

Maryland Council on Open Data, Annual Report

January 10th, 2023

The Honorable Lawrence J. Hogan, Jr.
Governor
State House
Annapolis, MD 21401-1925

The Honorable William C. Ferguson IV
President of the Senate
State House, H-107
Annapolis, MD 21401-1991

The Honorable Adrienne A. Jones
Speaker of the House
State House, H-101
Annapolis, MD 21401-1991



Introduction

Data is the most valuable asset a government can provide its citizens. Maryland's many agencies and departments have been working in sync to collect, store, clean, standardize, and analyze more data than ever before, and Maryland's citizens have been making greater and greater use of that data over the years. As a result, the state has seen booming economic prosperity and has been recognized as a leader in the field of open data.

This year marks a period of transition for Maryland. The state has been moving out of the COVID-19 pandemic to a state of relative normalcy, and the government is moving from one administration to the next for the first time since 2015. Under the Hogan administration, the Open Data Program has thrived as the Council on Open Data was prepared to provide relevant, accurate, and machine-readable data to Marylanders. Although there will be many changes in the state over the next few months, some gradual and others abrupt, there will be no change to the strength of commitment the Council and all of Maryland's departments have to the original statute on open data (as specified under "Legislation" below).

The aim of this Annual Report is both to reflect on the efforts of the past year while also looking ahead to future goals, offering some idea of what makes for an effective open data program to the incoming administration. That idea can be narrowed down to three key initiatives: understanding our citizens and the information they seek, improving access to that information, and strengthening the comprehension of data.

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Vision & Mission

Vision

Curate and make readily available all useful, relevant, and releasable data created by the State of Maryland and select Local Governments to businesses, residents, visitors, and civil servants of the State.

Mission

To promote easy and direct access to data created by governments within the State of Maryland to empower Marylanders to effect change, make better and more informed decisions, and enable state agencies and coordinating offices to better deliver services to constituents, businesses, and visitors to the State of Maryland.

Legislation

The Maryland Open Data Act (state government, chapter 69, section 10-1501 through 10-1504) was established in 2015. The intent of the act is “that open data be machine readable and released to the public in ways that make the data easy to find, accessible, and usable [...]”. In addition, the act ensures that open data does not include data that would compromise the security, privacy, or integrity of systems, programs, or persons.



History of the Open Data Program

Since the program's inception in 2015, many different projects have fallen under the purview of open data. Beyond the data management needs of the program, it falls to the various agencies throughout the Maryland government to utilize the data to showcase what the data can do for both internal and external users. Some prominent success stories over the years include:

The Maryland Imagery Program

Since 2007, the Data Services Team within the Department of Information Technology has been collecting aerial photography of the entire state over the course of a three-year period. The high-quality images are designated as open data and have been put to use in emergency response dispatch, surveying, environmental conservation and planning. For more information, visit <https://imap.maryland.gov/pages/imagery-overview>.

