



COMMONWEALTH of VIRGINIA

Office of the Governor

Office of Data Governance and Analytics Annual Report

*Report Submitted to the Governor and General Assembly
Pursuant to Article 13 (§ 2.2-2558 et seq.) of Chapter 25*

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Office of Data Governance and Analytics

Office of the Secretary of Administration



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Executive Summary

The Office of Data Governance and Analytics (ODGA) within the Secretary of Administration was officially established on July 1, 2021. The organization has grown from a staff of four to twenty-five.

ODGA has established itself as invaluable within the Commonwealth of Virginia having supported Governor-level initiatives and developed innovative solutions to support agencies. Furthermore, the Office of Data Governance and Analytics has been heralded as a thought leader for other agencies in terms of open data, infrastructure, and business intelligence capabilities.

In 2023, the Office of Data Governance and Analytics was tasked with assisting with several projects, including the data visualizations for the Governor's initiative for Operation Bold Blue Line, the creation of automated dashboards displaying wait times for the Department of Motor Vehicles locations for the Chief Transformation Office, and assisting with the identification of veterans for the Department of Veterans Services.

The Office of Data Governance and Analytics has also implemented several solutions to assist Executive Branch agencies in their data governance and analysis capabilities. Solutions like Microsoft Purview and Power Business Intelligence (BI) help agencies better maintain and analyze the data that they have, thus helping them make better decisions on how to use the data to impact Virginians.

This report highlights the Office of Data Governance and Analytics' proof of performance, which includes solutions the team has developed or are in development, as well as Commonwealth executive branch agency projects. The Virginia Data Governance Framework section outlines the Virginia Data Advisory Commission and the Commonwealth of Virginia data governance structure in progress.

The Office asks the General Assembly to view this report with the awareness that although the Office of Data Governance and Analytics team is small, the accomplishments made have impacted agencies and in turn, Virginians, in an immensely positive way. We cannot understate the importance of the Operation Bold Blue Line data visualizations that have helped the Commonwealth make decisions regarding law enforcement resource allocation. Since the implementation of the initiative, law enforcement has seized 2060 pounds of narcotics, including 47 pounds of fentanyl. In addition to this, 857 felony and 721 misdemeanor arrests have been made.

The Office of Data Governance and Analytics is proud to present this report to the General Assembly, which highlights the solutions and projects that the office is most proud of and that benefit Commonwealth agencies the most.



Introduction

The Office of Data Governance and Analytics is charged with fostering and overseeing the effective sharing of data among state, regional, and local public entities, and public institutions of higher education, implementing effective data governance strategies to maintain data integrity and security, and promoting access to Commonwealth data, including open data. The purpose of the Office is to also increase the use of data and data analytics to improve the efficiency of government services and improve stakeholder outcomes, ultimately establishing the Commonwealth as a national leader in data-driven policy, evidence-based decision making, and outcome-based performance management.

This report serves to highlight the accomplishments of the Office of Data Governance and Analytics over the last year:

- Promote and facilitate, subject to all applicable federal and state laws, rules, and regulations, the secure and appropriate sharing and use of data assets of the Commonwealth in support of data driven policymaking, research, analysis, study, and economic development.
- Maximize the value and utility of Commonwealth data related investments and assets.
- Promote increased data sharing between state agencies and localities providing tangible operational improvements assisting state agencies and localities in fulfilling their missions in a more coordinated, cost-efficient manner.
- Provide for public access to certain data assets, where lawful and appropriate, enhancing research, innovation, and insight by implementing a website (<https://data.virginia.gov/>) dedicated to hosting open data from state, regional, and local public entities and public institutions of higher education and providing links to any other additional open data websites in the Commonwealth.
- Develop innovative data analysis and intelligence methodologies and best practices to promote data-driven policy making, decision making, research, and analysis.
- Manage and administer the Commonwealth Data Trust.
- Identify, coordinate, and oversee studies linking government services to stakeholder outcomes.

Infrastructure

The Office of Data Governance and Analytics (ODGA) is the central data hub for state agencies to share, research, and glean insights from all the datasets the Commonwealth has to offer. The ODGA operates in an Azure cloud infrastructure that is fully scalable and uses Microsoft's latest security standards and frameworks to ensure all data is secure and protected. ODGA can ingest data from various sources including databases, file systems, applied programming interfaces (API), and agency data sources. The Azure Data Lake is the primary location where all data is stored prior to ingestion into ODGA's data systems. The Azure Data Lake also serves as the storage location for non-structured data (such as images, videos, social media data, etc.) to be used in research, analytics, or reporting. Each Commonwealth Data Trust member's data will be separated into their own storage repository with the appropriate data governance policies applied. Only the ODGA has access to these data systems, all other users will access data through data marts. These systems store the raw data-Personally



Identifiable Information (PII)/Personal Health Information (PHI) data included-that will serve as the single source of truth. Each agency has their own Azure Data Warehouse which allows the appropriate data governance policies to be applied. Another benefit to the separated data warehouses is that each agency's instance(s) can be scaled appropriately, and cost tracking can be tied to any resource. Once the data is cleansed and aggregated the final data set is ingested into a data mart from the ODGA's data warehouses. The ODGA's data marts are the primary form of data retrieval from the ODGA.

Data Security

The Data Governance team is responsible for ensuring all vulnerabilities, security issues, and audit findings are addressed, including working with 3rd party vendors to resolve issues on their platforms. The Governance team also manages access to data, the creation of processes and standards, and the PII infrastructure for the organization.

