data is treated as an asset and brings high quality, accessible data into the decision-making process. It focuses on the high-level planning and control over data management. It encompasses all aspects of managing data, from individual data definitions to open data policies. Given that data permeates all aspects of the city, an enterprise level Data Governance Program is needed to ensure that a consistent approach and best practices are used.

Data Governance Definition

There are at least three oft cited and distinct definitions of data governance across the research.[ii]

The City of Glendale's adopted definition is:

> *Data Governance is the policies and procedures for managing data and information as key city assets; and, ensures that those assets are being managed and used to promote transparency, accountability, data literacy, and data informed decision making.*

The Purpose of Data Governance

The city's vision is to be the community of choice for residents, businesses, and employees. In order to achieve that vision, our policy makers, executive management, and employees must make good decisions about strategy and operations. (Center, n.d.) Decision-makers need access to reliable intelligence about issues and operations to minimize dependence on anecdotal information as the primary driver of decisions. To be effective, our organization must have access to quality data.

The DAMA has said that "Being data-driven includes the recognition that data must be managed efficiently and with professional discipline, through a partnership of business leadership and technical expertise." (DAMA International, 2017). Data Governance must be supported by a structure that ensures that the data governance objectives continue to be aligned with cities goals, the mission of data governance is being fulfilled and data standards are being utilized and applied. Utilizing that structure will allow the City to accomplish not only it's Data Governance goals but the City-wide goals as well.

Data Governance Structure

The city will utilize a two-phase approach for Data Governance. The first phase establishes a A Two-Level Committee model is made up of two groups, a Steering Committee and a Oversight Committee (DAMA International, 2017)[iii] The Steering Committee is made up of executive leadership who have policy creation and enforcement authority. The Oversight Committee is made up of a small group of key skill area leaders who can share unique perspectives and insights on how data is being managed throughout the organization and make recommendations on how to better manage those data assets. The Oversight Committee has process, procedure, and enforcement authority, subject to review by the Steering Committee. (GovEx Academy, 2019)

The second phase is a cascading program that will extend Data Governance into every arm and department of the Organization. This includes the creation of Data Steward Teams and city-wide data education.

Data Governance Stakeholders and Roles

It is recommended that our data governance structure start with explicit roles and the stakeholders to fill them. These people are instrumental in creating the data governance structure and guiding the City towards a fully functioning governance program.[iv]

Data Governance Executive Steering Committee:
Responsibilities: Oversight, Support, Funding, Policy approval

Committee Chair:
- Foundational decision-maker for the data governance program
- Ensures that the vision of the City Management is fulfilled

Stakeholder Champion:
- Ensures alignment with organizational performance objectives
- Champions the needs of the citizens and employee stakeholders

Innovation Leader and Implementation Advisors:
- Serve as implementation advisors
- Provides research and resources about technology systems and best practices around use and data governance
- Provides insights and alternatives to bridge any gaps between the desires of the body and IT practicalities and realities
- Ensures that values of and attitudes towards systems and data governance are carried forward in IT

Functional Advisors: Internal Services: Finance and Human Resources & Risk Management, Operational, Public Safety Public Policy, Legal Policy
- Representative for business process and policies that might be affected by the choices the committee makes
- Provides insights regarding operational impacts and opportunities
- Champions the activities of the committee throughout the operational areas of the organization

Data Governance Oversight Committee:
Responsibilities: Initiatives, Metrics, Issues, Escalations, Standards, Policy, Procedure, Software Review

Data Leader or Chief Data Steward:
- Coordinates and provides support to the Oversight Committee
- Serves as a bridge between the Steering and Oversight Committees

Data Architecture and GIS Development:
- Brings the perspective of the IT department to the Oversight Committee
- Provides specific feasibility feedback from a technical perspective on proposed projects
- Serves as a support and advocate for the development that must be completed by the IT divisions

Coordinating Data Stewards:
- Cross functional Data Analysts who understand the available data in multiple departments or areas
- Makes recommendations of how data can be utilized outside of its native function and location

As the City matures in its data governance practices to the stage of adding Data Steward Teams, the Data Analysts and Data Stewards will be key members of these groups. Until that time these individuals and groups may work closely with the Oversight committee to provide subject matter expert input and advise.

Data Steward Teams
Data Analysts:
- Department specific Analysts who understands the potential uses of department data
- Individuals who can provide insight, not just information, from the data

Data Stewards/SME's:
- Individuals who have every-day contact with a data set or software
- Can speak to the needs of the users of data

Who is responsible for the Data Governance Program?
The Department of Organizational Performance is responsible for leading the city-wide effort to advance organizational performance. As part of those duties, this team is charged with establishing and continuing to advance a Data Governance program for the city within the following strategic framework.

