



Advancing Ohio Data Transparency and Access through the DataOhio Portal

Category: Digital Services: Government to Citizen

State: Ohio

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Project Initiation and End Dates: November 2019 – Current

Executive Summary

Under the direction of the DAS Office of Information Technology (OIT), the InnovateOhio Platform (IOP) provides integrated and scalable capabilities that enable state agencies to become more customer-centric and data-driven, delivering on InnovateOhio's vision to better serve Ohioans. Through collaboration and innovation, the InnovateOhio Platform creates an integrated customer experience that brings higher-quality services to the public. The InnovateOhio Platform (IOP) presents customer-focused digital solutions that create efficiencies and cost-savings while supporting a quality digital experience for Ohioans interacting with state websites and systems.

As one of IOP's key solutions in delivering value to Ohioans, the Data Ohio Portal (DOP) (data.ohio.gov) is a first-of-its-kind state technology that allows state agency and government stakeholders, as well as the general public, access to key State of Ohio data and associated visualizations. The Portal contains some of the most-requested public and secure datasets, allowing for unprecedented transparency and access.

The DataOhio Portal delivers value for partners and the public:

- **Increases transparency** by significantly expanding access to key State of Ohio data
- **Empowers the public** by putting data into the hands of key partners, local governments, researchers, reporters, and citizens
- **Informs policy and state programs** to better serve Ohio communities

The DataOhio Portal's key functions and features for state agencies and partners ensure a seamless, secure, and efficient experience, including:

- Data organized in an **intuitive catalog** that provides detailed descriptions and the ability to access, share and save specific datasets
- **Streamlined process** to request access to secured datasets
- Interactive **data visualizations** to view data in a more consumable way and allow users to analyze data most relevant to them
- A **secure and traceable data sharing** experience for state agencies and their partners
- **"Made with Ohio Data"** project feature stories and reports on the collaborative, innovative ways data has been used to improve our communities

The DataOhio Portal will continue to onboard additional datasets from state agencies as they become available. The DataOhio Portal aims to be the go-to for all State of Ohio data, as envisioned by the DeWine-Husted administration via [Executive Order 2019-15D](#).

Idea

Governor DeWine signed Executive Order 2019-15D that established the InnovateOhio Platform (IOP) in April of 2019, a common technology platform to charter a path towards a better and stronger Ohio. The DataOhio Portal (DOP) displays the state's public datasets and facilitates the request, approval, and delivery of secured datasets. With the ability to easily browse and view data, the Portal allows the public to access information with transparency and ease, thereby improving customer interactions with state agencies and institutions. Each dataset empowers state leadership, agencies, and the public with new insights which can be used to facilitate innovative solutions to the complex problems that Ohioans face.

Why does it matter?

As one of IOP's key solutions in delivering value to Ohioans, the DOP is a first-of-its-kind state technology that allows state agency and government stakeholders, as well as the general public, access to key State of Ohio data and associated visualizations. In addition, removing data silos and onboarding agencies to a single unified

platform has reduced data management inefficiencies and human resource time for agencies and consumers. Previously, data consumers had to research what agency owned the data, who is the data owner, and manually request the data. Today, this is a seamless search, request, and approve process within the DOP and for each DOP dataset.

Since the inaugural launch of the DOP in December 2020, key metrics include:

- Six Agencies onboarded
- 221 datasets currently available
- 73 programs contributing data
- 40,000+ dataset views
- 5000+ users per month to the data.ohio.gov website
- 2000+ visualizations views per month
- 1000+ dataset downloads per month

What makes it different?

Secure Dataset Request Workflow - For this project a “secure dataset request workflow” was created to allow data consumers to request access to secure datasets. Dataset requests are routed to the associated data owner and reviewed/approved. If approved, data consumers will gain access to secure datasets. Previously, data consumers had to research where the data resided, who owned the data, contact the data owner via email, and ultimately request the data. Today, this is a seamless workflow process and provides user traceability for all secure dataset requests.