The Virginia Information Technologies Agency (VITA) uses a variety of tools, such as Acunetix, Tenable, Forescout, and others to identify issues on ODGA managed systems and provides the Governance team with reports of open issues. In addition, ODGA uses Microsoft Defender to identify issues within our internal systems. The Governance team continuously addresses security events focusing on the ones deemed "critical" or "high" first.

The Operations team is responsible for managing access to raw data and the technical environment within the ODGA. Sensitive data is protected through measures like masking and encryption. Assets are kept secure through Commonwealth endpoints to restrict access to only authorized Commonwealth of Virginia employees.

Proof of Performance

This report reflects activities, resources, and solutions under development and in production provided by the Office of Data Governance and Analytics, including agency and Commonwealth projects relating to data sharing, governance, and analytics.



Solutions and Resources

- **Commonwealth Asset Scanning:** ODGA has over 1,300 datasets in the Open Data Portal, the Integrated Data for Enterprise Analytics (IDEA) platform, and in our Azure environment. Datasets have been contributed or sourced from 79 agencies or localities. The Open Data Portal is used for publishing data to the public, and it contains over 1,100+ datasets, maps, charts, stories, and other data types. The IDEA platform is used for secure sharing between agencies and hosts the Opioid Response Framework for Addiction Analysis and Community Transformation (FAACT) Project, Covid-19 Response Data Sharing, Virginia Analysis System for Trafficking (VAST) project as well as other datasets. There are over 400 datasets hosted in the IDEA platform. The fastest growing platform at ODGA is the Azure environment which consists of Azure Managed SQL and Azure Synapse. Over 750 datasets are managed on this platform.

- ODGA curates data on behalf of agencies which includes:
 - Maintaining a business glossary for the Commonwealth, leveraging National Information Exchange Model (NIEM) standards for consistency
 - Identifying data owners and stewards for each dataset
 - Tracking key elements such as creation date, agency, and project
 - Mapping data tiers to datasets to ensure appropriate security measures are taken
 - Scanning the datasets with Azure Purview to identify sensitive data
 - Adding metadata to the datasets if the agency does not have a data dictionary

To support proper data curation, ODGA uses Azure Purview to scan assets in our Azure environment and is also able to scan agency structured data without ingesting it into ODGA systems. ODGA has scanned 927 assets or data tables into Purview and curated the data. We have also scanned 2,519 tables from the Department of Wildlife Resources that they are now able to add metadata to and curate.

- **Unstructured Data Scanning:** PII data like social security numbers and bank account information can exist in unstructured files like Excel, Word, pictures, and PDF files. To understand the risks hidden in unstructured data across the Commonwealth, ODGA launched a proof-of-concept project to identify a tool to scan data in OneDrive, SharePoint, Microsoft Teams, files shares, and Google Docs. After careful analysis, BigID was chosen and ODGA is now looking to provide agencies with a risk assessment that identifies files containing sensitive data so they can properly measure and remediate this risk.



- **Data Governance Training:** ODGA developed a multi-faceted data governance training program to improve data stewardship and data literacy across the Commonwealth. To meet the requirements of Section 527 Cybersecurity Awareness Training Standard for role-based training for data owners and data custodians, ODGA partnered with the Department of Motor Vehicles (DMV) to develop custom courseware for these roles. This unique partnership was designed to leverage the strengths of the two agencies with ODGA providing data governance content and DMV providing eLearning expertise which saved constituents the money it would have cost to have an external company perform this work. Based on past efforts, we estimate these savings to be about \$60K. The Department of Motor Vehicles Commissioner provided feedback on the partnership, stating: "The Virginia Office of Data Governance and Analytics teamed up with the Department of Motor Vehicle's E-Learning team to create role-based trainings required by Section 527 for Commonwealth of Virginia employees. These trainings, for Data Owners and Data Custodians, are a valuable addition to the resources available to Commonwealth employees. The Virginia Office of Data Governance and Analytics was essential in providing the subject matter and content for these trainings, while the E-learning team worked to display the training in an easy-to-understand way. The Department of Motor Vehicles is proud of this partnership with the Office of Data Governance and Analytics and looks forward to working with them in the future."

To meet the in-depth training needs of agencies' data stewards, ODGA purchased subscriptions to DATAVERSITY'S online library of over 400 data governance training classes and conference sessions. These subscriptions were offered as "scholarships" to Commonwealth Data Trust members to upskill their data governance personnel including providing the training for them to be Data Management Book of Knowledge (DM-BOK) or Certified Data Management Professional (CDMP) certified. In the first three months of the program, 46 classes have been completed by participants with many more in progress.