The Maryland Next Generation 911 Initiative

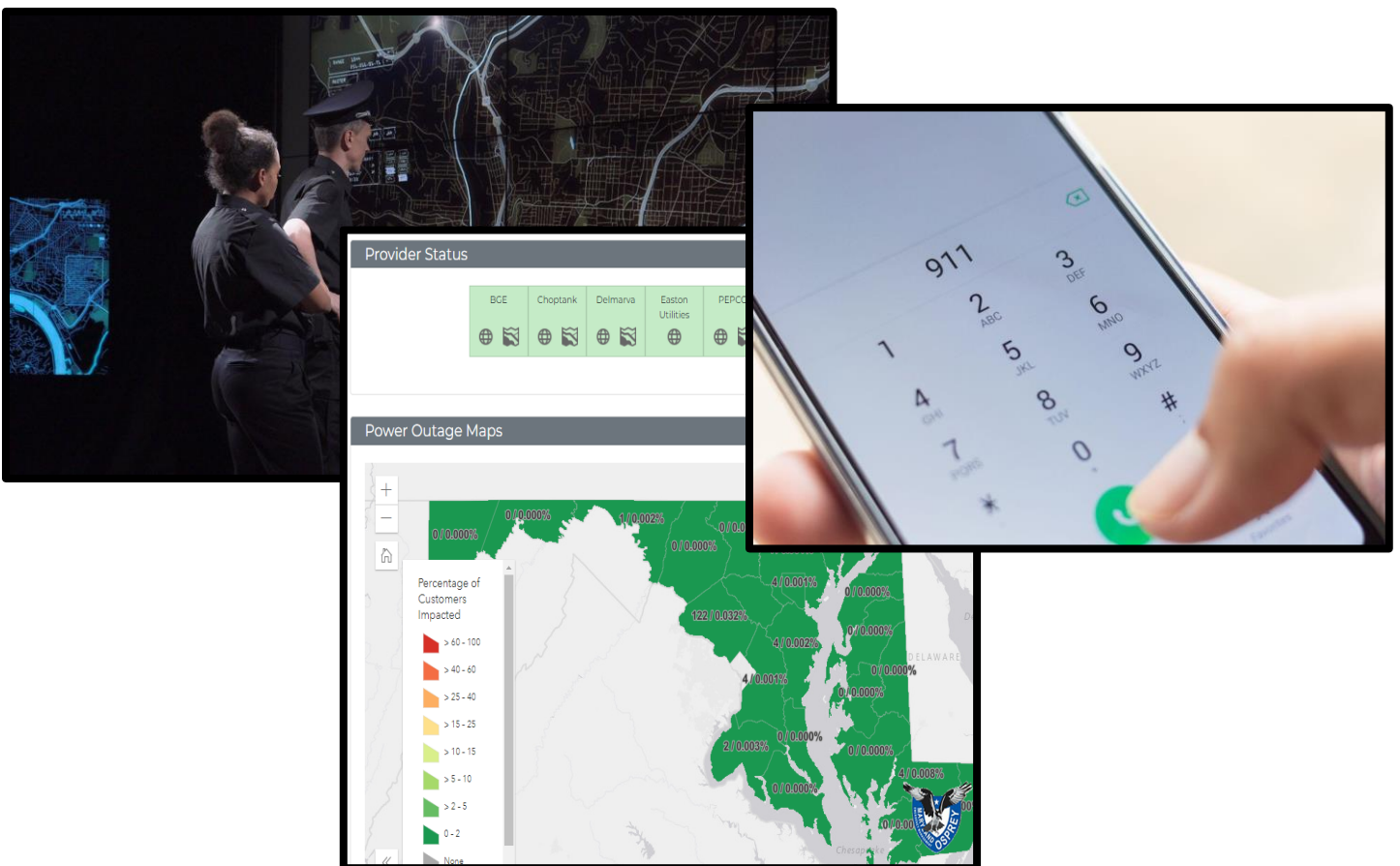
Technology and data are important assets in the rush to save lives. Through geospatial data and query capabilities, Geographic Information Systems (GIS) improves response times and location accuracy each time a 911 Specialist answers the call. More citizens using mobile phones has made these changes necessary. A vast improvement from the old system, the Next Generation 911 effort is the next iteration in the evolution from the Enhanced 911 system. See <https://911.maryland.gov> for more information on this initiative.



Maryland Power Outages

The Maryland Department of Emergency Management uses open data to display information on current outages throughout the state in near real-time. By aggregating data on power outages from seven different providers throughout Maryland and displaying this data in maps and graphs, the Maryland Power Outages map provides the most up-to-date possible indicator of statewide power outage conditions. It is used by both the general public and the Maryland Emergency Management Agency (MEMA) State Emergency Operations Center (SEOC) to provide situational awareness as part of the Operational and Situational Preparedness for Responding to an Emergency (OSPREY) platform. For more information, visit <https://mdem.maryland.gov/Pages/Power-Outages-Data.aspx>.

These projects demonstrate just a few of the responsibilities that come with handling and managing open data, and some excellent examples of use cases the program aims to create in the future.



Featured Accomplishments

The Open Data Program's accomplishments this year were numerous and wide-ranging, from the various types of data being uploaded to the portals to the live events attended. Here are some of the most prominent updates to the program:

Presentations at the Council on Open Data Quarterly Meetings

Each quarterly meeting of the Council on Open Data provides the Council an opportunity to provide the public with frequent updates to the goings-on of the open data program, but time slots from this year's meetings were used to partner with industry leaders in the field. This gave them a forum to present on their uses of data in their industries. These data advocates provided vital context to some of what data can do for businesses and users around the state. Presenters included:

