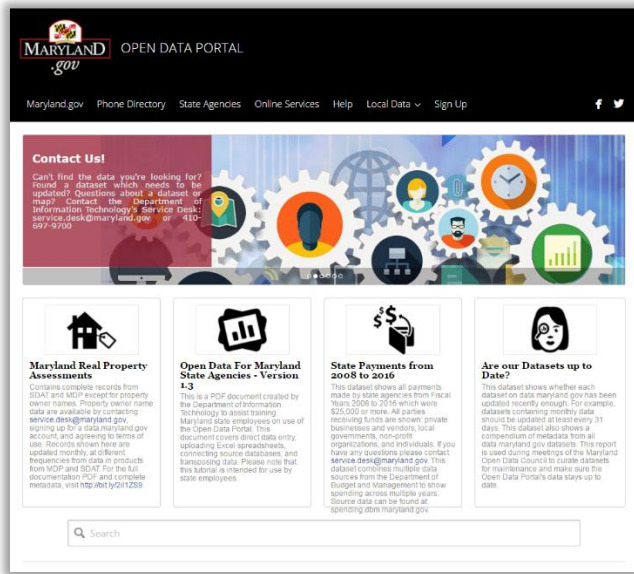
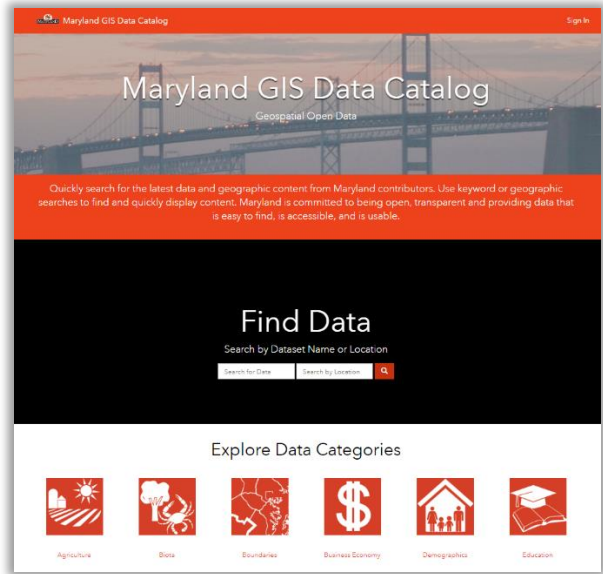


Open Data Portal  
<http://data.maryland.gov>



Screenshot of Open Data Portal homepage  
<https://data.maryland.gov/>

GIS Data Catalog  
<http://data.imap.maryland.gov>



Screenshot of GIS Data Catalog homepage  
<http://data.imap.maryland.gov/>

## Maryland's Open Data Program

State of Maryland – Department of Information Technology

Category: Data Management, Analytics & Visualization

Contact: Michael G. Leahy  
Secretary / State Chief Information Officer  
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## Executive Summary

**Looking for data on Maryland population demographics by county? How about trends in job growth for Marylanders? Need data on pollution reduction in the Chesapeake Bay? How about data on health trends of Marylanders? These datasets and much more are available, to the public, on Maryland's open data portals.**

The Maryland Council on Open Data, chaired by State CIO Michael G. Leahy, supports the success of Maryland's Open Data Act to make state data open and easy to access by the public. The Maryland Council on Open Data accomplishes its mission by providing strategic guidance and input on programmatic operations for open data. Quarterly meetings of the Council include discussion on data transparency, opportunities for adding new datasets to Maryland's open data portals, and how to best promote the use of open data to Marylanders in the spirit of Changing Maryland for the Better.



The Maryland Council on Open Data has 37 members, including Cabinet agencies, five county representatives, and five private citizens. Council meetings are open to the public. Meeting transcripts, Open Data Act law documents, access to Maryland's open data portals and other information is available at [opendata.maryland.gov](http://opendata.maryland.gov).

Maryland's open data portals contain over 1,000 datasets of agency data. The intent of the Portals is to provide the public with access to state data for transparency, accountability, performance, and results. County and association partners contribute additional datasets so that Maryland's open data portals offer centralized access to public data in machine readable format. The format allows Portal customers to explore, export, feed, filter, and visualize all of the datasets on the Portal.