- **Enterprise Reporting Solution:** The Office of Data Governance and Analytics prides itself on being a "Power BI shop." Microsoft Power BI is a dashboard building platform that allows for data analysis and more informed decision making. Microsoft defines Power BI as "a collection of software services, apps, and connectors that work together to turn your unrelated sources of data into coherent, visually immersive, and interactive insights." Building dashboards has quickly become the most requested service from agencies to the Office of Data Governance and Analytics. The Office maintains a premium capacity license for Power BI, which allows for the agency to share dashboards with others who may not have a Power BI license, and dashboards can be published to public websites. Use cases of Power BI are detailed in select subsequent Commonwealth Data projects.
- **Commonwealth Data Trust** (<https://www.odga.virginia.gov/commonwealth-data-trust/>): In 2016, The Secretary of Health and Human Resources (HHR) provided a report to the Governor and the House Appropriations and Senate Finance Committees describing a plan to improve the data governance structure in HHR agencies to streamline business processes, increase operational efficiency and effectiveness, and minimize duplication and overlap of current and future systems development. The report identified several actions and initiatives



to address data governance, privacy, and security within the HHR Secretariat including Health Insurance Portability and Accountability Act (HIPAA) compliance across all HHR agencies, extend “proper purpose” to include HIPAA defined uses, update the Enhanced Memorandum of Understanding (eMOU) developed in 2012 to extend beyond HHR agencies creating a Commonwealth-wide data trust, establish enterprise level “Analytics as a Service,” establish a cross-agency data governance structure, and establish a “Public-Private Data Collaborative” similar to the Commonwealth Data Commission described in the 2019 report containing the Advisory Committee’s recommendations. The CDO’s Office worked with the Office of the Attorney General to develop the safe, secure, and legally compliant information sharing environment that establishes consistent requirements for trust through a standardized data sharing agreement process. The Data Trust provides a scalable alternative to multiple “point-to-point” sharing, promotes trust among its members through common rules for data security, privacy, and confidentiality and reduces technical costs by onboarding to a single environment using standard National Information Exchange Model (NIEM) protocols. The first organization joined the Commonwealth Data Trust in March 2020, and in 2022 there were 16 member organizations.

As of November 2023, there are 45 members of the Commonwealth Data Trust, which includes 24 Executive Branch agencies and 15 localities.

Commonwealth Data Trust Members
Chesterfield County, Virginia
Virginia Department of Aviation
Virginia Department of Behavioral Health and Developmental Services
Virginia Department of Human Resource Management
Virginia Department of Conservation and Recreation
Virginia Department of Criminal Justice Services
Virginia Department of Education
Virginia Department of General Services Division of Consolidated Laboratory Services
Commonwealth of Virginia Homeland Security Division
Virginia Department of Juvenile Justice
Virginia Department of Medical Assistance Services
Virginia Department of Social Services
Virginia Department of Wildlife Resources
Virginia Office of Children’s Services
Virginia Office of Data Governance and Analytics
OMNI Institute
Roanoke Police Department
State Council for Higher Education for Virginia
Virginia Community Colleges System
Virginia Department of Corrections
Virginia Department of Emergency Management
Virginia Department of Fire Programs
Virginia Department of Health
Virginia Department of Veterans Services
Virginia Employment Commission
Virginia Hospital and Healthcare Association



Virginia Innovation Partnership Corporation
Virginia State Police
Virginia Association of Recovery Residences
Joint Commission on Health Care
Virginia Department of Forensic Sciences
City of Virginia Beach
Department of Labor and Industry
Virginia Department of Forestry
Rappahannock Community Services Board
Virginia 529 College Savings Plan

- **Universal Entity Index:** ODGA has designed and implemented the creation of a universal entity index (UEI), a crosswalk table that is Virginia’s first de-identified repository of all Virginians. This crosswalk table is leveraged to provide intelligence and analytics from multiple systems to assist agencies with their data needs. More specifically, the UEI provides the ability for agencies to merge their datasets with other contributed datasets while the PII is de-identified. The Office of Data Governance and Analytics has been able to utilize the Universal Entity Index for a project with the Virginia Department of Health, which is detailed in this report. View Appendix 3 (located at the end of this report) for more information.

As ODGA continues to ingest datasets from other agencies the UEI will grow into a more comprehensive solution. View Appendix 3 for more information.

- **Azure Migration:** ODGA has successfully migrated their entire technical infrastructure to Microsoft Azure cloud. Prior to the migration, ODGA data was hosted in an on-premises data center. The on-premises consisted of over 15 servers including Structured Query Language (SQL) servers, Application servers, Power BI instances, etc. ODGA was presented with a case where an agency had over 25 terabytes of data that would need to be ingested into the on-premises environment, a task that would have been time consuming and would create a competition for resources. With an existing Microsoft stack, ODGA made the decision to migrate to the Azure cloud, an efficient and highly scalable solution. Agency data is also siloed within the cloud, as opposed to being stored on the same server on-premises. This segregation of data makes pricing more transparent, where with the on-premises solution, it would be impossible to determine exactly which agency was utilizing the most resources. Additionally, hosting data on the cloud makes integration with other organizations much more efficient. With ODGA’s migration to the cloud, ODGA can now serve as a resource to other agencies who are looking to make a similar transition. Additionally, moving from on-premises database servers to Azure meant a change in the way ODGA manages the security of the data hosted at ODGA. Microsoft Defender constantly monitors our Azure environment to ensure compliance with key regulations and standards such as HIPAA, FedRAMP, NIST 800-53 R5, and identifies security vulnerabilities. When issues are identified, the Governance team is responsible for remediating the findings or providing compensating controls to address the vulnerability. Once the data was migrated to Azure, ODGA’s Governance team ensured all databases were encrypted at rest and in transit and required any data columns that contained confidential information like social security numbers, to be masked to ensure it cannot be viewed by unauthorized personnel.



- **Datathon:** The Virginia Datathon is a competition created in partnership with the Library of Virginia in which teams are given desensitized Commonwealth data to solve a challenge that Virginians are facing. The event, which started in 2014, continues bringing together state agencies and has expanded to include students, localities, non-profits, and the private sector to leverage technology and data to develop innovative solutions addressing complex problems. In 2023, teams took on the challenge of “Unmasking Maternal Mortality,” where the participants attempted to not only identify and quantify the issue of Maternal Mortality in Virginia, but develop innovative solutions utilizing this data as well. The next Virginia Datathon is planned for April 2024.

