COMMONWEALTH of VIRGINIA

Office of the Governor

Grindly Johnson
Secretary of Administration

Virginia Data Advisory Commission

Meeting Minutes

November 22, 2021

East Reading Room – Patrick Henry Building

1111 East Broad Street

Richmond, Virginia 23219

1:00 PM – 3:00 PM

Virtual Meeting URL:

Google Meet joining info

Virginia Data Advisory Commission
Monday, November 22 · 1:00 – 3:00pm
Google Meet joining info
Video call link: https://meet.google.com/mpg-wrrj-nxa
Or dial: (US) +1 470-273-8959 PIN: 102 152 936#
More phone numbers: https://tel.meet/mpg-wrrj-nxa?pin=4629339166176

Attendees:

George S. Barker, *District 39 Senator*

Emmett W. Hanger, *District 24 Senator*

Adam P Ebbin, *District 30 Senator*

Cliff E. Hayes, *District 77 Delegate*

Danica Roem, *District 13 Delegate*

Bridget Giles, *Region 5 Representative*

Carrie Gaston, *Region 1 Representative*

Tyler Schenck, *Region 2 Representative*

Zaki Barzinji, *Region 7 Representative*

Arlyn Burgess, *Region 3 Representative*

Carlos Rivero, *Chief Data Officer*

Grindly Johnson, *Secretary of Administration*

Heidi Hertz, Designee for Bettina Ring, *Secretary of Agriculture and Forestry*

Felix Schapiro, Designee for Megan Healy, *Secretary of Labor*

Corey Pleasants, Designee for Vanessa Walker-Harris, *Secretary of Health and Human Resources*

Alisa Padden, Designee for Karl Hade, *Executive Secretary of the Supreme Court of Virginia*

Thomas Crabbs, Designee for Kathleen Jabs, *Secretary of Veterans Defense and Affairs*

Katie Sallie, Designee for Ann Jennings, *Secretary of Natural and Historic Resources*

Call to Order, Welcome, and Opening Remarks

Roll Call

Review and Approve Minutes from Previous Meeting

Chief Data Officer Announcement

Review the Annual Report

Amend and Approve the Annual Report

CY 2022 Goals and Objectives

Member/Public Comment

Closing Remarks

Next meeting date: Tuesday, April 26, 2022 1:00 PM – 3:00 PM Location TBD

Adjourn

Motions

Motion 1: Approve the previous VDAC Meeting Minutes (October 2021)

Presenter: Delegate Cliff Hayes

Discussion: Edits that needed to be made to the meeting minutes:

- Karl Hade was not present, his designee Alisa Padden was present
- Carrie Gaston was not present

- Date for the November meeting was not correct, change Tuesday to Monday

Motion Accepted: Meeting minutes with edits have been accepted. Motion accepted by majority.

Motion 2: Edits made to the Annual Report

Presenter: Chief Data Officer Carlos Rivero

Discussion: The VDAC Committee went over the report in its entirety and suggested the following edits:

- On page 18: middle of the appendix 7: the word committee should be changed to commission. All voted to change. Change Adopted. Recommended by Carlos Rivero
- On page 16: Add labor and veteran's services. Recommended by Thomas Crabbs and Felix schapiro. In addition to this: Add domain of data equity as an overarching domain Idea of information that we collect on communities across VA. Include an effort to ensure that collection, use, and distribution of that data is equitable. Recommended by Zaki Barzinji
- On Page 17: Add someone who is in the office who examines equity from a data perspective. Overall suggestion to add a data ethics and equity officer. Recommended by Zaki Barzinji.
- On the Appendices page: When listing different agencies and offices that will advise the commission, the chief diversity officer is not on the list. Someone is needed that understands the data world as much as they understand the equity world. Maybe adding others as well. Recommended by Zaki Barzinji.
- On Appendices page: Helpful to add artifacts from Carlos Rivero's work and the last 4 years to show that governance documents, workforce data trust agreement, Commonwealth Data Trust that would be easily found by google. Suggestion of a subdivision in the appendix, that shows actual contracts and supporting documentations of all previous work. Recommended by Felix Schapiro
- On Appendix 6: Suggestion to make the chart legible if it is going to be used as a reference. Recommended by Senator Ebin. In addition to this, combine the several states charts as one instead of having 3 separate appendices. Suggested by Felix Schapiro

  Motion Accepted: The report will be accepted with all edits. Motion accepted by majority.

Motion 3: To add the Chief Diversity Officer position to the Virginia Data Advisory Commission. This would bring the total number of members to 28.

Presenter: Chief Data Officer Carlos Rivero

Discussion: Voting on the suggestion to add the Chief Diversity Officer position to the Virginia Data Advisory Commission.

Motion Accepted: Motion was accepted by majority

Agenda

Agenda item 1: Welcome and Opening Remarks 1:20 PM-1:31 PM

Presenter: Secretary Grindly Johnson and Commission Chair Delegate Cliff Hayes

Discussion: Before Delegate Hayes started the meeting, Secretary Grindly Johnson spoke a few words about CDO Carlos Rivero's tenure as CDO. He will be leaving the position pre-Thanksgiving. Delegate Hayes opened the meeting and thanked all for their attendance.

Decision: N/A

Agenda Item 2: Roll Call

Presenter: Chief Data Officer Carlos Rivero

Discussion: Carlos Rivero called roll.

Decision: N/A

Agenda Item 3: Review and Approve Minutes from last meeting 1:37 PM

Presenter: Delegate Cliff Hayes

Discussion: The committee discussed edits to make to the meeting minutes

Decision: The meeting minutes with edits were accepted (See Motion 1)

Agenda Item 4: Chief Data Officer Announcement 1:41 PM

Presenter: Chief Data Officer Carlos Rivero

Discussion: Carlos Rivero made his announcement that he will be informally retiring from state government

Decision: N/A

Agenda Item 4: Review the Annual Report

Presenter: Chief Data Officer Carlos Rivero

Discussion: The commission went over the Annual Report in its entirety.

Decision: N/A

Agenda Item 5: Amend and Approve the Annual Report 1:50 PM

Presenter: Chief Data Officer Carlos Rivero

Discussion: The commission made suggestions and edits to the report.

Decision: The report was accepted with the edits (See Motion 2) and the Chief Diversity Officer position will be added to the Commission (See Motion 3).

Agenda Item 6: CY 2022 Goals and Objectives 2:18 PM

Presenter: Chief Data Officer Carlos Rivero

Discussion: Carlos Rivero speaks about some 2022 goals for the Virginia Data Advisory Commission

Decision: N/A

Agenda Item 7: Member/Public Comment 2:26 PM

Presenter: Delegate Cliff Hayes

Discussion: Delegate Hayes asked for member and public comment. No comments were recorded.

Decision: N/A

Agenda Item 8: Closing Remarks 2:26 PM

Presenter: Delegate Cliff Hayes

Discussion: Delegate Hayes thanked everyone for attending and made closing remarks.

Decision: N/A

Agenda Item 9: Adjourn 2:29 PM

Presenter: Delegate Cliff Hayes

Discussion: The Virginia Data Advisory Commission adjourned at 2:29 PM

Decision: N/A

COMMONWEALTH of VIRGINIA

Office of the Governor

Office of Data Governance and Analytics Annual Report

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

Version 1.0

December 1, 2021

Office of Data Governance and Analytics

Office of the Secretary of Administration

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Executive Summary

In Progress …

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Introduction

During the 2021 Special Session of the General Assembly of Virginia, § 2.2-203.2:4 of the Code of Virginia was amended and reenacted by adding in Chapter 25 of Title 2.2 an article numbered 13, consisting of sections numbered 2.2-2558 through 2.2-2564 that called for the creation of the Office of Data Governance and Analytics within the Office of the Secretary of Administration on July 1, 2021. This legislation also codified the Data Governance Framework proposed by the Data Sharing and Analytics Advisory Committee from the 2019 report to the General Assembly Pursuant to Chapter 679 of the 2018 Acts of the Assembly. The operations of the Office of Data Governance and Analytics are overseen by the politically appointed Chief Data Officer of the Commonwealth.

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 and efficacy 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 Chief Data Officer over the last two years and outline the necessary resources required to deliver the following objectives:

- 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.

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Proof of Performance

The report reflects previous activities, resources and solutions provided by the Office of Data Governance and Analytics, including agency and Commonwealth projects relating to data sharing, governance, and analytics, under development within the state government since 2019. Links to digital artifacts from previous milestones and deliverables have been included in the text and listed in Appendix 1.

