CHIEF DATA OFFICER BIENNIAL REPORT

ORS 276A.353

ENTERPRISE INFORMATION SERVICES' REPORT ON THE STATUS OF OPEN DATA AND INTERAGENCY DATA SHARING

ENTERPRISE
information services

Contents

Executive Summary

In 2017, the Oregon State Legislature passed House Bill (HB) 3361, now codified as ORS 276A.350-374. HB 3361 created the state's first Chief Data Officer (CDO) position and responsibilities, established Oregon's Open Data Program, and laid out requirements for state agencies in managing data and information as strategic assets of the state. As part of the requirements of HB 3361, the CDO is required to:

> Submit a biennial report to a committee or interim committee of the Legislative Assembly related to information management and technology on:
>
> (a) The status of agency posting of publishable data; and
> (b) The status of data sharing within and between agencies, enabling cross-agency analysis to provide information for public purposes, including but not limited to program design and budgeting decisions. (ORS 276A.353(2)(L)(a-b))

This report serves to satisfy the legislative reporting requirement listed above by providing an overview of Oregon's Open Data Program and the status of agency posting of publishable data, in addition to a current status report on Oregon's data sharing landscape.

Oregon's Open Data Program Status

Oregon's Open Data Program is codified within ORS 276A.350-374 and requires that state agencies identify data used within agency information systems, contribute to an enterprise data inventory, and publish data defined as "publishable" under the statute to a centralized open data portal. Oregon's Open Data Program officially launched in February 2021 with the publication of Oregon's Open Data Standard[1], Technical Standards Manual and Open Data Resources Website. Oregon's Open Data Standard articulates the expectations for agencies in complying with the requirements of ORS 276A.350-374. To comply with the Open Data Program, state agencies are expected to:

1) Identify an Open Data Coordinator
2) Create an inventory of agency datasets and submit to the Chief Data Officer
3) Submit an Open Data Plan to the Chief Data Officer

The Chief Data Officer is required to maintain a platform for open data publication (data.oregon.gov), and to compile and publish a statewide data inventory, which was published as an open dataset to data.oregon.gov in April 2022.[2] The inventory dataset is updated regularly, reflecting most recent approved submissions as agencies continue to contribute information to the enterprise data inventory.

The Chief Data Officer has produced a publicly available Open Data Progress Report[3] to provide ongoing updates on agency participation in Oregon's Open Data Program. The Progress Report, launched on January 13, 2023, is updated on a rolling basis as agencies submit additional deliverables associated with the Open Data Program, with a raw dataset of the Open Data Progress Report being made available through data.oregon.gov as an open dataset.[4] All data within this report represents a snapshot of the Open Data Progress report and is current as of January 31, 2023. Readers are encouraged to visit the Open Data Progress Report website for the most current reporting data.

Presently, Open Data Program participation amongst state agencies has been significant, with the following rates of compliance:

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[1] *Oregon's Open Data Standard*, https://data.oregon.gov/Administrative/Oregon-s-Open-Data-Standard/ewk6-d856
[2] *State of Oregon Agency Data Inventory,* https://data.oregon.gov/Administrative/State-of-Oregon-Agency-Data-Inventory/yp9j-pm7w
[3] *Oregon's Open Data Progress Report,* https://data.oregon.gov/stories/s/y49e-7s6y
[4] *Open Data Progress Report Dataset,* https://data.oregon.gov/Administrative/Open-Data-Progress-Report/4nr8-nxim

- 96% of agencies have appointed an Open Data Coordinator.
- 74% of agencies have completed a data inventory or completed an inventory plan.
- 63% of agencies have submitted an Open Data Plan for 2022-2024.

Agency Open Data Plans are crafted by each agency, identifying commitments for the 2022-2024 timeframe, and offering agencies the opportunity to be in three possible phases of open data development: planning, publishing, and maintenance. These three phases represent each individual agency's state of open data planning and participation. Currently, 31 agencies are in a planning phase with ten agencies planning to publish open data this biennium.