Commonwealth Executive Branch Agency Projects

- **Operation Bold Blue Line:** Operation Bold Blue Line is a Governor’s Office initiative to identify and reduce violent crime in 13 specific Virginia localities. The ODGA is engaged to manage the data collection and consolidation and to support the resulting analytics. The ODGA was responsible for the presentation and visual layers of data analytics leveraged by the Governor’s Cabinet and Violent Crime Task Force to make critical business decisions that can benefit constituents in these areas. The ODGA was able to combine 13 localities’ data into one clear and concise dashboard. While using the dashboard, Commonwealth leadership can view weekly updates that allow for the most informed decision-making regarding law enforcement resources and violent crime prevention. Since the inception of Operation Bold Blue Line, 857 felony arrests and 721 misdemeanor arrests have been made. Additionally, 2,060 pounds of illegal narcotics have been removed from the street including 47 pounds of fentanyl.

13 Localities
Chesapeake
Danville
Emporia
Lynchburg
Martinsville
Newport News
Norfolk
Petersburg
Portsmouth
Richmond
Roanoke
Hampton
Hopewell



- **DMV Transformation:** The Chief Transformation Office engaged with the ODGA to support the data-driven transformation efforts across state government. The first agency of focus was the Department of Motor Vehicles (DMV). Daily status reports from each DMV location are being provided to the ODGA for the creation of dashboards that the Chief Transformation Office is using to upgrade efficiency within DMV. From the initial engagement with the agency to the dashboard delivery was less than two months.

Prior to collaborating with the ODGA, DMV monitored their Executive Performance data through an Excel dashboard, which measured metrics such as average wait time, number of customers served, and service time for DMV locations. The data was updated manually in a process that took on average one hour daily. The ODGA created an automated Power BI dashboard that captured all the Executive Performance data. This dashboard could be instantly updated in the Power BI platform. This dashboard was visually effective, efficient, and easy to use. ODGA's automated Power BI dashboard provides instant updates, saving the Transformation Office an hour a day and removing the need for manual uploading. This in turn helps minimize opportunities for human error.

The Power BI Executive Performance Metric Dashboard has saved time and created more efficiency for the Transformation team. The time savings has been reallocated towards making the DMV more efficient and effective. The dashboard helps drive decision making that improves performance.

- **Virginia Department of Health (VDH) Entity Matching:** Due to the successful collaboration and support of VDH during COVID- 19 and the vaccine administration, VDH has engaged with ODGA to manage the entity resolution process across multiple data systems leveraging ODGA'S de-identifying process and using Verato (an entity resolution firm) to add social determinants of health data (SDOH) to individual records. In 2022, ODGA provided VDH with matched records of 7.6 million Virginians regarding social determinates of health data. VDH is now able to add this data to the vaccine and immunization data they already have in their repository.
- **DBDHS/DMAS Data Sharing:** The Department of Behavioral Health and Developmental Services (DBHDS) and the Department of Medical Assistance Services (DMAS) use the Commonwealth Data Trust and ODGA to manage data sharing for Medicare justice reports from DMAS. DMAS data is needed by DBHDS to fulfill the data requirements for a Department of Justice Settlement agreement. The Commonwealth Data Trust allows DBHDS to meet requirements without putting any strain on the agency and thus removing the silo between the two agencies. Eight Department of Justice reports are created monthly and delivered to DBHDS via Excel reports. This process was created by the ODGA team for DBHDS so it could be automated and self-service. In addition to this, a data mart was created so that DBHDS can access and query/analyze the data at any time.
- **DVS Veteran Identification:** The Department of Veteran Services (DVS) had difficulty identifying all Virginian Veterans and their locations, making outreach and marketing of services difficult. In addition, this information is key to allocating resources such as Veteran Affairs hospitals, mental health services, and Veteran cemeteries. DVS collaborated with a third-party credit bureau to find an overlap between Virginian Veterans listed in the



Department of Defense's database and the third-party credit bureau Database to create a holistic view of Virginia Veterans. ODGA gathered DVS data from multiple file sources and systems and ingested them into ODGA's internal database systems. A data mart was created and made accessible to DVS staff members to give them data analysis capabilities. The ODGA is continuing to work with DVS to perform data analysis.