- JB Churchill (*DoIT*), Dawn Baldrige (*Mission Critical Partners*), and Robert Horner (*Mission Critical Partners*)—LiDAR Basics and Applications (March 18th, 2022)
- Andrew Bernish (*MDOT*) and Nate Evans (*MDOT*)—Mapping Bikeability in Maryland (June 17th, 2022)
- Laura Congleton (*Fearless Solutions*)—I Am a Data Influencer And So Are You (June 17th, 2022)
- Michael Coury (*OOCC*)—Opioid Operational Command Center's Data Dashboard (June 17th, 2022)
- Mike Morello (*DBM*)—American Rescue Plan State and Local Fiscal Recovery Funds Open Data (September 16th, 2022)
- Ross Cutts (*Geosetta*)—The Importance of Open Geotechnical Data (September 16th, 2022)
- Sharmila Parthiban (*MDE*) and Harry Smith (*MDE*)—Open MDE and the Socrata Platform - How MDE business needs were met using the Socrata Platform and integration with MDE's systems (December 16th, 2022)



Beginning of the American Rescue Plan State and Local Fiscal Recovery Funds Dashboard

In response to the COVID-19 pandemic, the State of Maryland had been allocated \$9.2 billion from the Federal Government as part of the American Rescue Plan (ARP). \$3.7 billion of that ARP funding has been designated State and Local Fiscal Recovery Funds (SLFRF). Maryland has used that money to establish 28 projects and 89 sub-projects. However, it is vitally important that these projects are tracked accordingly to be certain that taxpayer funding is being used appropriately. To that end, the Department of Budget and Management launched the ARP SLFRF Dashboard to track these compliance and reporting requirements for these SLFRF projects for the next five years. These requirements include performance reports to the Maryland General Assembly, the U.S. Treasury, and to the public, and they contain over 100 performance measures. Many of the datasets described in the state's 2022 SLFRF Annual Performance Report are open data, and may be valuable to an array of stakeholders. The dashboard can be found here: <https://opendata.maryland.gov/stories/s/iig8-s6az>, and the Annual Performance Report can be found here: <https://dbm.maryland.gov/budget/Documents/operbudget/ARP-2022-SLFRF-Annual-Report.pdf>

Baltimore Neighborhood Indicators Alliance's Data Week

The Baltimore Neighborhood Indicators Alliance-Jacob France Institute (BNIA-JFI) is committed to the use of data as it coordinates the efforts of nonprofits around Baltimore. They track the economic development, the community growth, the safety, and many, many more metrics of Baltimore City's health and well-being, and they encourage others to use data to do the same. Each year, the BNIA-JFI hosts Data Week, a chance for those tuning in to learn what data resources they have available to them. This year, the Data Services team gave a presentation on the open data portals and the many tools they offer. More information on the efforts of the BNIA can be found here: <https://bniajfi.org/>, and recordings of Data Week can be found here: <https://www.youtube.com/bniajfi>.



TUgis: Maryland's Geospatial Conference

Towson University held its annual conference for leaders in the geospatial information systems (GIS) field, and that includes the Department of Information Technology's Geographic Information Office (GIO). At the conference, the team presented "[Data Freshness on the MD Open Data Portal](#)" and outlined their plan for reaching out to each state agency's data coordinator. This is being done to achieve three things: (a) to provide an inventory of the agency's assets currently housed on the MD Open Data Portal, (b) to review any assets that are not updated according to their metadata, and (c) to provide the resources and support necessary to add, archive, or remove assets associated with each agency. After meeting with 29 agencies so far, the GIO has been successful in helping these agencies refresh their public data and supporting many of them in adding, editing, and managing their public-facing data (and metadata) in accordance with agency policies and legislative mandates. The team's presentation also highlighted the move to more versatile Business Intelligence software for the purpose of showcasing an automated report that assesses the currentness of data.

Chesapeake Bay Restoration Program Dashboard

The Maryland Department of Agriculture has been working to document the efforts of Maryland farmers as they keep the Chesapeake Bay clean, healthy, and in compliance with the 1972 Clean Water Act. The Chesapeake Bay Restoration Program Dashboard is one such effort to track that progress by monitoring the best management practices (BMPs) of farmers across the six states in the Chesapeake Bay watershed. [The Maryland Agricultural Water Quality Cost-Share Program](#) aids farmers with grants to fund the implementation of these BMPs. Some of the 30 different types of BMP include structural BMPs that farmers can build to stop or slow erosion into the Bay (forest buffers, grass buffers, alternative crops) to Agronomic BMPs for recycling nutrients in the ground rather than letting them flow into the bay (cover crops), and all of these mitigation and abatement efforts are cataloged in the Dashboard using open data from the Maryland open data portal. The dashboard can be found here: <https://transparency.md.gov/public/extensions/MDAChesapeakeBayRestoration/MDAChesapeakeBayRestoration.html>.