Solutions and Resources

- **Enterprise Data Catalog (https://www.azuredatacatalog.com)**: The Enterprise Data Catalog is an inventory of the Commonwealth's data assets. This repository of data combined with metadata is a powerful tool for self-service business intelligence, empowering Commonwealth agencies to make more informed decisions. The metadata is what supports data discovery and sharing and includes names of data tables, data elements within the tables and views, descriptions of the data elements, and how it is related to other data that individuals might want to use. Well-defined metadata can enable the transformation of data into intelligence and actionable insight. Some metadata contains information relevant to the retention and archiving requirements for data and allows organizations to track data assets for compliance purposes.
- **Publicly-Accessible Data Dictionary (https://metadata.cdo.virginia.gov)**: The Enterprise Data Catalog is an inventory of the Commonwealth's data assets. This repository of data combined with metadata is a powerful tool for self-service business intelligence, empowering Commonwealth
- **Commonwealth Data Trust (https://www.cdo.virginia.gov/resources/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 in order 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 withinthe HHR Secretariat including HIPAA compliance across all HHR agencies, extend "proper purpose" to include HIPAA-defined uses, update the eMOU (enhanced Memorandum of Understanding) 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 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 members 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 NIEM protocols.

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The first organization joined the Commonwealth Data Trust in March 2020 and there are now 14 member organizations. Examples of the Data Trust agreements can be found at https://www.cdo.virginia.gov/resources/commonwealth-data-trust/

- **DataSAGE (https://www.cdo.virginia.gov/resources/datasage/)**: Virginia's Secure Analytics and Governance Environment (SAGE) launched in August 2020 to facilitate sharing of restricted-use data with research partners, state agencies, Commonwealth localities, and other organizations whose projects have been approved by the appropriate data owners. Essentially, DataSAGE is the technical implementation of the Commonwealth Data Trust.
- **CoVERED (https://www.cdo.virginia.gov/solutions/)**: The Commonwealth of Virginia Entity Resolution for Enterprise Data (CoVERED) is a solution that securely and appropriately consolidates data from multiple systems across the state. This was leveraged heavily for the COVID-19 response and vaccine administration. The process involves ingesting two data streams separating the attributes that identify individuals (PII) from those that characterize the government services they receive by leveraging partnerships with executive branch agencies and other organizations through the Commonwealth Data Trust. It is the precursor to developing a *Universal Entity Index* for the Commonwealth, which is a crosswalk table linking individuals across multiple systems without using their personally identifiable information.
- **Secure Connected Government Cloud – SCGC (https://va-opioids.qlarion.com/okta/hub/)**: This platform was initiated in 2019 to support the Framework for Addiction Analysis and Community Transformation (FAACT) and was also leveraged extensively to support the COVID-19 response. The SCGC environment supports secure and appropriate data sharing with approved partners across the Commonwealth including localities, academic institutions, and private organizations.
- **Secure Data Enclave**: CIT managed and administered AWS WorkSpaces environment that is designed to support organizations that do not have the resources to establish secure environments for restricted-use data. The secure environment is assessed and monitored by VITA's Enterprise Cloud and Oversight Services. Organizations that provision instances within this environment will have met VITA's security control requirements facilitating access to restricted-use data assets.
- **Virginia Open Data Portal (http://www.data.virginia.gov/)**: The first Open Data Portal was launched in 2017 by The Secretary of Technology, Library of Virginia, and VITA to establish a public-facing website that supported the discovery, accessibility, and utilization of the state's open data assets. The Office of Data Governance and Analytics and Library of Virginia re-launched the portal in June 2020 on a dynamic platform that not only hosts the data catalog, but allows users to view stories and dashboards, create their own visualizations, filter data, export data, and access it via application program interfaces (API's) to build solutions in web and mobile applications. The portal launch was accelerated to provide the initial 14 COVID-19 datasets from the Virginia Department of Health to the public.
- **Data Intelligence (DI)-as-a-Solution (https://www.cdo.virginia.gov/solutions/)**: This is a value-added component to participating in the Commonwealth Data Trust and provides Commonwealth of Virginia agencies the infrastructure, system lifecycle administration services, and human resources needed to manage the deployment and consumption of

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business intelligence products. This gives agencies the ability to publish the business intelligence products they need without having to invest valuable resources to develop and manage their own DI infrastructure. Thus, allowing agencies to spend more time focusing on the services they provide to the people they serve.

- **CoVERS**: The Commonwealth of Virginia Enterprise Reporting Solution (CoVERS) is a Power BI-based environment supporting the report, visualization, and dashboard publishing needs of the Commonwealth. Agencies and/or their agents develop the intelligence products (reports, visualizations, or dashboards) and ODGA deploys them to a test environment for review and promotes to the production environment once approved, alleviating the need for agencies to invest in their own technical and human infrastructure.
- **Commonwealth Data Internship Program – CDIP (https://www.cdo.virginia.gov/data-talent/)**: The Office of the Governor and the Secretary of Technology implemented this internship program in 2014 to pair interns from universities with state agencies using their data to perform advanced analytics on "real-world" problems. This program was housed within VITA's Innovation Program (VIP) and the ODGA will be taking over management of this program in 2022. This program supports the data talent pipeline developed by the CDO and used by ODGA to engage students in data documentation and cataloging. The ODGA seeks to formalize it by hiring 10 students per year on a continual basis. In addition, CDIP participants will benefit from the ODGA partnership with the Radford University Vinod Chachra IMPACT Lab, an online self-paced, competency-based data intelligence curriculum. Current CDIP participating schools include VSU, NSU, ODU, VCU, UVA, and GMU.
- **Virginia Datathon (https://www.cdo.virginia.gov/datathon/)**: The Office of the Governor and the Secretary of Technology hosted the first annual "Datathon" challenge in 2014 to promote the use of open data and data analytics. In 2020, the ODGA and Library of Virginia took over management of the event and hosted the largest Virginia Datathon to date, and virtually. The event 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. This year's Datathon was in partnership with the Roadmap to End Hunger subcommittee of the Governor's Children's Cabinet with a focus on food insecurity. Topics for previous datathons included:
    - 2016 – New Virginia Economy
    - 2017 – Opioid Addiction
    - 2019 – Equity in Education
    - 2020 – Communities and COVID-19
- **Data Governance Course (https://covlc.virginia.gov/)**: To increase data literacy among Commonwealth of Virginia employees, the Office of Data Governance and Analytics created a Data Governance Course in June 2020 and collaborated with the Department of Human Resource Management to host it in the COV Knowledge Center providing access to all state employees. The course has helped educate state employees on how they can utilize data as an enterprise asset to make evidence-based decisions, ultimately creating better outcomes for our constituents.
- **Partnership with Radford Vinod Chacra IMPACT Lab**: The Office of Data Governance and

Analytics partnered with Radford University Vinod Chachra IMPACT (Innovative Mobile Personalized Accelerated Competency Training) Lab, a competency-based education (CBE) workforce development program to develop data science courses. This partnership serves to educate the Commonwealth and beyond about important data science concepts and support workforce development in the areas of cybersecurity, geospatial intelligence, education, data science and future high demand areas

- **Executive Order 48**: In January 2020, Governor Ralph Northam signed Executive Order 48 that established Virginia's Data Governance Framework including the Virginia Data Commission, Executive Data Board, and Data Governance Council.