- **Telework Dashboards:** The Virginia Office of Data Governance and Analytics was enlisted to help the Virginia Secretary of Administration's team to create a series of Power BI dashboards for secretariats to monitor agency telework policies. This dashboard helped the Governor's office determine what office facilities are needed for Commonwealth employees and assist in more efficient decisions regarding real estate utilization. To create the dashboards, the Virginia Department of Human Resources Management provided access to datasets used for the dashboards.
- **Executive Order 26:** On May 9th, 2023, Governor Glenn Youngkin issued an Executive Order called "Crushing the Fentanyl Epidemic: Strengthening Virginia's Interdiction and Enforcement Response to Fentanyl Crisis." This Executive Order outlined a plan for several Virginia agencies to combat the fentanyl crisis in the Commonwealth. The Office of Data Governance and Analytics was tasked in the Executive order to help agencies with the data collection and reporting. The ODGA has partnered with the agencies named in the order, as well as the Secretary of Public Safety and Homeland Security.
- **Cybersecurity:** ODGA has developed a proof of concept using Artificial Intelligence and Machine Learning to identify anomalous network behavior that may indicate a cybersecurity issue. ODGA collected samples of raw network traffic data from the Governor's office and used an isolation forest algorithm for data anomaly detection. The model assigns a score to the traffic on each network device indicating the extent it deviates from the sample. ODGA simulated the copying of large amounts of data including Personally Identifiable Information (PII) to an external source to validate the model. The model can be used to supplement VITA's security tools to provide a customized early warning system to cyberthreats across all agencies. By aggregating Commonwealth security data across different commercial tools, ODGA can enhance the Commonwealth's ability to identify potential security events, reduce time to respond to incidents, and allow more effective prioritization of cybersecurity personnel efforts.
- **Data Maturity Assessment:** During 2022, the Virginia Data Advisory Commission convened on July 19, 2022, and October 25, 2022. During the meeting on July 19, 2022, the Commission recommended the Office of Data Governance and Analytics conduct a Data Management Maturity Assessment of Executive Branch Agencies. This assessment was completed prior to the Commission meeting on October 25, 2022. The Data Management Maturity Assessment involved 30 questions covering 4 key areas: People and Culture, Data Activities, Business Processes, and Technology.

In 2022, 21% of agencies identified as being in a reactive level, 45% of agencies reported being stable, and 34% of agencies reported at the proactive level. Results from the 2022 assessment are in appendix 2.

In 2023, the survey was sent again to agencies. 18.8% of agencies identified as being in a



reactive level, 45.3% of agencies identified being stable, and 35.9% of agencies reported at the proactive level. Results from the 2023 assessment are also in the survey in appendix 2.

Questions from the assessment were monitored from 2022 to 2023, including questions related to an agency's approach/plan to improve data quality, metadata management, data modeling, if data-based roles within the agency exist, and if there is data activity management support.

The Office of Data Governance and Analytics will send this survey to agencies yearly to determine what areas of data governance and analytics agencies are excelling in, where more assistance is needed, and how the office can provide services to help agencies overcome data challenges.

Boards and Councils for The Chief Data Officer

- **Commonwealth of Virginia Data Advisory Commission:** The Virginia Data Advisory Commission is established as an advisory commission in the executive branch of state government. The Commission shall advise the Office of Data Governance and Analytics established pursuant to § 2.2-203.2:4, on issues related to data sharing, including open data, data analytics, and data governance.

In 2023, the Virginia Data Advisory Commission met on April 11th, 2023. During that meeting, the ODGA Chief Data Officer presented an overview of the growth of the Virginia Office of Data Governance and Analytics. The ODGA Director of Data Governance and Protection gave an update on the governance efforts of the organization, which included implementing several internal and external security policies as well as a Data Governance training for Commonwealth employees. The Deputy Chief Transformation Officer for the Commonwealth gave an overview of the ODGA Virginia Department of Motor Vehicles Dashboards solution.

- **Executive Data Board:** The Executive Data Board consists of the directors or chief executives, or their designees, of executive branch agencies engaged in data sharing and analytics projects with the Commonwealth Data Trust.

The Executive Data Board met for the first time on July 18th, 2023. The group approved their charter and chose members for the Data Governance Council.

- **Data Governance Council:** The Data Governance Council shall consist of employees of the agencies represented on the Board, selected by the Board members from their respective agencies.

The Data Governance Council met for the first time on October 10th, 2023. The group approved their charter and chose members for chair, a Council secretary, and a Council Freedom of Information Act (FOIA) officer.

- **Data Stewards Group:** The Data Governance Framework shall provide mechanisms for the prompt identification and resolution of data quality, integrity, and security issues through the establishment and promotion of the Commonwealth Data Stewards Group. The



inaugural Data Stewards Group meeting was held on August 8th, 2023 at the Patrick Henry Building. Members of the group finalized the group charter, chose a chair and vice chair, and a Freedom of Information Act Officer (FOIA) for the group. The group reviewed several services available to Commonwealth of Virginia agencies, including the Commonwealth Data Trust, Office of Data Governance and Analytics Services, and the Virginia Information Technologies Agency's address verification service.