Last Year's Projects

To chart the success of the Open Data Program, it is important that we look back at the progress made from the previous year. Some of 2021's projects include:

The Data Freshness Effort

As a leader in the field of open data, Maryland must maintain its commitment to the accuracy and relevance of the data it collects and shares with the public. 2021 saw the advent of the Data Freshness initiative, a collaborative effort between the Department of Information Technology and the Governor's Office of Performance Improvement. Cooperating with each Maryland agency's designated data coordinator, the team had been holding regular meetings to guide these agencies through the state's data plan. This effort is intended to be cyclical—once every agency has been contacted, the team starts again from the beginning—and they have done just that. Regular meetings have been held throughout 2022 between the agencies to inform data owners of the upkeep they need to perform on their assets on the portals, as well as offer assistance with the functionalities of the portals if necessary.

Responding to Current Events

The last few years have tested the strength of Marylanders as they face various adversities, from the [COVID-19 pandemic](#) to the [opioid crisis](#). In response to these national challenges, the state government has been using dashboards to convey important information to citizens to guide them through the data behind each event. Last year, the COVID-19 vaccination dashboard was the most prominent of these dashboards, directing visitors to the most readily available sites to receive their immunization. However, many other dashboards were created and are intended for use outside of national emergencies. This includes the [Maryland Special Events Dashboard](#) for finding local events, parades, festivals, or races, the [Maryland Locations to Enable Testing Sites \(LETS\) for CAV Dashboard](#) for showing the locations where Connected and Automated Vehicle (CAV) technology is being tested, and [Clean Air in Maryland](#) for charting the downward trend in Maryland's pollution and emissions. Agencies throughout state government are still creating dashboards to help users navigate to relevant information. Some of the most prominent dashboards can be found from the Maryland Department of Transportation, here: <https://data-maryland.opendata.arcgis.com/pages/mdot-dashboards-storymaps>



Learning Materials

Part of providing open data is helping users to understand that data; that's why learning and training materials are crucial to the use of the open data portals. Last year, the portals saw more site traffic than ever before, and the Data Services team posted some helpful videos on the site to guide new users.

This year, those training materials were made much more prominently available, with a retooled landing page to guide new users to beginner-level materials and intermediate and advanced users to more rigorous learning materials.



Key Initiatives

The Council on Open Data's Key Initiatives are the guiding principles that direct the actions of the open data program. They aim to help us better understand the needs of Marylanders, improve how we provide data to Marylanders, and educate Marylanders on how they can use our data to their fullest advantage. We meet the goals of these initiatives through various workgroups based around administration, outreach, and training. Below are some of the past year's efforts at approaching these three Key Initiatives:



Key Initiative #1: Better Understanding Our Citizens - Ensure awareness of available data and provide data that reflects popular topics

The reigniting of the @datamaryland Twitter handle

Originally launched in 2019, the @datamaryland Twitter handle is an excellent way for the open data program to regularly update followers on the status of their most frequently accessed datasets, news and studies surrounding open data in government, and serve as another avenue for keeping in touch with the public as we find out more about what feedback they might have for the portals. The Council on Open Data, in coordination with the Maryland Department of Information Technology's Data Services Office and the State's Chief Data Officer, has formulated a new plan to kick off more frequent use of the Twitter account. This will involve consistent, timed release of posts covering a range of topics, including general alerts to what data is available on the portals, notifications on upcoming data-related meetings, and other engaging content.

Access to data without paying for it twice

Open data, by nature, is freely available to site visitors and formatted to be machine-readable, but that can also make it ripe for abuse. While the state encourages businesses to utilize the portal to enhance their productivity, there is nothing stopping them from turning around and re-selling that data to the public without making any modifications or addendums. While most of the data on the sites fall within the purview of the public domain and businesses would be within their right to do this, the state would be remiss if it continued to allow taxpayers to essentially pay for the same service twice—once as taxpayers funding the operations of their government, and again to third parties because they were unaware that the data they are paying for is freely and readily available.