### *2017 Open Data Portals / Council on Open Data Highlights*

- The Maryland Open Data Portal ranked #1 in the Nation for open data portals by think tank the Center for Data Innovation.<sup>1</sup>
- Improvements in accountability for agencies to keep datasets up-to-date on the Portals.
- Automated connections to data ensure customers have access to the most up-to-date data.
- Data quality focus to ensure datasets contains accurate data.
- Expansion of county, association, and federal partnerships for data exchange. For example, the Maryland Association of Counties is now hosting their research data on the Maryland Open Data Portal.

The 2017 Maryland Council on Open Data Annual Report describes accomplishments and initiatives in more detail, including top search terms on the Portals, use cases for open data, and data governance activities.

## **Background**

Maryland's [Open Data Act](#) (State Government, Section 10-1501 through 10-1504) became effective on June 1, 2014. This legislation includes instructions for the collection and storage of data online, and to make it available to the public. Open data makes state data easily accessible, self-service and, on-demand.

The statute also established the Council on Open Data, a group of 37 people who lead Maryland's open data. The duties of the Council are to recommend, coordinate, identify, advise, encourage, plan, promote, and advocate for Maryland's open data. The Council is required to meet twice a year and to publish this report annually.

The intent, of the Open Data Act, is to provide transparency so that businesses, residents, visitors, and civil servants can use state data to aid in decision making. The transparency of open data helps to improve accountability, by involving data owners in the responsibility for ensuring data is open and available to the public. Open data also has the potential to help improve performance, by enabling greater analysis of data and providing more opportunities for collaboration.

This 2017 Annual Report, from the Council on Open Data, provides readers with a greater understanding of Maryland's open data, activities of the Council, and the Council's outlook for open data in 2017.

## **Status of Open Data in Maryland**

Maryland's open data portals continued to see an increase in traffic in 2017. We believe this is the result of 3 factors:

1. Governor Hogan and the Administration's commitment to transparency, accountability, performance, and results.
2. Portal administrators listening to the needs of their constituents and collaborating with agencies to provide valuable and reliable data in the portals.
3. Constituents finding the Open Data Portal and the GIS Data Catalog through improved search engine optimization.

## **Maryland's Open Data Visualization Examples**

In addition to data downloads, both portals also provide Application Programming Interfaces (APIs) that enable the creation of visualizations, in the form of maps and dashboards. Visualizations are an integral part of the transparency, accountability and performance management that Maryland's open data offers, as they provide a format that is easy to consume, comprehend and translate into useful information and insights.

### *Example #1 – Maryland Department of Commerce*

The Department of Commerce has developed an interactive dashboard that provides a comparison between Maryland Counties, the State of Maryland to other States and metropolitan cities nationwide. Through this visualization, customers can compare information such as demographics, education, taxes, transportation, quality of life, workforce, utilities, economy, and technology. This dashboard utilizes data provided by the

Department of Commerce, the Department of Planning, the Department of Labor, Licensing, and Regulation, and many others. All of this data can be found on the Maryland Open Data Portal.

The development of this dashboard provides the opportunity to display data in two formats: as a table with rows of data and as a dashboard that tells the story of the impacts from this program.



Figure 3: Maryland Data Explorer Developed by the Department of Commerce

The screenshot displays the Maryland Open Data Portal interface. At the top, the Maryland.gov logo and 'OPEN DATA PORTAL' are visible. Below the header, there are navigation links for 'Maryland.gov', 'Phone Directory', 'State Agencies', 'Online Services', 'Help', 'Local Data', and 'Sign Up'. The main content area is titled 'Employment, Unemployment, and Labor Force Data' and includes a brief description: 'This dataset uses seasonally adjusted data from the US Bureau of Labor Statistics to present information on Maryland's labor force participation rate, employment rate, and unemployment rate.' The data is presented in a table with columns for Date, Year, Month, Date Label, Civilian Non-institutional Population, Civilian Labor Force, Labor Force Participation Rate, Employed, Employment Rate, Unemployed, and Unemployment Rate. The table shows monthly data from January 2007 to September 2008. At the bottom of the table, there are navigation arrows and the text 'Showing monthly employment and labor force rates 1-50 out of 130'.