Commonwealth Executive Branch Agency Projects

- **Framework for Addiction Analysis and Community Transformation – FAACT (https://www.cdo.virginia.gov/faact/)**: During the 2018 legislative session, the General Assembly created the position of the Chief Data Officer (CDO) for the Commonwealth of Virginia mandating the CDO work on a pilot project to demonstrate the value of data sharing and analytics as a response to the opioid crisis. The Virginia Department of Criminal Justice Services (DCJS) worked with the CDO to develop and pilot a data-sharing platform that could respond to the opioid crisis in the Northern Shenandoah Valley. The pilot program has now become the Framework for Addiction Analysis and Community Transformation (FAACT) implemented by the Department of Criminal Justice Services, funded by the Department of Behavioral Health and Developmental Services, and operated by the Office of Data Governance and Analytics. FAACT provides a wide-variety of data and powerful self-service analytics supporting community leaders as they respond to the crisis. In 2019 alone, opioid overdoses went from an average of 31% to 15% from Q1 to Q4.
- **Workforce Referral Portal**: In December 2018, the CDO partnered with the Secretary of Labor (formerly the Governor's Chief Workforce Advisor) to develop a new portal connecting Virginia residents with government-sponsored training, certification, and employment services. The goal was a scalable, standards-driven system that provides a future-proof foundation for continuing development and proved vital to the Commonwealth's economic recovery from COVID-19. Read the Governor's Press Release.
- **COVID-19 Dashboards**: In March 2020, the FAACT platform was expanded in a matter of days to develop COVID-19 dashboards that helped mitigate the spread of COVID-19 and maintain an adequate supply of resources. Intelligence driven by real-time data identified hospitals in need of supplies, hospitals and regions that had surge capacity, and locations with the largest outbreaks of COVID-19 cases. This work was possible due to the FAACT technical infrastructure, the legal framework established by the Commonwealth Data Trust, and governance process directed by Executive Order 48. Read more in the Governor's press release here.
- **Vaccine Administration**: In February 2021, the CDO was asked to support vaccine administration by centralizing the pre-registration systems managed by the health districts and developing the Virginia Health District Dashboards that allowed the Commonwealth to gain

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granular visibility into whether vaccines were being administered equitably along with oversight of how local health districts were performing. 90 different data systems from 35 local health districts were consolidated in less than 72 hours. The result was 1.8 million records pared down to 1.2 million unique individuals. The system now has over 5.4 million unique individuals combining the pre-registration, vaccine notification, and administration datasets which paves the way for the ***Commonwealth Universal Entity Index***. The Universal Entity Index is the product of the internal entity resolution process housed within the CoVERED system. The Index is a crosswalk table linking records for an individual across multiple systems without using personally identifiable information (PII).

> *"The data from this dashboard assisted us a great deal to invite citizens for vaccine appointments and we were able to invite over 600,000 people based on this list. Without this effort from our CDO, it would have been very difficult to administer vaccines keeping our focus on equity and priority groups."*
>
> *~Suresh Soundararajan, CIO, Virginia Department of Health*
>
> *"Through the work of the CDO and his team, the Virginia Emergency Support Team (VEST) has used the data as a key resource for decision making to track our progress in vaccinating Virginians as a whole and specific populations that we know have been disproportionately impacted by COVID-19, such as the Black and Hispanic/Latino communities and persons who are medically fragile or disabled."*
>
> *~Vanessa Walker Harris, MD, Commonwealth Deputy Secretary of Health and Human Resources*

- **Virginia State Police**: The Virginia Community Policing Act required the Virginia State Police (VSP) to develop and implement a uniform statewide database to collect motor vehicle and investigatory stop records, records of complaints alleging the use of excessive force, and data and information submitted by law-enforcement agencies for public consumption. With 2 months before the deadline of July 1, 2021, VSP reached out to ODGA for a solution. ODGA provided a landing page, visualization tools, and the ability to provide the data to the public on the Virginia Open Data Portal.

  > *"VSP was able to quickly, and easily, utilize the Open Data Portal to aggregate data required by the Community Policing Act two months prior to the deadline. Simple visualizations, easy modification, and providing a centralized webpage for both agencies and the public was our goal; without the Open Data Portal this project would not have come to fruition."*
  >
  > *~Keon Turner, Manager, Criminal Justice Information Services Data Analysis & Reporting Team, Virginia State Police*

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- **The Virginia Department of Health**: Due to the ODGA collaboration and support of VDH during COVID-19 and vaccine administration, VDH has engaged with ODGA to manage the entity resolution process across multiple data systems leveraging CoVERED and using Verato (an entity resolution firm) to add social determinants of health data (SDOH) to individual records.
- **Citizen Portal**: The Virginia Information Technologies Agency has expressed interest in developing a Citizen Portal which requires the management of individual level personally identifiable information to support authentication. The ODGA CoVERED solution can support this capability leveraging the Universal Entity Index and entity resolution process demonstrated during the vaccine administration data initiative.
- **Virginia Employment Commission**: VEC was tasked with identifying fraud across multiple systems including legacy mainframe technologies. ODGA provided guidance in the development of the Statement of Requirements as well as solution support by hosting the Fraud Detection and Analytics solution using the ODGA Data Intelligence-as-a-Solution.

> *The Virginia Employment Commission (VEC) partnered with the Office of Data Governance and Analytics (ODGA) to host a fraud data analytics solution that VEC and a private vendor developed. This solution was designed to enable the VEC to quickly identify and investigate fraudulent and potentially fraudulent claims for unemployment compensation. Work on developing the solution began in early March, and it was deployed on July 31, 2021. During the first three weeks of its use, the VEC was able to identify 1,675 claims that displayed significant characteristics of fraud. This enabled the agency to target investigation resources on those claims that had a potential dollar value of $11.1 million. On August 19, the VEC was able to use this tool to identify and shut down 249 claims that were the direct result of a "bot" attack by a criminal element. The tool has proven very effective. Our partnership with the OGDA was extremely important to the speed with which we were able to deploy this solution since we were able to leverage the OGDA's existing infrastructure and development tools.*
>
> *~Suganya Kumar, Project Manager, Virginia Employment Commission*

- **Virginia Department of Emergency Management**: The ODGA was engaged to complete a payroll automation project to categorize employees by disaster for each pay period that generates a file to be uploaded into the Cardinal General Ledger System. The automation of this process relieves VDEM staff of manually transforming this data every pay period and saves countless staff hours.
- **Health Equity Dashboards**: The Office of Diversity, Equity and Inclusion (ODEI) reached out to the ODGA to take over the management of the Health Equity Dashboards originally developed by a consulting agency the Commonwealth paid over one million dollars to build and manage. The new dashboards leverage the ODGA Data Intelligence-as-a-Solution at no cost to the ODEI.
- **Roadmap to End Hunger Dashboards**: The Roadmap to End Hunger Subcommittee of the Governor's Children's Cabinet engaged ODGA to develop internal dashboards to measure roadmap performance and provide transparency leveraging the ODGA Data Intelligence-as-a-

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Solution. In addition, the project team is using the new Virginia Open Data Portal to showcase the data, build interactive visualizations, and develop a landing page describing the initiative. Project partners include the Virginia Department of Education, Virginia Federation of Food Banks, and the Virginia Department of Social Services. The 26 datasets published on the Open Data Portal were used to support the 2021 Virginia Datathon focused on food insecurity.

- **Marijuana Use Data Study**: The General Assembly passed SB1406 (Sen. Ebbin & Sen. Lucas) and HB2312 (Del. Herring) and were signed into law by Governor Northam in the spring of 2021. The legislation prioritizes social equity, public health, and public safety and establishes a three year process to legalize cannabis and create a regulatory framework for its recreational sale. The Secretaries of Health and Human Resources and Public Safety and Homeland Security have asked the Chief Data Officer and the Office of Data Governance and Analytics to participate in the work group with relevant agency stakeholders regarding marijuana-related data collection and a plan to determine the cost for analyzing and reporting the data.

  Enactment Clause - *That the Secretaries of Agriculture and Forestry, Health and Human Resources, and Public Safety and Homeland Security shall convene a work group with all appropriate state agencies and authorities to develop a plan for identifying and collecting data that can determine the use and misuse of marijuana in order to determine appropriate policies and programs to promote public health and safety. The plan shall include marijuana-related data regarding (i) poison control center calls; (ii) hospital and emergency room visits; (iii) impaired driving; (iv) use rates, including heavy or frequent use, mode of use, and demographic information for vulnerable populations, including youth and pregnant women; and (v) treatment rates for cannabis use disorder and any other diseases related to marijuana use. The plan shall detail the categories for which each data source will be collected, including the region where the individual lives or the incident occurred and the age and the race or ethnicity of the individual. The plan shall also include the means by which initial data will be collected as soon as practicable as a benchmark prior to or as soon as possible after the effective date of an act legalizing marijuana for adult use, the plan for regular collection of such data thereafter, and the cost of the initial and ongoing collection of such data. The plan shall also recommend a timetable and determine the cost for analyzing and reporting the data. The work group, in consultation with the Director of Diversity, Equity, and Inclusion, shall also recommend metrics to identify disproportionate impacts of marijuana legalization, if any, to include discrimination in the Commonwealth's cannabis industry. The work group shall report its findings and recommendations to the Governor and the General Assembly by November 1, 2021. The provisions of this enactment shall become effective in due course.*

- **Crossover Youth Information Sharing (Study Plan)**: The General Assembly and the Governor approved SB1206 (Sen. Barker) introduced during the 2021 Session. This legislation directs the Virginia Commission on Youth to convene a work group to review current data and record sharing provisions with regard to youth served by the juvenile justice and child welfare systems and make recommendations on best practices for the sharing, collection, and use of such data and records while respecting the privacy interests of youth and families.