Row Level Security - Row Level Security is a feature for secured datasets that allows data owners to configure custom views for each approved user based on the values of pre-identified fields. The data owner can configure individualized row level security values for each user to ensure that users are only viewing the data they should without having to create separate custom datasets.

Visualizations - The DOP Custom Tableau Report Builder is an innovation that enables non-technical users to build their own dashboards and visualizations in Tableau with easy to use, drag and drop/selectable data points. Users no longer need advanced technical skills, development training, or experience to conduct their own data analysis and build their own visualizations. The Custom Tableau Report Builder provides flexible self-service reporting options for users to create interactive and visually appealing reports.

Enhanced Data Collection, Sharing, and Cataloging - A defined agency data onboarding process ensures datasets are consistent in quality and appearance. The DOP’s intuitive catalog includes search features such as enhanced filters, dataset views, related datasets, and suggested results. If users are logged in, they’ll see personalized recent datasets. Datasets offer a share feature allowing users to easily grab a link to the page or share the set on social media.

COVID-19 Data Transparency and Access - The Ohio Department of Health (ODH) was committed to becoming an early adopter of the IOP and DOP. No one could have foreseen the impacts of COVID-19 on daily life – and how this technology would be a driving force behind the collaborative COVID-19 response.

ODH has onboarded Ohio COVID-19 data onto the platform to create dashboards and visualizations and analyze data that continues to enable leadership to make informed, data driven decisions. Without the ability to quickly visualize this data, both citizens and key decision-makers would have a difficult time processing the constantly changing COVID-19 data and ultimately, flattening the curve.

Key Outcomes from ODH’s partnership with the IOP and the DOP:

- Inform the public through data visualizations
- Analyze real-time data to make informed data driven policy decisions and create better predictive models (Data is operationalized and refreshed on a regular cadence.)
- Intuitive portal provides easy access to the four most common COVID-19 Case reports and more
- Protected access provides a secure experience for pre-determined users
- Easy to use filters enable customizable outputs most relevant to the user

What makes it universal?

Data is a universal asset to citizens, agencies, and leadership for all states, but often it is siloed within agency walls. This asset can only be utilized to its fullest extent by allowing consumers the ability to easily browse and view data, thereby improving interactions with state agencies and institutions. Access to new data provides state leadership, policy makers and communities with new insights, which can be used to facilitate innovative solutions to the complex problems that Ohioans face.

The DataOhio Portal incorporates elements of nine of the ten 2021 NASCIO priorities:

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| - Cybersecurity and Risk Management | - Consolidation / Optimization |
| - Digital Government/Digital Services | - Identity and Access Management |
| - Cloud Services | - Workforce |
| - Budget / Cost Control Fiscal Management | - Customer Relationship Management |
| - Data Management/Analytics | |

Implementation

Data is growing at an exponential rate, and the ability to make this data meaningful can transform how state agencies deliver their services. The IOP harnesses the power of applied analytics and secure enterprise data sharing to enable agencies to become more effective and efficient – moving from concepts to results through data-driven decision making. Each data set provides new insights for agencies and programs, making data actionable to support innovative solutions to the complex problems that Ohioans face.

The IOP provides integrated and scalable capabilities that enable state agencies to become more customer-centric and data-driven, delivering on InnovateOhio's vision to better serve Ohioans. Through collaboration and innovation, the IOP creates an integrated customer experience that brings higher-quality services to the public – ultimately making Ohio a better place to live, work, and do business.

The IOP and its three pillars (User Experience, Digital Identity, and Data/Analytics) function as the backend that supports the DOP's user interface, identity and authentication, and onboarded datasets. Data sharing capabilities are being leveraged by the DOP to display the public datasets onboarded by agencies and facilitate the secure/authenticated dataset requests.