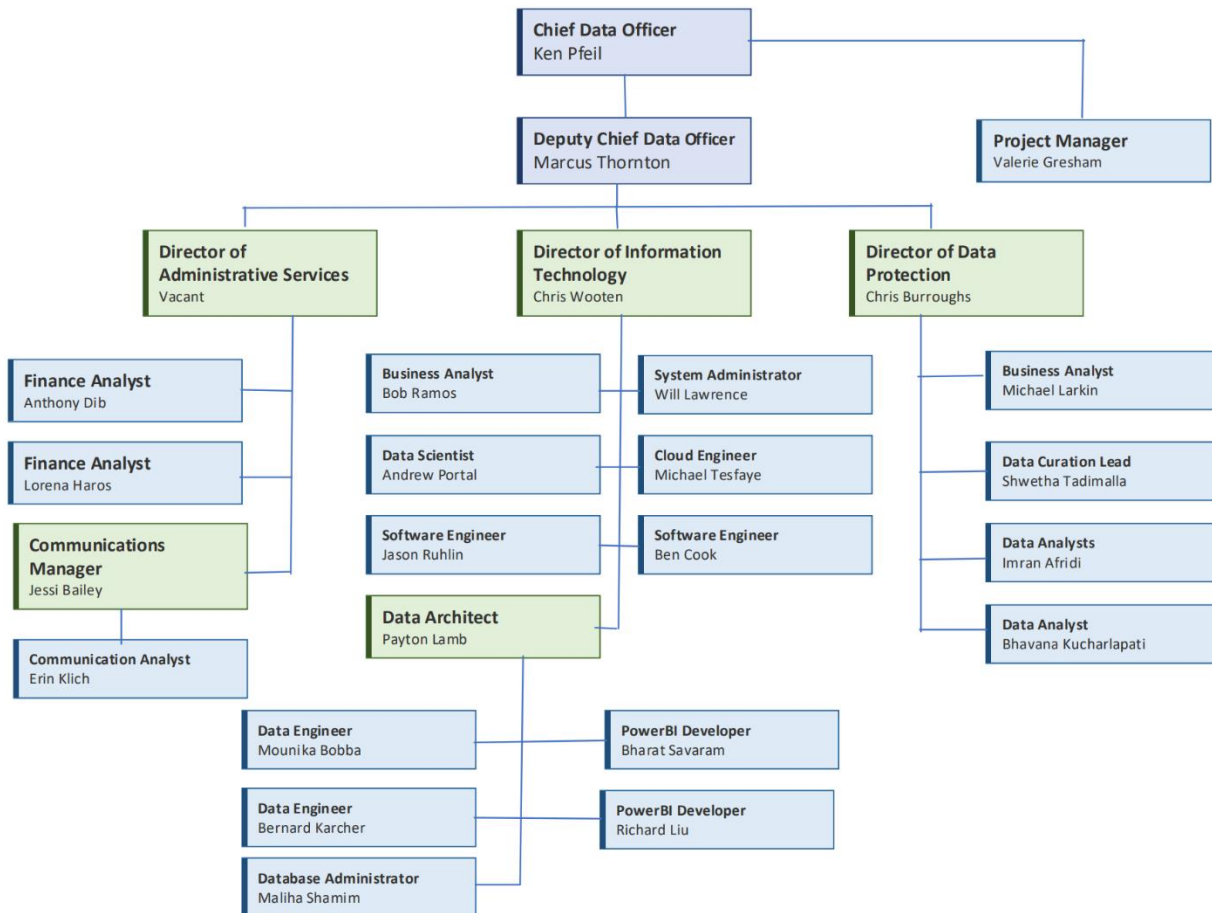
- **Coastal Resilience Technical Advisory Committee:** The Coastal Resilience Technical Advisory Committee (TAC) was established by the Virginia Code in 2022 under § 10.1-659. The Committee is charged with Flood protection programs; coordinating to assist with developing, updating, and implementing the Virginia Coastal Resilience Master Plan (CRMP). Commonwealth of Virginia Chief Data Officer Ken Pfeil chairs the Project Prioritization Subcommittee and helps move the group's mission forward. The Project Prioritization Subcommittee met in August and October 2023. At the meeting on August 17th, 2023, the committee presented details about their Coastal Resilience Master Plan Phase II, reported on their progress of Phase I of the plan, provided input about the data management at this stage of the plan, reviewed roles and subcommittee objectives, and more. At the Project Prioritization Subcommittee meeting on October 31st, 2023, the committee worked to determine details about an impact assessment survey about coastal flooding in the Commonwealth, determined intended audiences for the assessment, how to best distribute the survey to gain insight about various aspects of coastal flooding.

Future State

- **Artificial Intelligence/Machine Learning (AI/ML):**
 - **Predictive Analytics:** Commonwealth Predictive Analytics Environment: ODGA has established a predictive analytics model in cloud AI/ML for agencies to leverage. Examples might include predictive mental health decline, cybersecurity, homelessness prevention, resource/capital investments, weather event impacts, and more.
- **Generative AI:**
 - **Strategy and Implementation:** The Chief Data Officer will partner with VITA's Chief Information Officer to develop an overall strategy for agencies to securely leverage Generative AI for identified efficiencies.



Appendix 1. Office of Data Governance and Analytics Organization Chart





Appendix 2. Data Management Maturity Assessment Results

2022 Results

2022 HIGHLIGHTS



74.6% Response Rate
(47/63 Agencies)