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The Commission on Youth asked the Chief Data Officer and the Office of Data Governance and Analytics to work with the Department of Juvenile Justice, Department of Social Services, Department of Behavioral Health and Developmental Services and other applicable stakeholders to create a plan to use the Commonwealth Data Trust to enable local departments to identify and share crossover youth status at the youth's initial contact point with an agency for purposes of service delivery.

This plan should identify what systems, and the records or information therein, that must be made available to the Data Trust to identify and share crossover youth status at initial point of contact with the respective agencies, what consents need to be obtained from the youth and guardians, what agreements need to be made between the relevant agencies as well as with the Office of Data Governance and Analytics, and what legislative or funding changes if any will be necessary to implement this practice. The Office of Data Governance and Analytics shall report back its findings and recommendations to the Commission on Youth by November 1, 2022.

Virginia's Data Governance Framework

The General Assembly of Virginia in the 2018 Session enacted Chapter 679 of the Acts of the Assembly ("Chapter 679") to mitigate some of the data sharing restrictions identified in the 2018 Report on Implementation of HB2457 – Data Sharing Among State Health and Human Resources Agencies (Chapter 467, 2017) by defining "proper purpose" as it relates to inter-agency data sharing.

> *"Proper purpose" includes the sharing or dissemination of data or information among and between agencies in order to*
>
> *(i) streamline administrative processes to improve the efficiency and efficacy of services, access to services, eligibility determinations for services, and service delivery;*
>
> *(ii) reduce paperwork and administrative burdens on applicants for and recipients of public services;*
>
> *(iii) improve the efficiency and efficacy of the management of public programs;*
>
> *(iv) prevent fraud and improve auditing capabilities;*
>
> *(v) conduct outcomes-related research;*
>
> *(vi) develop quantifiable data to aid in policy development and decision making to promote the most efficient and effective use of resources; and*
>
> *(vii) perform data analytics regarding any of the purposes set forth in this definition*

While this legislation expanded the scope and paved the way for increased data sharing amongst Executive Branch Agencies, it did not address the fundamental need for enterprise-wide data governance across the Commonwealth. The lack of a comprehensive data inventory as well as data standards, data dictionaries, and regulation and compliance surrounding data quality makes understanding agency data very difficult both internally as well as externally between agencies. While organizations are focused on their mission mandates and operational goals, they may not be aware of the impact their data can have on the effectiveness of their sister agencies or organizations. As such,

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agencies have little incentive to document or model their respective data beyond their current operational interests.

The Data Governance Framework resulting from previous activities and deliverables not only helped to inform the agency engagement and analysis presented in this report, the framework recommended by the 2016 HHR report served as a potential starting point for the state government to act on the recommendations.

Commonwealth of Virginia Data Advisory Commission

During the 2021 Special Session of the General Assembly of Virginia, § 2.2-203.2:4 of the Code of Virginia was amended and reenacted by adding in Chapter 25 of Title 2.2 an article numbered 13, consisting of sections numbered 2.2-2558 through 2.2-2564 that codified the Data Governance Framework proposed by the Data Sharing and Analytics Advisory Committee in its 2019 report to the Governor and the General Assembly and administratively implemented by Governor Northam in January 2020.

> *§ 2.2-2558. (Expires July 1, 2024) Virginia Data Advisory Commission; purpose.*
>
> *The Virginia Data Advisory Commission (the 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 (the Office), established pursuant to § 2.2-203.2:4, on issues related to data sharing, including open data, data analytics, and data governance. The Commission shall (i) set, plan, and prioritize data sharing performance goals for the Commonwealth, (ii) review agency accomplishments, and (iii) recommend solutions that will establish the Commonwealth as a national leader in data-driven policy, evidence-based decision making, and outcome-based performance management.*
>
> *2021, Sp. Sess. I, c. 314.*
>
> *§ 2.2-2559. (Expires July 1, 2024) Membership; terms; vacancies; chairman and vice-chairman.*
>
> *A. The Commission shall have a total membership of 27 members that shall consist of six legislative members, seven nonlegislative citizen members, and 14 ex officio members. Members shall be appointed as follows: three members of the Senate, to be appointed by the Senate Committee on Rules; three members of the House of Delegates, to be appointed by the Speaker of the House of Delegates in accordance with the principles of proportional representation contained in the Rules of the House of Delegates; and seven nonlegislative citizen members to be appointed by the Governor. The Executive Secretary of the Supreme Court of Virginia, the Chief Workforce Advisor to the Governor, the Chief Data Officer of the Commonwealth, the Secretary of Administration, the Secretary of Health and Human Resources, the Secretary of Public Safety and Homeland Security, the Secretary of Finance, the Secretary of the Commonwealth, the Secretary of Agriculture and Forestry, the Secretary of Natural and Historic Resources, the Secretary of Commerce and Trade, the Secretary of Education, the Secretary of Veterans and*

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Defense Affairs, and the Secretary of Transportation, or their designees, shall serve ex officio with voting privileges. Nonlegislative citizen members appointed by the Governor shall represent the seven geographic areas of the Commonwealth. Of the nonlegislative citizen members, at least one shall represent a baccalaureate public institution of higher education in the Commonwealth, at least one shall be an elected official representing a local government in the Commonwealth, and at least one shall represent a private business with expertise and experience in the establishment, operation, and maintenance of a data intelligence platform.

Data Operations

In addition to creating the Commonwealth of Virginia Data Advisory Commission to facilitate communication between data operators, legislators, and the public, the Advisory Committee also recommended, and the Governor and General Assembly established, the following governance structure to support organizations who conduct ongoing data operations. These organizations, which are not limited to the executive branch of state government, are responsible for the collection, storage, management, protection, use and dissemination of data assets. The recommended governance structure facilitates communication and collaboration between executives, senior managers, technical personnel, and data consumers. Governance should be driven by a Data Governance Council, with executive oversight, strategic goals, and performance objectives defined by an Executive Data Board. The Data Stewards Group informs the Data Governance Council of the technical needs and issues encountered as it implements the policies set forth by the Executive Data Board. The Office of Data Governance and Analytics maximizes the value and utility of Commonwealth data-related investments by promoting data sharing between state agencies, localities, and other organizations providing tangible operational improvements assisting these organizations in fulfilling their respective missions in a coordinated, cost-effective manner.

This governance model (*Appendix* 2) enables the Commonwealth to implement policies, standards, and best practices supporting the exchange and effective use of data by state agencies, localities, and other commonwealth organizations. The Data Governance Council defines, develops, and recommends policies, standards, and best practices to achieve performance targets set by the Executive Data Board and implemented by the Data Stewards Group. Appendix 3 represents the structure of the Virginia Data Advisory Commission.

Executive Data Board

The Executive Data Board shall consist 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 CDO shall chair the Board. Members of the Board shall (i) translate the Commonwealth's data-driven policy goals and objectives into performance targets at their respective agencies; (ii) allocate appropriate resources at their respective agencies to support data governance, sharing, and analytics initiatives; and (iii) provide any reports to the Office regarding their respective agencies' data analytics work and implementation of recommendations.

Data Governance Council

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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 CDO, or his designee, shall chair the Council. The Council shall (i) liaise between state agency operations and the CDO; (ii) advise the CDO on data technology, policy, and governance structure; (iii) administer data governance policies, standards, and best practices, as set by the Board; (iv) oversee data sharing and analytics projects; (v) review open data assets prior to publication; (vi) provide to the Board any reports on the Council's recommendations and work as required by the Board; (vii) develop necessary privacy and ethical standards and policies for Commonwealth Data Trust resources; (viii) monitor the sharing of Commonwealth Data Trust member-contributed data resources; (ix) review and approve new Commonwealth Data Trust-managed data resources; and (x) conduct any other business the CDO deems necessary for Commonwealth Data Trust governance.