| Date        | Year | Month | Date Label | Civilian Non-institutional Population | Civilian Labor Force | Labor Force Participation Rate | Employed  | Employment Rate | Unemployed | Unemployment Rate |
|-------------|------|-------|------------|---------------------------------------|----------------------|--------------------------------|-----------|-----------------|------------|-------------------|
| 2007 Jan 01 | 2007 | 01    | Jan 2007   | 4,312,014                             | 2,971,757            | 68.9%                          | 2,862,374 | 66.4%           | 109,383    | 3.7%              |
| 2007 Feb 01 | 2007 | 02    | Feb 2007   | 4,314,108                             | 2,969,319            | 68.8%                          | 2,862,192 | 66.3%           | 107,127    | 3.6%              |
| 2007 Mar 01 | 2007 | 03    | Mar 2007   | 4,316,235                             | 2,966,728            | 68.7%                          | 2,861,549 | 66.3%           | 105,179    | 3.5%              |
| 2007 Apr 01 | 2007 | 04    | Apr 2007   | 4,318,781                             | 2,964,828            | 68.6%                          | 2,861,066 | 66.2%           | 103,762    | 3.5%              |
| 2007 May 01 | 2007 | 05    | May 2007   | 4,321,081                             | 2,964,240            | 68.6%                          | 2,861,115 | 66.2%           | 103,125    | 3.5%              |
| 2007 Jun 01 | 2007 | 06    | Jun 2007   | 4,323,615                             | 2,965,051            | 68.6%                          | 2,861,858 | 66.2%           | 103,193    | 3.5%              |
| 2007 Jul 01 | 2007 | 07    | Jul 2007   | 4,326,118                             | 2,966,888            | 68.6%                          | 2,863,204 | 66.2%           | 103,684    | 3.5%              |
| 2007 Aug 01 | 2007 | 08    | Aug 2007   | 4,328,119                             | 2,968,203            | 68.6%                          | 2,864,973 | 66.2%           | 104,230    | 3.5%              |
| 2007 Sep 01 | 2007 | 09    | Sep 2007   | 4,332,260                             | 2,971,568            | 68.6%                          | 2,867,189 | 66.2%           | 104,379    | 3.5%              |
| 2007 Oct 01 | 2007 | 10    | Oct 2007   | 4,335,243                             | 2,973,704            | 68.6%                          | 2,869,756 | 66.2%           | 103,948    | 3.5%              |
| 2007 Nov 01 | 2007 | 11    | Nov 2007   | 4,337,998                             | 2,975,569            | 68.6%                          | 2,872,531 | 66.2%           | 103,038    | 3.5%              |
| 2007 Dec 01 | 2007 | 12    | Dec 2007   | 4,340,521                             | 2,977,514            | 68.6%                          | 2,875,253 | 66.2%           | 102,261    | 3.4%              |
| 2008 Jan 01 | 2008 | 01    | Jan 2008   | 4,342,905                             | 2,979,811            | 68.6%                          | 2,877,661 | 66.3%           | 102,150    | 3.4%              |
| 2008 Feb 01 | 2008 | 02    | Feb 2008   | 4,344,772                             | 2,982,567            | 68.6%                          | 2,879,995 | 66.3%           | 102,572    | 3.5%              |
| 2008 Mar 01 | 2008 | 03    | Mar 2008   | 4,346,938                             | 2,985,879            | 68.7%                          | 2,879,149 | 66.2%           | 106,730    | 3.6%              |
| 2008 Apr 01 | 2008 | 04    | Apr 2008   | 4,349,192                             | 2,989,649            | 68.7%                          | 2,878,199 | 66.2%           | 111,450    | 3.7%              |
| 2008 May 01 | 2008 | 05    | May 2008   | 4,351,442                             | 2,993,685            | 68.8%                          | 2,876,486 | 66.1%           | 117,199    | 3.9%              |
| 2008 Jun 01 | 2008 | 06    | Jun 2008   | 4,354,007                             | 2,997,941            | 68.9%                          | 2,874,433 | 66%             | 123,508    | 4.1%              |
| 2008 Jul 01 | 2008 | 07    | Jul 2008   | 4,356,418                             | 3,002,266            | 68.9%                          | 2,872,147 | 65.9%           | 130,099    | 4.3%              |
| 2008 Aug 01 | 2008 | 08    | Aug 2008   | 4,360,469                             | 3,006,565            | 69%                            | 2,869,479 | 65.8%           | 137,086    | 4.6%              |
| 2008 Sep 01 | 2008 | 09    | Sep 2008   | 4,364,390                             | 3,011,044            | 69%                            | 2,865,987 | 65.7%           | 145,057    | 4.8%              |