Project Management - Agency Engagement and Onboarding Process

A critical process in the overall success of the DOP project is the agency engagement and onboarding process. This high-level five-step process ensures that all onboarded agencies are engaged, requirements are clearly defined and agreed upon, datasets and visualizations are tested/approved, and the appropriate training and communication are delivered in a timely manner. Each agency onboarded to the DOP will complete this engagement and onboarding process.

Who was involved?

Project Resource	Role
State Chief Information Officer, Administrative Services – Ervan Rodgers	Advocate
Deputy State Chief Information Officer, Administrative Services – Katrina Flory	Advocate
InnovateOhio – Lieutenant Governor Jon Husted	Advocate
Deputy Director, InnovateOhio Platform Office of Information Technology Department of Administrative Services – Laura Pietenpol	Implementation / Oversight
InnovateOhio Platform Team	Implementation
DataOhio Portal Expansion Team	Implementation
State of Ohio Agencies	End User / Beneficiary
Citizen / External State Partners	End User / Beneficiary
Media / Researchers	End User / Beneficiary

The DOP team followed a structured approach to achieving project approval and communicating this first-of-its-kind initiative to impacted stakeholders. As part of the project initiation in November 2019, the DOP team completed the following activities to gain stakeholder awareness, adoption, and approval:

- Delivered 20+ demonstrations to State Leadership, agency leadership, and data consumers
- Identified agencies for the initial DOP launch (ODH, Rehabilitation and Correction (DRC), Youth Services (DYS), and Higher Education (ODHE)
- Delivered an agency DOP Kickoff meeting to present the project scope, timeline, key inputs, and identify potential datasets and visualizations
- The Engagement team worked with agencies to discuss legal requirements and establish data use agreements
- Identified agency data owners and other agency stakeholders to work with and support the DOP
- Curated and onboarded data for the identified agency datasets
- Delivered DOP training and provided communications support to help ready agency staff/stakeholders
 - o Lieutenant Governor Husted press conference talking points (Press Release, 16:50 minute mark, [LINK](#)) and social media posts
- Conducted dataset and visualization User Acceptance Testing (UAT)
- Received final sign off by agency owners to officially deploy the data onto the DOP for consumption

How did you do it?

In December of 2020, DOP held its inaugural launch with ODH, DRC, DHS, ODHE. This was the fruition of a year of dedicated work to create the DOP.

Resources included for this inaugural project and ongoing include:

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| - State Executive Leadership | - Developers |
| - Agency Leadership | - Data Engineers |
| - Agency Data Stewards / Owners | - Data Analysts |
| - Agency Communications | - Communications and Training Team |
| - Project Managers | |

The DOP interface and code base is built in the Amazon Web Services (AWS) environment and tools. The State of Ohio recognizes the importance of the cloud and the advantages gained by hosting the DOP in AWS. In addition to web hosting, the DOP also utilizes additional AWS tools to maximize the conveniences and efficiencies within the AWS ecosystem. An Amazon Neptune graph database is used to store the dataset

metadata, which makes searching and presenting datasets within the portal extremely efficient. Amazon S3 holds the downloadable dataset content, which makes it easy to access and highly secure. AWS Lambda functions are used to handle code processing throughout the portal and to interact with each integrated tool/system.

Tableau interactive business intelligence visualizations are embedded within the DOP. The visualizations developed for the DOP are highly intuitive and are constructed to provide meaningful insights with minimal effort and analytical knowledge required.

The DOP provides a window into Ohio's state of the art data lake. For years now, state agencies have been utilizing a centralized data lake to store, query, and share their critical data. The DOP creates an intuitive web interface that makes sharing this data across agencies or to the citizens of Ohio incredibly simple. Ohio's data lake contains some highly sensitive data, hence the DOP was constructed to ensure there were no security concerns. Therefore, the portal's web interface never directly interacts with or connects to the State's data lake. Only datasets that are specifically shared on the DOP through Amazon S3 or embedded visualizations can be accessed, even if someone attempts to breach the site.