The Data Governance Council is responsible for the governance of the Commonwealth Data Trust and administration of the permanent governance structure for the Commonwealth. The membership of the Data Governance Councilshall be determined by the Executive Data Board. Agency participation on the council is voluntary if the agency is not a member of the data trust, but highly encouraged since the council acts as a bi-directional communication vehicle between operational units and the Commonwealth CDO. The council is expected to meet quarterly to execute the following functions:

- Advise the Executive Data Board and the Commonwealth Data Commission on technology, policy, and governance strategies to meet the Chapter 679 requirements.
- Govern the Commonwealth Data Trust
- Provide a governance, policy, and technology framework for information sharing, promoting greater utility and accessibility of data assets
- Recommend policies, standards, and guidelines for the formation, operations, and maintenance of the Data Governance Council
- Recommend policies, standards, and guidelines for defining, managing, approving, and distributing ‘Open Data’ maintained by state agencies
- Report progress, compliance, and performance to the Executive Data Board and the Commonwealth Data Commission
- Coordinate among agency projects and activities, to prevent duplication of functions, and to combine all agency data governance plans into a comprehensive interagency state plan

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 Data Stewards Group shall consist of employees from executive branch agencies with technical experience in data management

or data analytics. Executive branch agencies shall be encouraged to designate at least one agency data steward to serve on the Group and may designate multiple data stewards as appropriate based upon organizational or data system responsibilities. The Group shall (i) provide the Board and Council with technical subject matter expertise in support of data policies, standards, and best practices; (ii) implement data sharing and analytics projects promoting data accessibility, sharing, and reuse, thereby reducing redundancy across the Commonwealth; (iii) coordinate and resolve technical stewardship issues for standardized data; (iv) ensure data quality processes and standards are implemented consistently by agencies in the Commonwealth; (v) provide communication and education to data users on the appropriate use, sharing, and protection of the Commonwealth's data assets; (vi) promote the collection and sharing of metadata by registering data assets in the Virginia Data Catalog; (vii) liaise with agency project managers and information technology investment staff to ensure adherence to Commonwealth data standards and data sharing requirements; and (viii) support informed, data-driven decision making through compliance with Commonwealth data policies, standards, and best practices.

The Data Stewards Group provides technical personnel a voice and an opportunity to be engaged in the data governance process. The Data Stewards Group should have multiple working groups to support the needs of the Data Governance Council. The Data Stewards Group should meet quarterly at a minimum with working groups meeting more frequently as needed.

Cross-Agency Data Domain Coordinators

An important function of the Data Stewards Group is the coordination of data assets belonging to the same domain across multiple agencies. The data domain coordinators are able to identify potential data integrity and interoperability issues and propose solutions to the Data Governance Council. Some example domains include, but are not limited to:

- Agriculture
- Economic Development
- Education
- Environmental Quality
- Finance
- Health
- Housing
- Law Enforcement
- Public Safety
- Social Services
- Transportation

Data domains cut across multiple agencies, cabinet offices, and commonwealth organizations requiring coordination and communication. In addition, some data elements are so ubiquitous they require enterprise-level management to maximize interoperability and re-use throughout

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the organization. The Cross-Agency Data Domain Coordinators is a specific, permanent working group of the Data Stewards Group.

Office of Data Governance and Analytics

The Office of Data Governance and Analytics (the Office) was created during the 2021 Special Session (https://law.lis.virginia.gov/vacode/title2.2/chapter2/section2.2-203.2:4/) reports to the Chief Data Officer within the Secretary of Administration and directly supports the Data Governance Council in the development of policies, standards, and best practices. This office will manage the Commonwealth Data Trust to facilitate data sharing across the Commonwealth and its partners and provide administrative support to the Virginia Data Advisory Commission, Executive Data Board, Data Governance Council, and Data Stewards Group (*Appendix 2 and 3*). In addition, the Office will provide guidance, support, oversight, and technical assistance to data trust member agencies and commonwealth organizations in the implementation of data governance, sharing, security, and analytics projects. Additional responsibilities of the Office include, but are not limited to:

- Advise executive state agencies, commonwealth organizations, and political subdivisions regarding state best practices concerning the creation and maintenance of data
- Coordinate data analytics and transparency master planning for the executive branch agencies and provide leadership regarding state data analytics and transparency
- Collect, analyze, and exchange government information
- Advocate for data sharing providing expert guidance on federal and state data privacy laws
- Conduct operational and procedural audits of executive state agencies data governance and sharing implementations
- Identify data integration and business intelligence opportunities that will generate greater efficiencies in state agencies, departments, and institutions
- Leverage data from transactional systems for enterprise-level state business intelligence
- Compare capabilities and costs across state agencies
- Ensure data integration and sharing is performed in a manner that preserves data privacy, security, and confidentiality in transferring, storing, and accessing data, as appropriate

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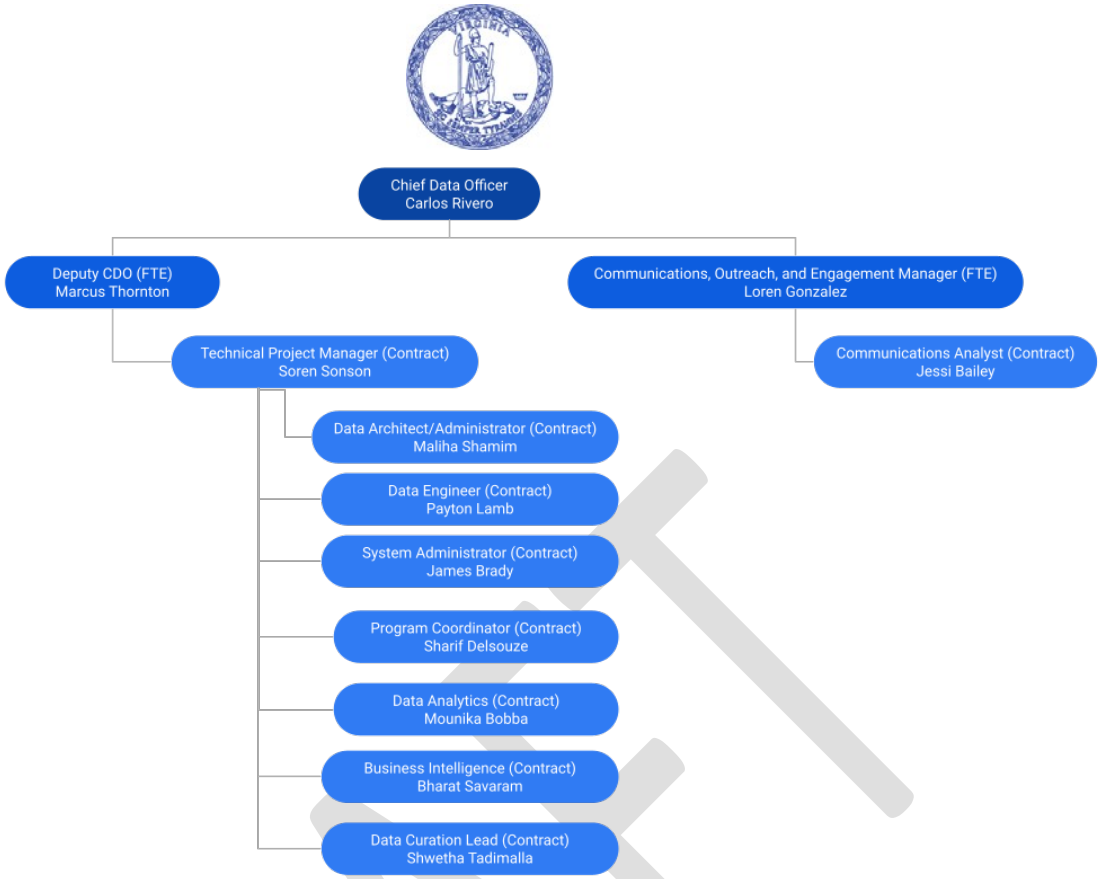

Figure 1. Current organizational structure of the Office of Data Governance and Analytics.

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Proposed Office of Data Governance and Analytics Organizational Structure

Based on an analysis of the composition of Indiana's Management Performance Hub (*Appendix 5*), North Carolina's Government Data Analytics Center (*Appendix 6*), and the Tennessee Center for Enterprise Data & Analytics (Appendix 7), the Advisory Committee recommends the following positions be included in the Office of Data Governance and Analytics. These positions cover the breadth and depth required to meet the current data governance, sharing, and analytic needs of the commonwealth.