Figure 4: Labor Data found in Open Data Portal

### Example #2 – MDOT State Highways Annual Average Daily Traffic (AADT)

The Maryland Department of Transportation State Highways Administration (SHA) has developed an interactive map that shows the Annual Average Daily Traffic volume data collected from more than 8,700 program count stations and 91 automatic traffic recorders (ATs) located across the state. Through this visualization, a customer is provided with a search and view capability to the latest AADT information using a map interface and address search tool. This visualization also supports tabular data download from within the map viewer.

The development of this map provides the opportunity to display data in two formats: as stand-alone datasets, with attribute tables and as a map that combines these datasets to tell the impact of this program.

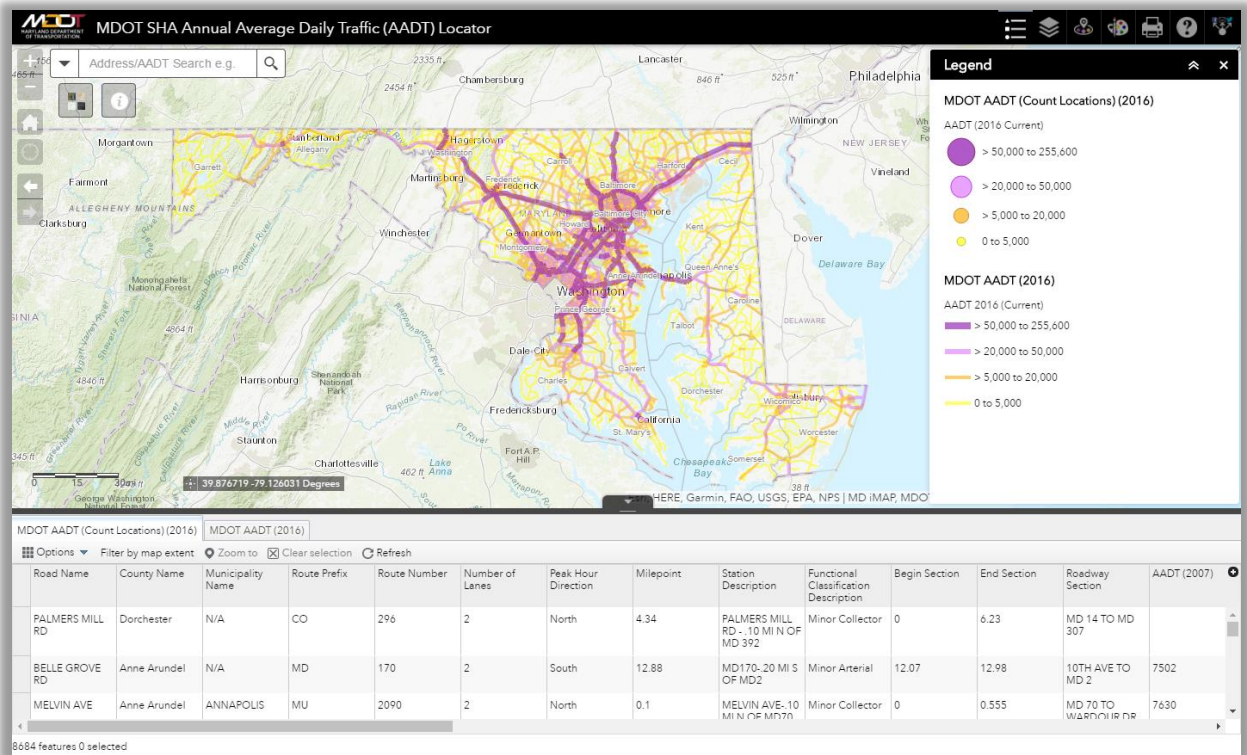


Figure 5: AADT Map Visualization

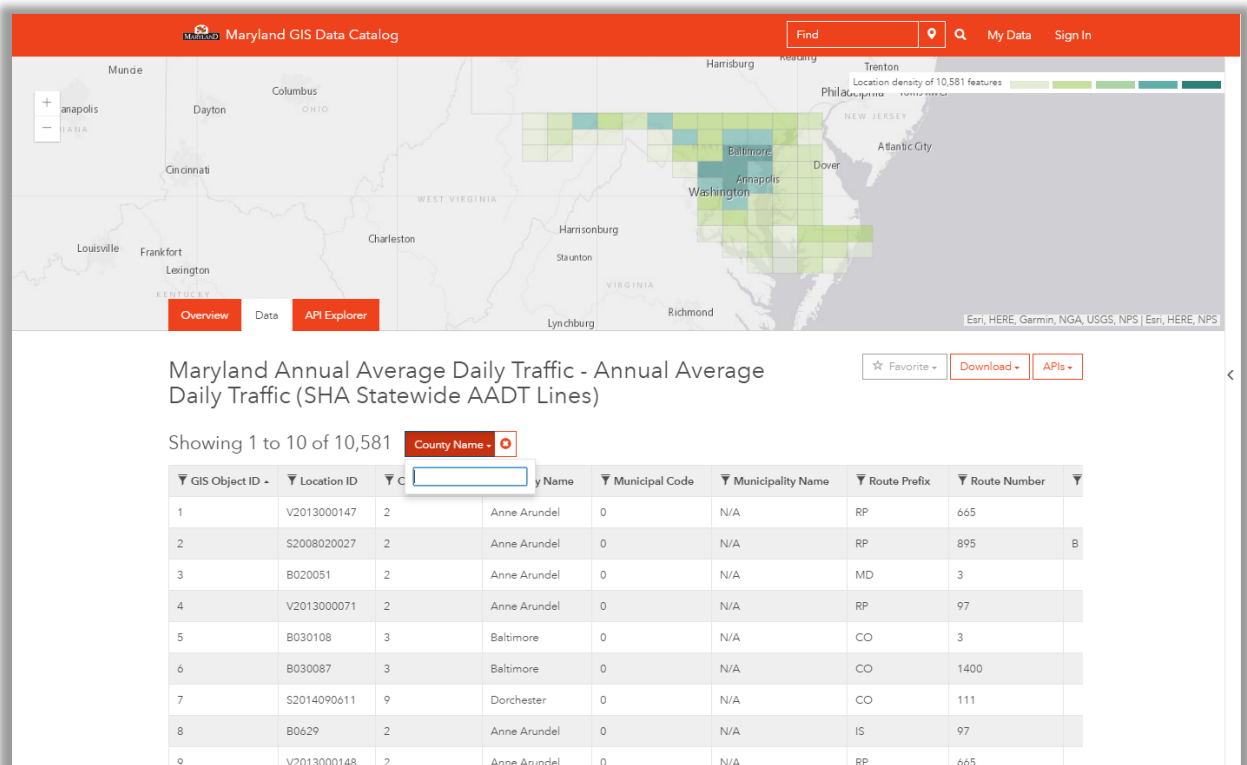


Figure 6: AADT data table view from MD iMAP Open Data Portal

Additional examples of visualizations, dashboards and maps, of data hosted on the Open Data Portal and the GIS Data Catalog, are listed below.

| DASHBOARDS  | MAPS  |
|---|---|
| <ul style="list-style-type: none"> <li>• <a href="#">Maryland Data Explorer</a></li> <li>• <a href="#">Maryland Smart Energy Investment</a></li> <li>• <a href="#">Give Maryland</a></li> </ul> | <ul style="list-style-type: none"> <li>• <a href="#">Maryland Coastal Atlas</a></li> <li>• <a href="#">Maryland CHRC Traditional Grantee Map</a></li> <li>• <a href="#">Maryland Bay Trust Fund Mapper</a></li> </ul> |

## Data Governance

The Department of Information Technology and the Governor’s Office of Performance Improvement developed guidance and standards for state agencies to identify datasets to publish on Maryland’s open data portals. This includes procedures for submitting and maintaining data on the open data portals.