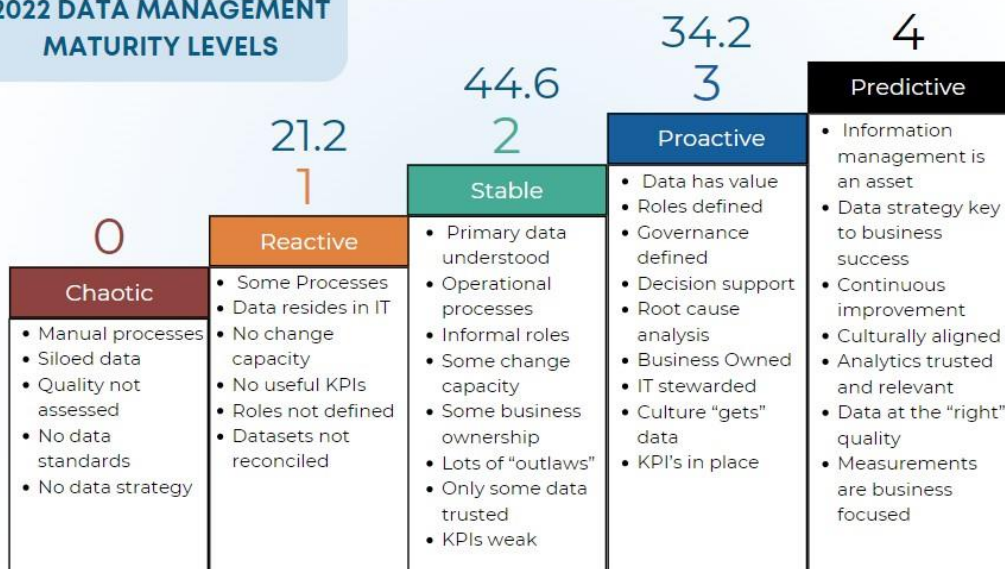
2.48 Survey Median
Score



Lowest Overall Score: 1.01
Highest Overall Score: 3.87

- Business Processes scored lowest
- People and Culture scored highest

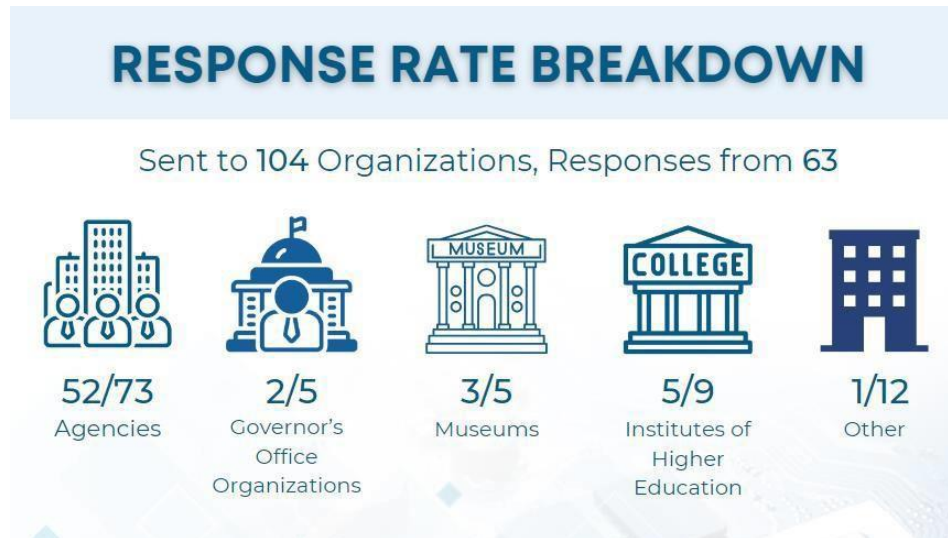
2022 DATA MANAGEMENT MATURITY LEVELS



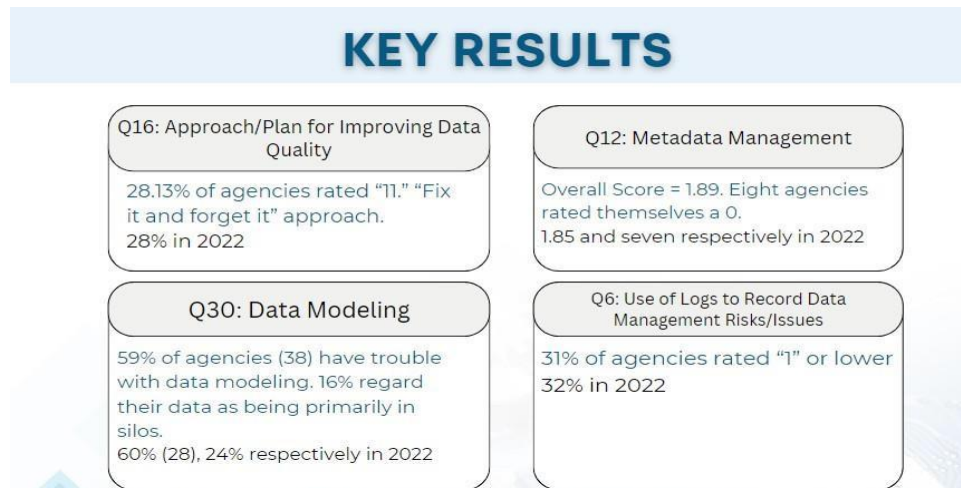
Pictures 1 and 2: Overview of the 2022 results for the Data Management Maturity Assessment.



2023 Results



Picture 3: Overview of response breakdown for the Data Management Maturity assessment by category.



Picture 4: Overview of Key Metrics tracked in the Data Management Maturity Assessment.



KEY RESULTS

Q4: Roles Exist for Data Activities

88% of agencies (56) have formal roles for data established, with data stewards and owners.
85% (40) in 2022



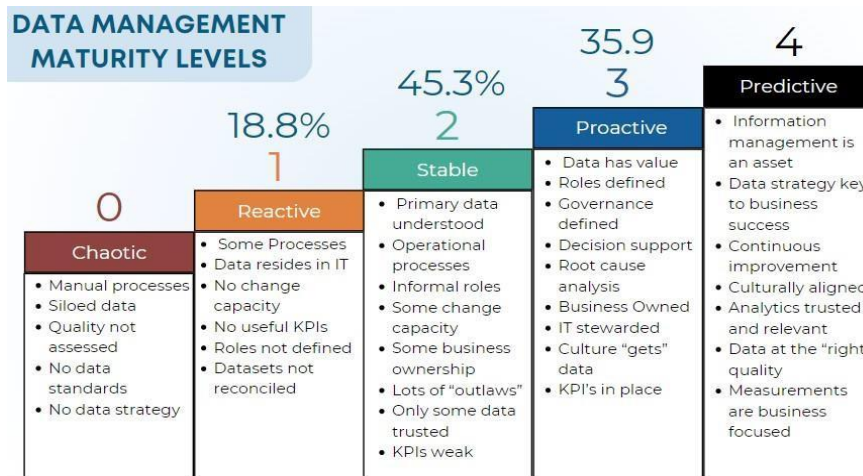
Q5: Management Support

Senior Management Sponsorship for data initiatives at agencies. Average Score = 3.09. Only one agency rated themselves a "1." Average score = 3, one respectively in 2022