- Chief Data Officer (political appointment)
- Deputy Chief Data Officer
- Program Coordinator
- Data Privacy Officer
- Data Security Analyst
- Data Curation Lead
- Data Scientist
- Data Analytics Project Manager*
- Data Analytics Specialist*
- Business Intelligence Specialist*
- Communications/Outreach/Engagement Manager
- Communications Analyst*

- Technical Project Manager*
- Data Architect*
- Data Engineer*

* Potentially more than 1 person

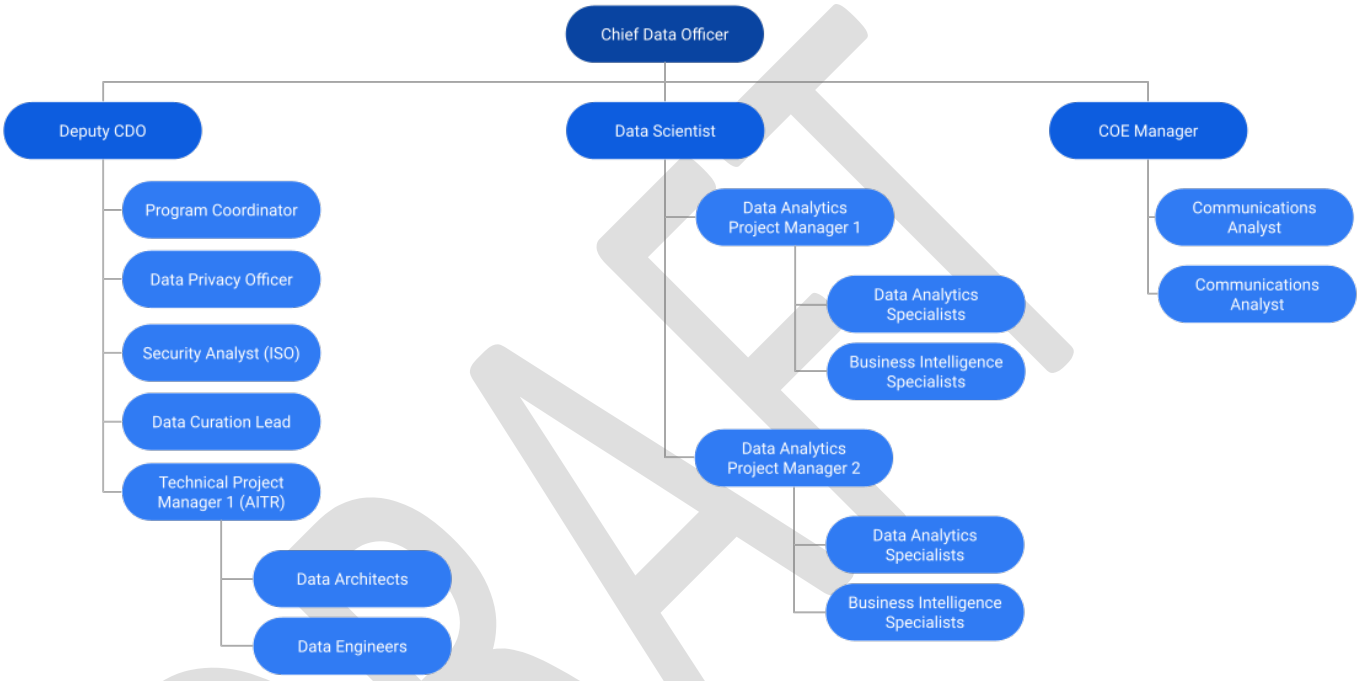

Figure 2. Proposed organizational structure of the Office of Data Governance and Analytics.

Awards

- 2019 Governor's Technology Award: the Framework for Addiction Analysis and Community Transformation (FAACT) won a 2019 Governor's Technology Award for the innovative approach to improving government for the benefit of citizens.
- 2020 StateScoop 50 Awards: Chief Data Officer, Carlos Rivero, was a finalist in the area of "State Leadership" that highlights the public sector principal helping government implement new technologies, strategies and IT programs.
- Route Fifty Navigator Awards: Chief Data Officer, Carlos Rivero, won in the Tech Innovators category for the Route Fifty Navigator Awards in September 2020.
- 2020 National Association of State Chief Information Officers (NASCIO) Awards: The Office of

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Data Governance and Analytics and the Virginia Department of Criminal Justice Services won the State IT Recognition award in the category of Cross-Boundary Collaboration & Partnerships for the Framework for Addiction Analysis and Community Transformation (FAACT) data-sharing and analytics platform.

- 2021 StateScoop 50 Awards: Chief Data Officer, Carlos Rivero, won in the “Golden Gov” category that honors visionary state executives leading state government into a new technology landscape with innovative ideas and inspiring others to get on board.

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Appendix 1. Artifacts from Previous Data Sharing Activities

VLDS: VLDS Book of Data Governance Version 2.1 February 16, 2017

http://vlds.virginia.gov/media/1087/vlds_book_of_dg.pdf

VITA Executive Directive 6: Cyber-related Risk Management Activities and Protections

https://www.vita.virginia.gov/about/news-events/news-archive/2015-news--events/governor-mcauliffe-signs-executive-directive-6.html

VITA Executive Directive 7 Final Report: Leveraging the Use of Shared Data and Analytics

https://www.vita.virginia.gov/media/vitavirginiagov/it-governance/pdf/ExecutiveDirective7.pdf

Secretary of Health and Human Resources and Secretary of Technology: Secretarial Committee on Data Sharing. Committee Report and Recommendations, Version 2.2. March 2012

https://www.vita.virginia.gov/media/vitavirginiagov/it-governance/ea/pdf/SCDS_DURSA_Report.pdf

Commonwealth Enterprise Information Architecture (EIA) Strategy:

https://www.vita.virginia.gov/media/vitavirginiagov/it-governance/ea/pdf/Commonwealth_EIA_Strategy_FINAL.pdf

ITRM Data Exchange Standards:

https://www.vita.virginia.gov/media/vitavirginiagov/it-governance/ea/commonwealth-data-standardization-plan/pdf/Item_427-FinalPlanSoTechTransmittal_07012013.pdf

NIEM Adoption Strategy:

https://www.vita.virginia.gov/media/vitavirginiagov/it-governance/ea/commonwealth-data-standardization-plan/pdf/Appendix_2-NIEMCorePersonStandardNarrative.pdf

Adopted Health IT Standards:

https://www.vita.virginia.gov/media/vitavirginiagov/about/pdf/itac-and-hitsac-archives/COVHealthITStandardsAdoptedHITSACAug2016.pdf

Governor's Data Internship Program (GDIP):

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http://www.govtech.com/data/Virginia-Launches-Open-Data-Open-Jobs-Initiative.html

Commonwealth Data Internship Program (CDIP):

vip.virginia.gov/services/cdip

Data Sharing and Analytics Advisory Committee - Data Sharing and Analytics Governance Structure for the Commonwealth of Virginia Report (2019)