Impact

The DOP project leveraged the IOP to realize and develop the following goals/key functions:

- **Increase data transparency** by significantly expanding data access to key State of Ohio data
- **Empower the public** by putting data into the hands of key partners, local governments, researchers, reporters, and citizens
- **Inform policy and state programs** to better serve Ohio communities
- Create an **intuitive catalog** with detailed descriptions and the ability to access, share and save specific datasets
- **Streamline the process** to request access to secured datasets
- Create engaging and interactive **data visualizations** to view data in a more consumable way and allow users to analyze data most relevant to them
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Before the inaugural launch of the DOP in December 2020, data consumers had to research what agency owned the data, identify the data owner, and manually request the data. Today, this is a seamless search, request, and approval process within the DOP and for each dataset.

How do you know?

Agency Testimonial – Nate Huskey, Chief Information Officer, ODH

Data is an asset to all agencies and to the state. Unfortunately, this data can only be utilized to the fullest potential if it is shared beyond the program/agency who owns it. A key example of leveraging our data more strategically and sharing beyond our walls for ODH was the Infant Mortality Phase 1 Study and Use Case.

ODH saw a need to reduce infant mortality rates across the State of Ohio and knew that we would need to participate in cross-agency secured data sharing in order to gain a 360-degree view of infant mortality risk factors across Ohio. We worked in conjunction with other agency data: Department of Medicaid (ODM),

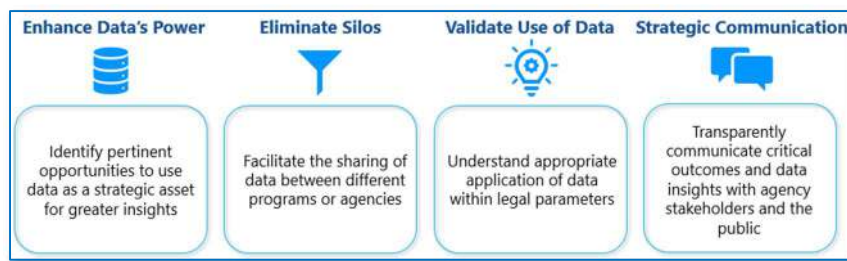
Department of Job and Family Services (JFS), Department of Mental Health and Addiction Services (MHAS) in order to gain the full picture of what we would need in order to be successful.

Together, we expanded and enhanced predictive profiling models to determine those most at risk for infant mortality and designed targeted interventions based on the data. When we were able to share the data strategically, it provided a more holistic picture that we never would have seen before. Ultimately, agencies already have the data, and bringing data together with IOP – the platform has allowed us to have greater insight.

With the addition of the DataOhio Portal (DOP), not only is there additional internal support for agencies, now there is the ability to externally share critical outcomes and communicate ODH's commitment to improving public health across Ohio

DataOhio Portal Success Factors for Agencies

The process ODH went through to onboard to the DOP helped transform the way we think of sharing data. Some of the success factors realized for ODH were:



Ultimately, through collaboration with IOP on the DOP, ODH was able to accelerate our understanding of our own data through strategic sharing and gain tactical insights.

What now?

The DOP team is excited and eager to continue our work towards expansion. The long-term vision is to create a one-stop shop for all of Ohio's data. Currently, the DOP expansion team is actively working with several agencies for onboarding datasets and visualizations to the DOP.

In addition, the DOP expansion team is implementing the following enhancements:

- Tools to improve the ease of access to data for the consumers (e.g., APIs)
- Catalog search improvements (e.g., filters, dataset suggestions, most popular, featured datasets etc.)
- Expanding interactive visualization availability
- Consumer subscription services for areas of interest
- Metrics dashboard (role-based access and content)

The DOP serves as a key milestone aligned to Governor Mike DeWine and Lieutenant Governor Jon Husted's 2019-15D Executive Order. DAS OIT and IOP are committed to advancing innovation through onboarding datasets, visualizations, capabilities, and functionality, to empower state leadership, agencies and the public with key State of Ohio data and information.