Q24: Lack of Metrics on Data Quality

28% of agencies rated "1" or lower
32% in 2022

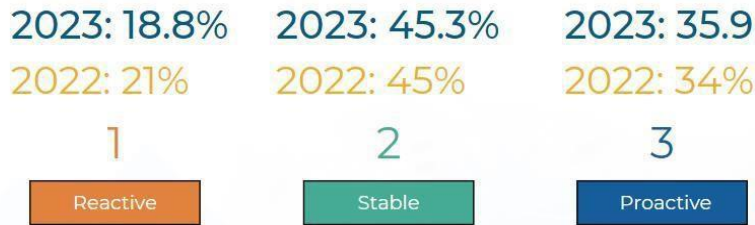
Picture 5: Overview of Key Metrics tracked in the Data Management Maturity Assessment.



Picture 6: Measurements of Data Management Maturity Levels with percentage of respondents falling in each category for the Data Management Maturity Assessment.



2022 VS 2023



Picture 7: A comparison of data management maturity levels from 2022 from 2023.

RESULTS CONT.

Median Score: 2.74

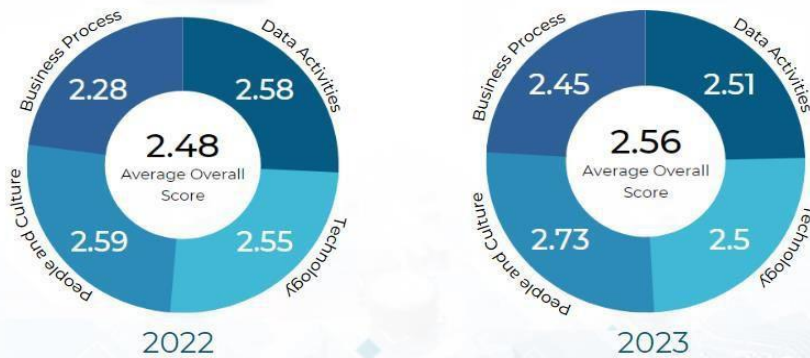


Highest Overall Score: 3.86

Lowest Overall Score: .63

Picture 8: A depiction of data management maturity category results from the 2023 assessment.

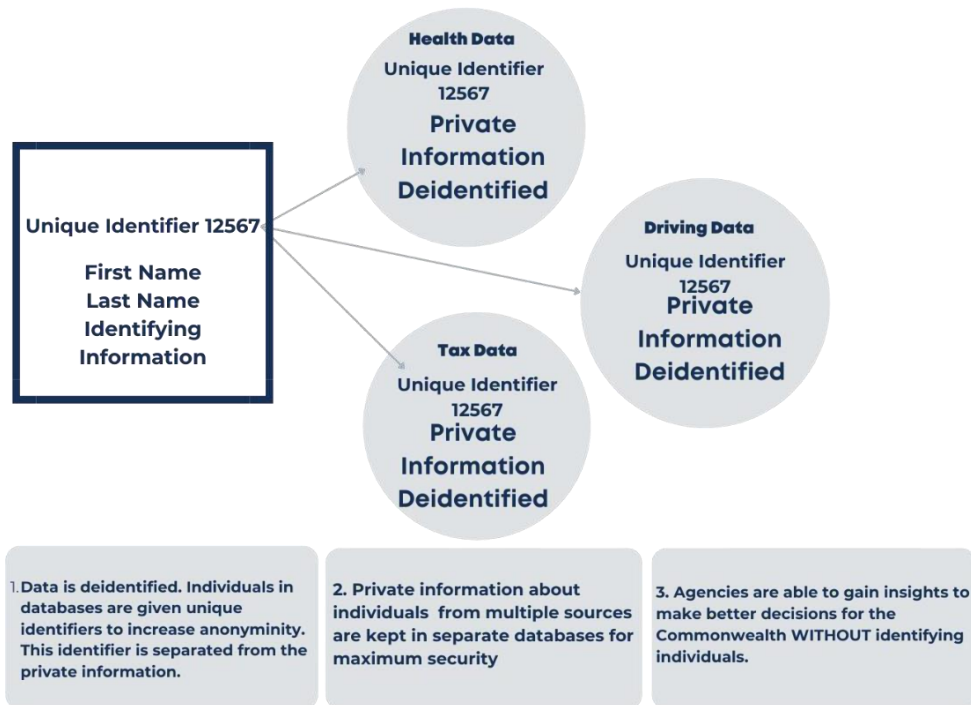
2022 VS 2023



Picture 9: A side by side comparison of data management maturity category results from the 2022 and 2023 Data Management Maturity assessment.



Appendix 3. Office of Data Governance and Analytics Universal Entity Index Plan



Picture: Explanation of the Universal Entity Index Solution provided by the Office of Data Governance and Analytics.