Data Governance Mission and Goals

The Mayor and Council's directive to be a data-informed city government requires that the city have a Data Governance Program and that its mission, vision, and objectives are aligned to that purpose.

Program Mission: To make city data actionable.

Vision: In all recommendations and decisions, we examine the story the data is telling.

Intended Results:

The following key attributes will be evident with a successful and sustainable Data Governance Program:

- *City data is open by default*
- *Employees and the public can easily access data*
- *City data is reliable*
- *Actionable intelligence is used routinely in analysis and reporting*
- *We have a cadre of employees with strong data analytics capabilities*

Short Term Strategic Objectives and Key Performance Indicators

Tier 1 Strategic Objective	Tier 2 Strategic Objective	KPI	Initiative
Improve Tools & Technology	Optimize System Data	Improve our Tools and Technology by actively managing the data that they utilize. • Number of Goals & Policies established • When Citywide Data Governance Policy established • When IT Data Classification and Handling Policy revised	*Data governance* – Establishing goals and policies to create an environment where we are exercising authority and control over our data in order to extract the most benefits. *Management policy:* Establish a Citywide Data Governance Policy. Update and revise the Data Classification and Handling Policy (Innovation and Technology Department) and related procedures to accommodate Open Data and cross department sharing.
Strengthen Workforce Development	Increase Data Literacy	Educate departments on impact that data utilization can make. Have employees who understand how data can help them in their daily jobs and support them in improving their use of data. • *Number of Data Governance Classes Scheduled for Employees*	*Data Education:* Increase knowledge and understanding of staff citywide about the principles and purpose of Data Governance. Answer the questions "what is data governance?", "How does it accomplish the city's purposes?", "What benefits are derived from it?" This may include training classes for employees. *Data Governance Communication:* Establish a communication plan for sharing ongoing data governance information citywide.
Strengthen Workforce Culture	Increase Data Collaboration	Enable departments to share data and intelligence to better inform the work they perform. • *Number of Departments working towards data sharing*	*Internal data sharing:* Establish goals and policies to facilitate sharing data assets across departments, in full raw format, with appropriate documentation, avoiding the summarization of reports.

Increase Innovation Solutions	Improve Data Solutions	Help the organization seek and apply data solutions to advance performance around the city's strategic objectives, increase organizational accountability to be data-driven, be inquisitive about organizational data and processes, and increase the value-added benefit of the city's data assets. • *Percent increase in data standards implemented*	*Data Review Process:* Establish a process for the Oversight Committee to review data sets currently identified. Establish timelines for the completion of the first full data inventory. Compare the City's Data Standards to Civic Data Standards (Nicklin, 2016) and recommend adoption of one additional data standard.
	Facilitate Collaboration	Help diverse users access relevant datasets outside their native use that will improve performance across multiple departments Facilitate individual projects to enable departments to utilize the data assets we have available. • *Number of Departments working towards utilizing non-native data*	*Internal data sharing:* Establish goals and policies to facilitate sharing data assets across departments, in full raw format, with appropriate documentation, avoiding the summarization of reports.
	Improve Utilization	Empower users to benefit from data and analytics in their daily work. • Percent of Departments that have completed a data inventory	*Data inventory* - A list of our data assets with details necessary for understanding its current and potential uses and prioritization.
	Oversee Data Quality and Establish Data Quality Standards	Ensure that we have high quality data that can lead to accurate, timely, and actionable results. Work towards all city data having the following	*Improving data quality* - Identifying our processes that need improvement in order to create consistent and quality data assets *Adopting internal data standards* –

		qualities[v]: **Usable** – Our data are useful, collected it in a timely manner and are in a format that is easily consumable. **Comprehensive** – We collect data that covers all aspects of what we do and we capture it at the correct level of granularity. **Accurate** – We have procedures and data controls in place to reduce data entry errors and maintain consistent, unbiased data collection. **Precise** – Our field types and data formats ensure the appropriate level of detail are captured. **Protected** - We have controls to ensure that the data we have, especially sensitive data, remains safe, stable, and unaltered. • *Percent of new software solutions being evaluated for compliance with our data quality standards*	Rules for describing and recording data for frequently used fields such as addresses, dates and names.
Improve Stakeholder Engagement		Ensure that our citizens know what data and tools are available to them to help them. • *Number of new data sets available*	*Public Report on Open Data Policy:[vi]* As per Resolution NO. R17-51 section 3, provide the City Manager with updated information on the status of Open Data in the City for the annual public report.