The Council on Open Data has begun to take a number of steps to avoid any potentially unscrupulous actions like this:

- 1) Promote the open data portals. We intend to encourage people to look for data with us before consulting a third party and paying for it, and that means the public needs to know that the portals are out there brimming with data relevant to their needs—[parcel data](#) for their moving needs, [greenhouse gas emissions](#) for their academic research needs, [cargo data](#) for their shipping inquiries, and many, many more. The Council has partnered with other Maryland departments to have them plug the open data portals on their own platforms, and the Data Services team within the Department of Information Technology has been making appearances at events from the Baltimore Neighborhood Indicators Alliance's Data Week to the quarterly Maryland State Geographic Information Committee meetings to ensure that the public remains aware of their options for getting data.



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- 2) Educate our state employees on the different licensing options they have when uploading data to the portals. The open data portals offer a number of different licensing options for data providers in Maryland's many departments to choose from—public domain, Creative Commons, or open data licensing, to name just a few. Giving a different license to datasets on the portal designates what each dataset can and can't be used for; for example, some Creative Commons Attribution licenses allow users to modify datasets, but not redistribute the information, or may require attribution recognizing the original data source. State employees may want to consider designating their datasets as something other than public domain if they hope to avoid having their data repurposed and sold back to the public.
 - 3) Implement different levels of access to data on the portal. We will perform a data review over the upcoming year to identify datasets that could benefit from a change in the licensing model in use. Data provided in the Open Data portal currently ranges from "public domain" to "private." We will be deriving methods that support licensed access to data that is paid or otherwise agreed upon but that isn't readily available to the public as a whole. The method for achieving this will involve keeping assets private and sharing them (as needed) with named "collaborators".

Allowing different levels of access to the portals for students and other non-state government types

The open data portals are in a perfect position to educate the public on how they can approach the worlds of data analysis and data science. University and college students would benefit from having a portal where they can practice cleaning, standardizing, and analyzing data that they have collected for school projects. In an attempt to invest in the futures of these burgeoning data analysts, the Council on Open Data has ruminated on allowing students and other non-government persons to access the portal for use in their education. Doing so would encourage these students to get a feel for how data management works in the public sector and in the working world they'll be entering when they complete their schooling.

Monitor incoming service tickets to see which datasets Marylanders are most interested in

The state has numerous channels through which citizens can submit requests for data they are interested in—on the [open data portal itself](#), through the [maryland.gov support page](#), at the [@datamaryland twitter account](#), or through one of the department's various support pages.



Key Initiative #2: Improving Access To Data - Deliver access to open data that best serves the interests of our portal visitors

The Eligibility Zone Lookup Asset

In the 2020 election, Marylanders passed a referendum on commercial gaming, which allowed sports betting at any licensed facility, taxing each bet at a rate of 15% in order to fund the Blueprint for Maryland's Future Fund. As a result, numerous gaming institutions in Maryland took advantage of this newfound opportunity, and, thanks to House Bill 940 from the 2021 legislative session, the Sports Wagering Application Review Commission (SWARC) also consults with other agencies to support the growth of women- and minority-owned businesses in the sports betting industry. To document where these new sports betting are located in relation to economic opportunity zones (as established by the 2017 Tax Cuts and Jobs Act), SWARC used open data to publish a map of the existing casinos to aid up-and-coming sports betting entities as they initiate their operations. To view the map, visit:

<https://experience.arcgis.com/experience/415964638f364e8aa64635c47d849c17>.

Maryland Bikeability

Frequently referred to as "America in Miniature," Maryland is home to many unique biomes and varied terrain, and that makes it a destination for outdoorsmen of all skill levels, particularly bikers. There are a number of assets available to bikers looking to plan their routes through both cities and countryside. The [Maryland Roads & Road-Separated Bike Routes](#) asset shows the levels of traffic stress bikers might face on certain routes over others, the [MDOT State Highway Administration Bike Spine](#) asset shows the accessibility of each bike route by who is owning and maintaining those roads, and all of this and more is conglomerated into [one story asset here](#).

Maryland State Geographic Information Committee (MSGIC) Quarterly Conferences

The Maryland State Geographic Information Committee (MSGIC) hosted its quarterly conferences at different venues around the state this year, including Salisbury University, the College Park Aviation Museum, and this marks the first time the Committee has had in-person meetings since the onset of the COVID-19 pandemic. Holding these conferences around the state allows for different members of the GIS community to gather and share information on updates in their field, and MSGIC was as informative and engaging as always.