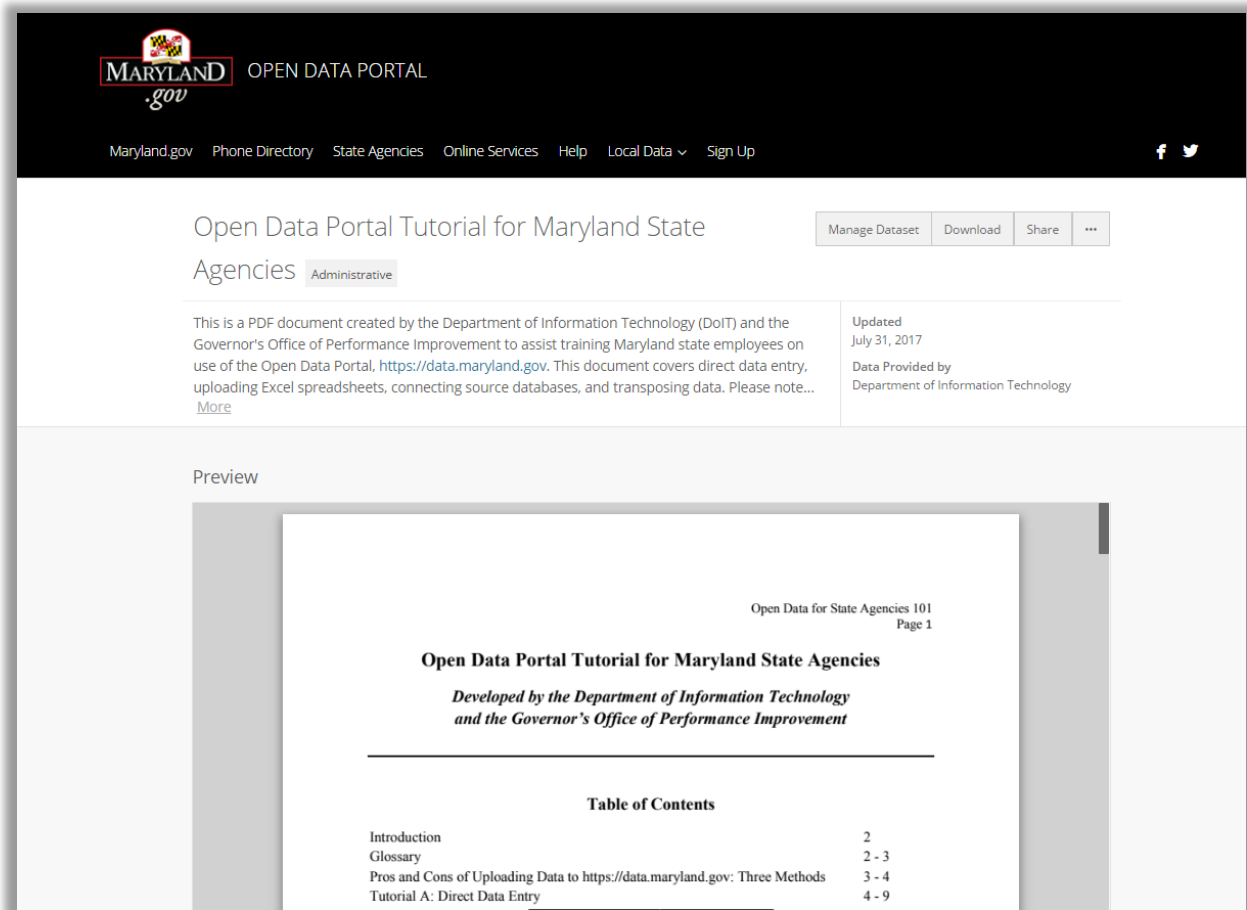


Figure 7: Open Data Tutorial for Maryland State Agencies

Additionally, working sessions were held throughout 2017 to demonstrate the workflow for creating datasets within the open data portal and the process for scheduling the maintenance of data. These sessions will continue to be held in 2018.

<sup>i</sup> Best States for Data Innovation; Center for Data Innovation; 2017; Online retrieval <http://www2.datainnovation.org/2017-best-states-data.pdf>