Tier 1 Strategic Objective	Tier 2 Strategic Objective	KPI	Initiative
Strengthen Workforce Development	Increase Data Literacy	Educate departments on impact that data utilization can make. Have employees who understand how data can help them in their daily jobs and support them in improving their use of data. • *Percent of employees attending data education each year* • *Percent of employees informed of the progress and status of the Data Governance Program*	*Data Governance Communication:* Ongoing communication with employees about data governance
Strengthen Workforce Culture	Increase Data Collaboration	Enable departments to share data and intelligence to better inform the work they perform. • *Percent of Departments sharing internal data with other departments*	
Increase Innovation Solutions	Improve Data Solutions	Help the organization seek and apply data solutions to advance performance around the city's strategic objectives, increase organizational accountability to be data-driven, be inquisitive about organizational data and processes, and increase the value-added benefit of the	*Adopting internal data standards* – Continual review of data and new data standards.

		city's data assets. • *Percent increase in data standards implemented*	
	Facilitate Collaboration	Help diverse users access relevant datasets outside their native use that will improve performance across multiple departments Facilitate individual projects to enable departments to utilize the data assets we have available. • *Percent of departments utilizing non-native data in their work.*	
	Improve Utilization	Empower users to benefit from data and analytics in their daily work. • Percent of departments utilizing data analytics in their daily work	*Data inventory* – Yearly review of updated data inventory and prioritization of data sets to be shared.
	Oversee Data Quality and Establish Data Quality Standards	Ensure that we have high quality data that can lead to accurate, timely, and actionable results. Work towards all city data having the following qualities: Usable – Our data are useful, collected it in a timely manner and are in a format that is easily consumable. Comprehensive – We collect data that covers all aspects of what we do and we capture it at the correct	*Improving data quality* - Identifying our processes that need improvement in order to create consistent and quality data assets

		level of granularity. Accurate – We have procedures and data controls in place to reduce data entry errors and maintain consistent, unbiased data collection. Precise – Our field types and data formats ensure the appropriate level of detail are captured. Protected - We have controls to ensure that the data we have, especially sensitive data, remains safe, stable, and unaltered. • *Percent of new software solutions being evaluated for compliance with our data quality standards*	
Improve Stakeholder Engagement		Ensure that our citizens know what data and tools are available to them to help them. • *Percent Increase in utilization of the Open Data Site* • *Percent increase in City to public communications that include data*	*Public Report on Open Data Policy:* As per Resolution NO. R17-51 section 3, provide the City Manager with updated information on the status of Open Data in the City for the annual public report.

References

Center, B. –B. (n.d.). *Data Governance, Definition, Challenges & Best Practices*. Retrieved from bi-survey:
    https://bi-survey.com/data-governance#importance

DAMA International. (2017). *DAMA-DMBOK - Data Managment Body of Knowledge, 2nd Edition*. Basking
    Ridge: Technics Publication.

Glendale, C. o. (2019). Strategic Plan.

GovEx Academy. (2019). *Data Goverance Stakeholders and Roles*. GovEx.

Innovation and Technology Department. (n.d.). *IT Policies*. Retrieved from 2.
    https://cogaz.sharepoint.com/IT/IT%20Policies/Forms/AllItems.aspx?viewpath=%2FIT%2FIT%20
    Policies%2FForms%2FAllItems%2Easpx&id=%2FIT%2FIT%20Policies%2FData%20Classification%
    20and%20Handling%20Policy%2Epdf&parent=%2FIT%2FIT%20Policies

Nicklin, A. (2016). *Enabling Civic Data Standards*. Center for Government Excellence.

What Works Cities. (2019). *WWC Certification Report - Glendale*. What Works Cities.

Appendix:

JOHNS HOPKINS UNIVERSITY | GovEx Academy

Part II - Roles

Part II of this document details the common roles (in purple) associated with data governance planning, implementation, and sustainability. Each role has a definition, a list of potential stakeholders who could fill the role, and some skills that would be beneficial for stakeholders to have or grow to take on this role. What other roles or skills do you think would be helpful for adopting or elevating your organization's data governance structure?

Executive Leader
Stakeholders Who Could Fill This Role City Manager Deputy/Assistant City Manager Mayor Chief Data Officer Chief Information Officer
Definition of Role and Why It's Important This is a vital executive role that will serve as the foundational decision-maker for your data governance program. It is crucial that a person filling this role is passionate about the development and ongoing sustainability of a data governance structure, because he or she will set the tone for culture and change around this topic.
Key Skills Strong manager with the ability to delegate responsibilities efficiently Strong motivator and supporter of this work Able to underwrite data management projects (may require extra staff time, budgeting, etc.) Establish and prioritize roles for data governance

Policy Leader
Stakeholders Who Could Fill This Role Mayor City Council Chief Innovation Officer
Definition of Role and Why It's Important This high-profile role sets the stage for policy change around data governance. A person who takes on this role must be well-versed in their government's appropriate policies and be in a role where he or she could argue for, support, or amend

data governance policies.
Key Skills Knowledgeable about the current state data governance policies across the nation Research-oriented professional with some connections to other organizations to learn best practices

Data Leader

Stakeholders Who Could Fill This Role

Chief Information Officer
Chief Data Officer

Definition of Role and Why It's Important
This is a vital role for a government professional or other official that oversees, manages, and conducts various policies, meetings, frameworks, and audits.