https://rga.lis.virginia.gov/Published/2019/SD6

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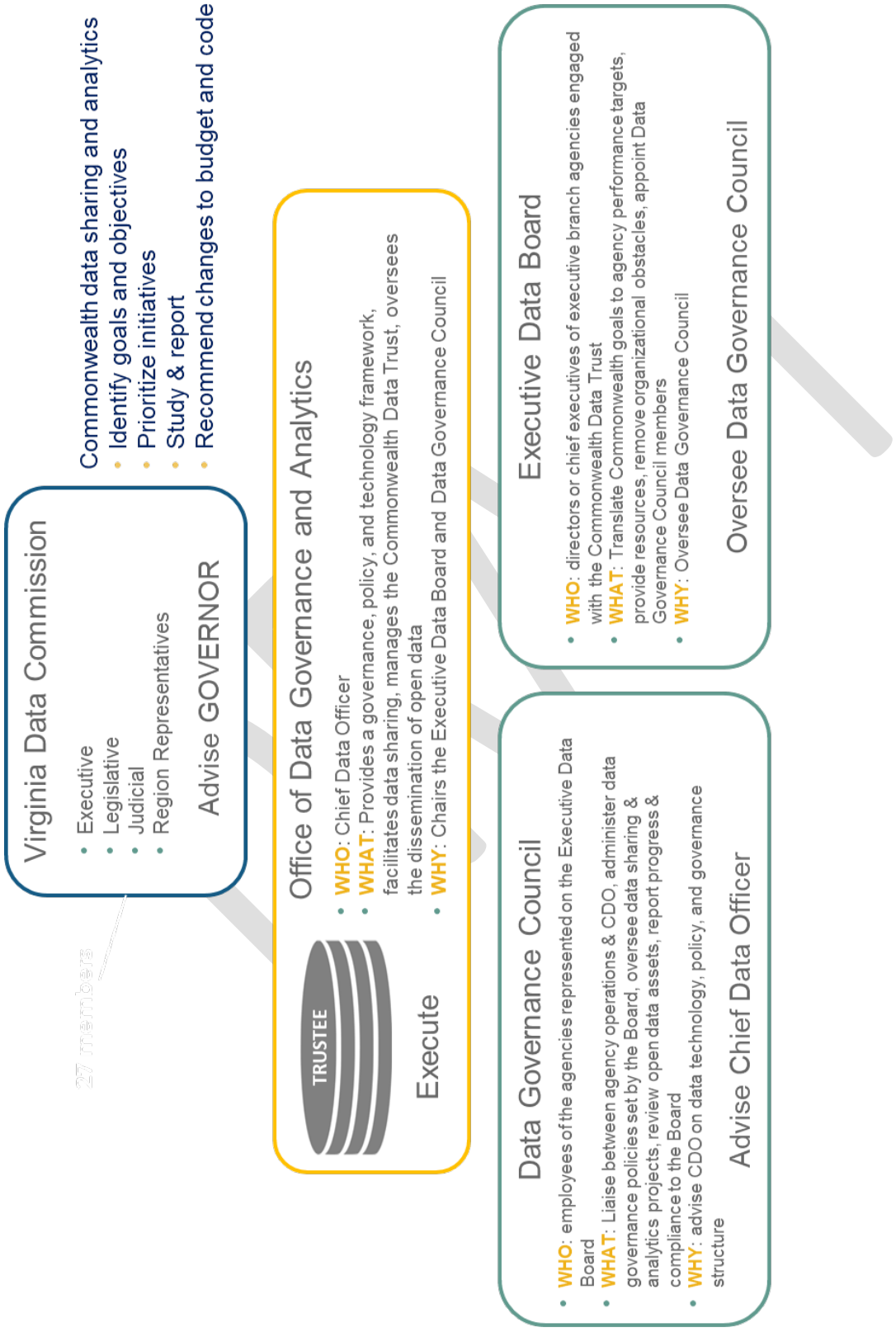
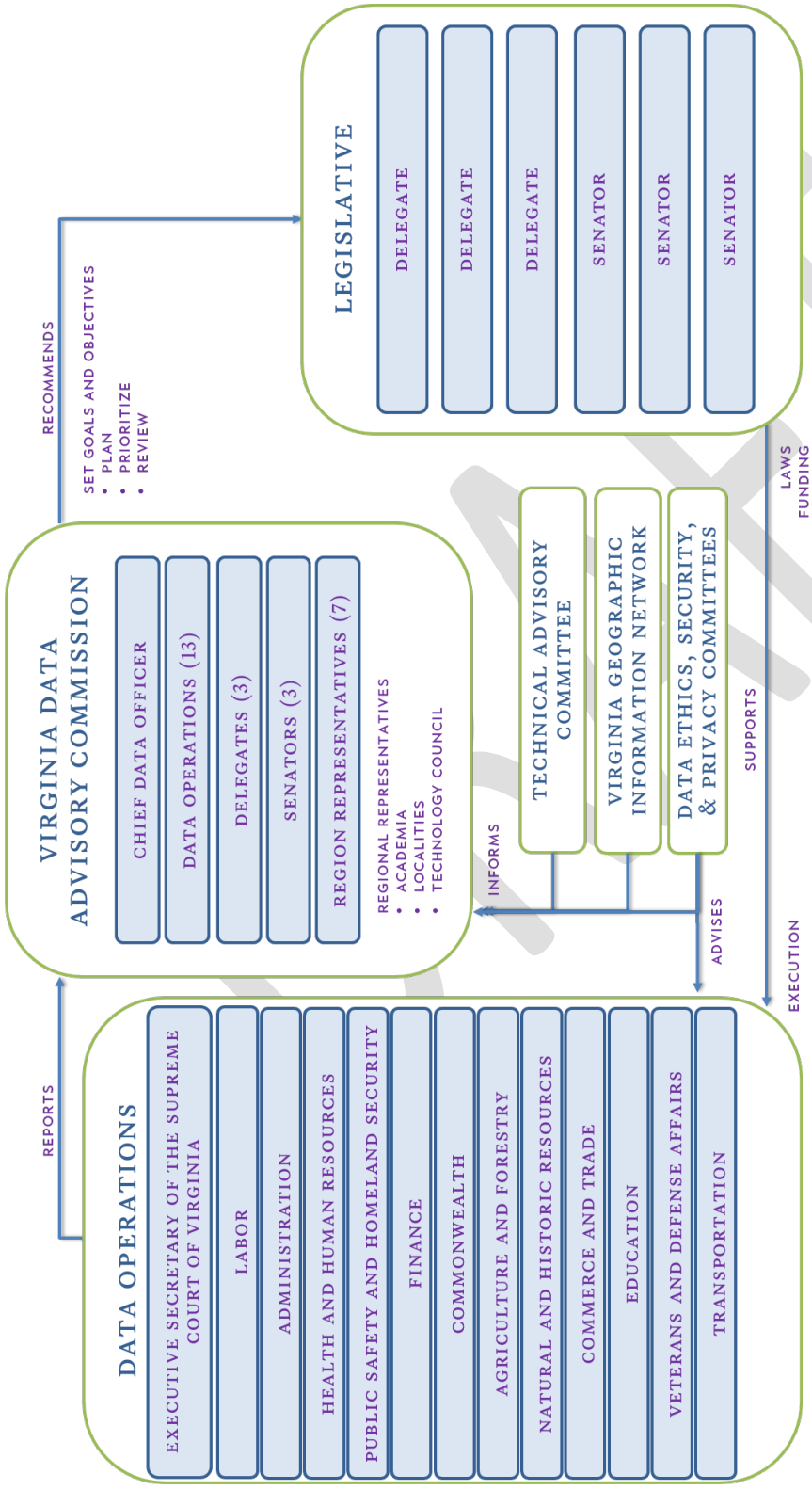
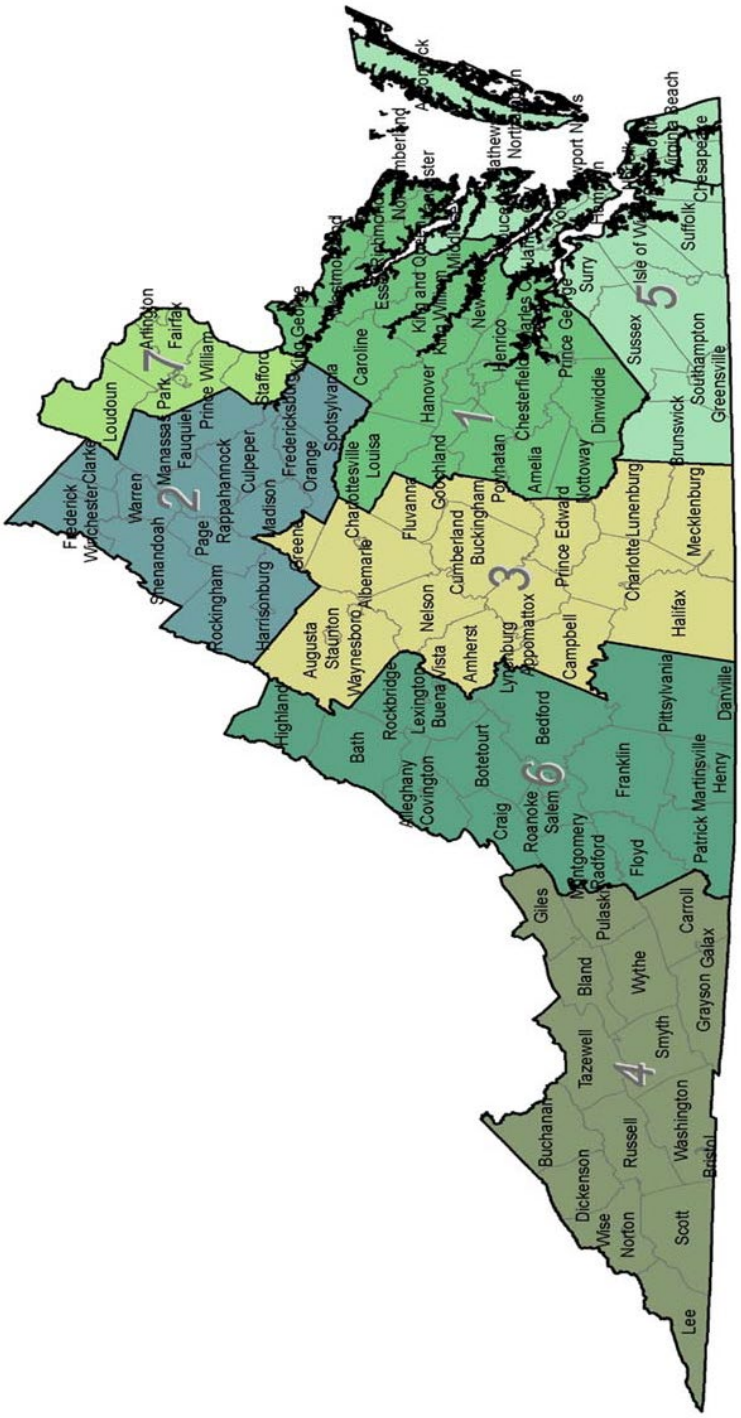
Appendix 2. Data Governance Framework