GIS Training Program through the Maryland Highway Safety Office at Washington College

In June of 2022, the Maryland Highway Safety Office hosted a learning session for newcomers and intermediate users of geospatial information systems over the course of two days. The Highway Safety Office, dedicated to saving lives and preventing injuries by reducing motor vehicle crashes through the administration of a comprehensive network of traffic safety programs and responsible for the Maryland Vision Zero program, was in a prime position to educate others on the importance of GIS. During the training, attendees were given an in-depth look at how to best utilize Esri's ArcGIS system.

Training materials up on the open data portal to help visitors familiarize themselves with the Data & Insights analytics tools

Strengthening the ability to use and understand data is most accessible when the lessons for doing so are readily available to users at home. To that end, the Data Services team has been updating and enhancing the data training tools available to visitors on the open data portals. Accessible through the main page's header bar of opendata.maryland.gov, these tools are a useful, easy-to-understand asset for newcomers to data analytics and management. Ongoing efforts to this initiative include adding some example visualizations in more story assets so users can gain an in-depth, step-by-step understanding of how they, too, can create meaningful visuals with the tools available to them.



Key Initiative #3: Strengthening Use of Open Data - Improve the ability to understand data context, constructs, and value

Investing in other BI, GIS, or Data & Insights services

Part of having access to data is knowing what to do with it, and that is why it is crucial that the state invest in accompanying business intelligence (BI) software, geospatial information systems (GIS), and data management software. State employees have access to powerful BI and GIS software through the Department of Information Technology's Data Services team, and all members of the public can use the data management and preliminary BI tools offered by the open data portals. Continued investment in these tools is an important part of giving context to the provided data.

Maryland Open Data portal - opendata.maryland.gov

Maryland GIS Data Catalog - data.imap.maryland.gov

As part of keeping data on the portal fresh and relevant for visitors, unused, outdated, and non-standardized data is routinely removed by agency data coordinators

This is the result of collaboration between agencies, departments, partners, and local governments. Because of the value these portals offer, they have seen:

Over

740,000 downloads

between all datasets

Over

12.4 million API reads

between all datasets



Open Data in the News

[Chestertown sees 25 electric vehicle charging stations](#) (published Sept. 29th, 2022)

[For your information: Expanding Opportunities 2022 briefs](#) (published Sept. 14th, 2022)

[Digital States Survey 2022: Resident-Focused and Data-Driven](#) (published Sept. 29th, 2022).

[Government Experience Awards 2022: Bringing Government to the People](#) (published Sept. 15th, 2022)

[30 State and Local Government IT Influencers Worth a Follow in 2022](#) (published Sept. 7th, 2022)

[‘Everything matters to neighborhoods:’ Baltimore Data Week returns for city’s communities](#) (published Jul. 14th, 2022)

[Maryland Gov. Hogan appoints state and local cybersecurity directors](#) (published Oct. 5th, 2022)

[Maryland helps fund SANS cyber training center](#) (published Aug. 9th, 2022)

[American Rescue Plan spending paves the way for future infrastructure projects](#) (published Jul. 14th, 2022)

[Maryland improves website navigation with analytics data](#) (published Jun. 23rd, 2022) (featuring an interview with Assistant IT Secretary Stefanos Ghebrehawariat)



Council Members

Executive Branch Agency Secretaries and Coordinating Office Directors (25)

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Director of the Governor's Office of Performance Improvement (Vice Chair)

Vacant

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Victoria L. Gruber, Esq.

State Archivist

Elaine R. Bachmann

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Senate of Maryland

Senator Susan C. Lee

House of Delegates of Maryland

Representative Bonnie L. Cullison

**Appointees of elected officials or employees from local entities to represent each of the
following groups of counties (5):**

**Allegany County, Frederick County, Garrett
County, and Washington County**

Jennifer D. Kinzer

**Montgomery County and Prince George's
County**

Harash N. (Sonny) Segal

**Caroline County, Cecil County, Dorchester
County, Kent County, Queen Anne's
County, Somerset County, Talbot County,
Wicomico County, and Worcester County**

The Honorable Travis Marion

**Baltimore City, Baltimore County, Carroll
County, Harford County, and Howard
County**

Rob Livermore

**Anne Arundel County, Calvert County,
Charles County, and St. Mary's County**

Vacant

Appointees from the Private, Private Utility, Academic, or Nonprofit Sectors (5)

Private Sector — Scott Shaffer

Academic Sector — Linda M. Loubert, Ph.D.

Private Sector — Ross Cutts

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