Key Skills
Strong manager and clear communicator
Ability to translate data concepts into action
Deep understanding of data concerns and priorities across the organization

Data Steward/Owner

Stakeholders Who Could Fill This Role

Chief Data Steward
Executive Data Steward
Business Data Steward
Technical Data Steward
Data Owner

Definition of Role and Why It's Important
A data steward is a person whose job it is to manage data assets on behalf of others and in the best interests of the organization. Stewards are managers, business professionals (or subject matter experts), and/or IT professionals who have authority over data. Stewards are in many ways responsible for the welfare of data governance, and chief data stewards can even chair data governance bodies in lieu of a Chief Data Officer.

Legal

Stakeholders Who Could Fill This Role

City Attorney
Corporate Counsel

Definition of Role and Why It's Important
A data governance program should actively build into its structure partnerships with various stakeholders and areas of business, one of which being the legal department should legal issues arise. A legal department is typically the source of regulations about data privacy and protection, so involving a person from that department is important. A person in a legal role can also ensure that data acquired under some form of contract is managed in compliance with such contracts. For these reasons, legal professionals are crucially important for any data governance program.

Key Skills
Oral and written communication, time management, proficient with legal research software and Internet research, strong ability to collaborate

Key Skills
Understanding of data management concepts
Ability to build strong client relationships with various data users
Able to implement executive-level decisions

IT Liaison

Stakeholders Who Could Fill This Role

Technical Data Steward
IT Director
IT Program Manager

Definition of Role and Why It's Important
The IT liaison role is extremely important because of how integral the IT department should be in the data governance process. The department needs to feel as though they are part of the team, and the liaison should work to bridge the gap between policy leaders, executive leaders, and IT.

Key Skills
Complex understanding of data analysis, data cleaning, data mining
Strong ability to translate data analytics concepts to laypeople
Strong communicator
Ability to translate data governance policies to IT implementation and vice versa

Communicator

Stakeholders Who Could Fill This Role

Public Information Officer
Communications Professional
Community Engagement Staff Member

Definition of Role and Why It's Important
Communicating with the public about data governance is a crucial role as we begin to think critically and ethically about what it means to insert data governance, data analysis, and data management into our more general practices. A person filling this role needs to maintain a level of comfort speaking about current procedures, and is open to a dialogue with consumers.

Key Skills

Well-versed in communications practices
Able to translate data and governance policies and practices into data stories for public consumption

Users of Services

Stakeholders Who Could Fill This Role

Community Members
Academic
Business Owner

Definition of Role and Why It's Important
Users of services are vitally necessary for the sustainability of a data governance structure because they provide the most live and realistic feedback about the structure itself. This feedback loop ensures that everything works as expected. For example, a user might dictate to a data steward how data should be managed, then hold those stewards accountable.

Key Skills
Networking, collaboration, critical thinking

End Notes:

[i] This plan is heavily modeled after the Data Governance Framework used by the City of Mesa. We appreciate them sharing their memo with us and willingness to allow us to use it as a starting point for our plan. Special thanks go to Evan Allred, Chief Data Officer of the City of Mesa for his help

[ii] Three definitions of Data Governance are found predominately in the literature: "Exercise of authority and control over the management of data assets" – DAMA; "Policies and procedures describing who can take what actions, with what, when and using what" – DGI; "Operating discipline for managing data and information as a key enterprise asset. Disciplines include organization, processes and tools for establishing and exercising decision rights regarding valuation and management of data" – NASCIO

[iii] We have adapted the tiles typically used, and specifically referenced in the DAMA body of knowledge to be clearer about our intended purpose of these groups and their alignment within the other city governance structures.

[iv] See Appendix for further details on data governance roles standards

[v] There is no one industry wide standard on data quality. We reviewed the standards work of Strong-Wang, Redman, English, DAMA UK, SAS, and Myers. We have adapted the principals underlying these approaches in a way that we feel will resonate with employees of the city and provide the best possibility of active engagement.

[vi] Visit https://glendale-az.legistar.com/LegislationDetail.aspx?ID=3086887&GUID=68D243FB-66A3-4381-B963-2176AC97CEE9 for a copy of the entire resolution.