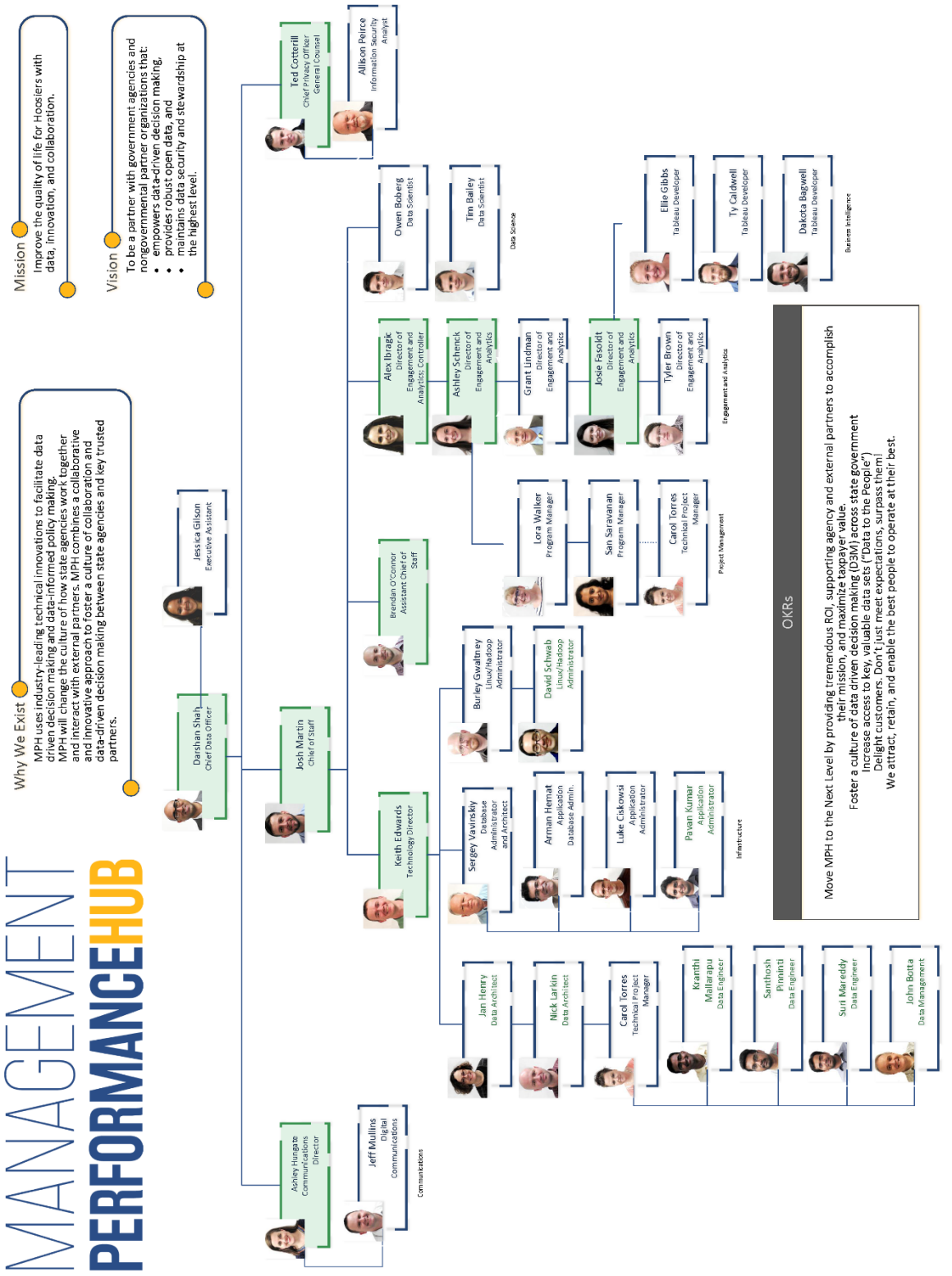
Appendix 3. Virginia Data Advisory Commission



Appendix 4. Virginia Data Advisory Commission Regions



Appendix 5. Indiana Management Performance Hub Organizational Chart



Appendix 6. North Carolina Government Data Analytics Center Organizational Chart

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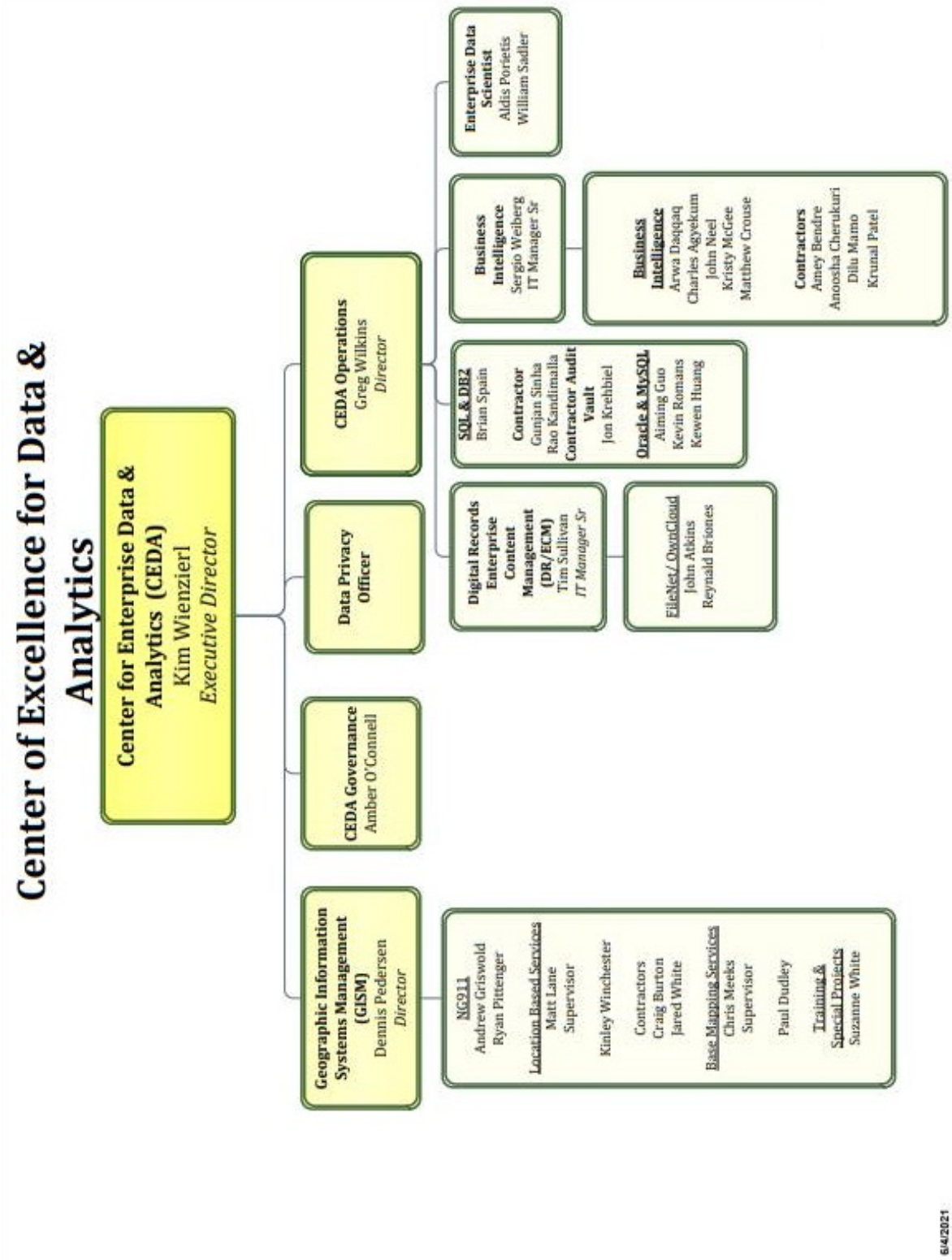
Appendix 7. Tennessee Center for Enterprise Data & Analytics Organizational Chart