The Status of Data Sharing within Oregon

As identified in Oregon's Data Strategy, administrative data[5] represents one of the greatest opportunities for coordinated efforts to solve shared public sector challenges. [6] State data systems collect a wealth of information that if utilized ethically and effectively, can directly inform policy, and be leveraged as a tool to improve program outcomes. Frequently, these data are collected across disparate, siloed systems, and fragmented throughout different agencies, programs, and service areas. This fragmentation limits the state's capacity to utilize data in a coordinated, enterprise fashion, and limits visibility of each individual agency into the needs of their constituents. As an example, an Oregon family may receive health insurance through the Oregon Health Plan, food benefits through the Supplemental Nutrition Assistance Program (SNAP) and have children attending public schools. Each of these program areas collect data specific to their program's needs and requirements and may lack visibility into the other services being leveraged by a single constituent or family. As agencies work together to improve the outcomes of Oregonians, data sharing and integration are vital to obtaining a fuller picture of the needs and services provided across the state.

Ad-hoc data sharing and integrated data systems, where data across multiple agencies is linked together in a single system for research and reporting, represent the majority of data sharing activity taking place within Oregon and possess the greatest opportunities for maturation in the strategic use of data. Currently, data sharing within the state is highly decentralized, with each agency developing their own internal policies, procedures, and contracting language for data sharing. This means that each data sharing transaction requires individualized agreements between agencies, which can take up to twelve months to fully vet and execute.

To advance Oregon's utilization of data to address critical public sector priorities, the Chief Data Officer recommends the following approaches:

1) Create an enterprise strategy for integrated data sharing and collaboration amongst agencies.
2) Craft centralized policies and procedures to make data sharing approaches and agreements more consistent across the enterprise.
3) Invest in further analysis and information gathering surrounding individualized statutory requirements that potentially inhibit or limit data sharing amongst state agencies.

These recommendations are based upon consultation with agencies and stakeholders, the Chief Data Officer Advisory Council, public comments made on Oregon's Data Strategy, and in feedback provided to Enterprise Information Services' Data Governance and Transparency Program. The recommendations above are also consistent with the needs and priorities identified within Oregon's Data Strategy to take a data-informed approach to addressing pressing policy challenges that require collaboration across multiple agencies and institutions.

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[5] Administrative data are data collected by government agencies and other organizations in the routine management of public programs, often in the course of day-to-day operations. This is in contrast to data collected for research purposes or survey data gathered for a particular study. (definition modified from Pew Charitable Trusts, "How States Use Data to Inform Decisions")

[6] Enterprise Information Services. *Oregon's Data Strategy: Unlocking Oregon's Potential*. February 2021. https://www.oregon.gov/das/OSCIO/Documents/68230_DAS_EIS_DataStrategy_2021_v2.pdf

Oregon's Open Data Program

Open Data Program Background

Open data, defined as "data that can be freely used, modified and shared by anyone for any purpose," has increased in popularity and use throughout the last decade. Open Data is available at no direct cost and is made publicly accessible to a variety of users including other state agencies and employees, Oregonians, non-profit organizations, and any individual with an interest in accessing, downloading, and using data. Open data provides transparency and accountability for state agencies and creates an opportunity for communication and relationship building with our constituents and engaged public. A mature, proactive open data program can realize many benefits for both state agencies and constituents, including:

- Improved internal data sharing. By proactively providing open datasets, public bodies can more readily and consistently share data for download without requiring agencies to respond to disparate requests for sharing. To improve internal data sharing, agency Open Data Coordinators are encouraged to examine which spreadsheets, reports, or datasets are continually emailed between agency data partners and evaluate if these datasets can be published online.
- Decreasing public records requests and increasing transparency. By being proactively transparent and releasing data that is regularly requested by the public, agencies can decrease the costs associated with responding to public records requests. In 2022, Texas' State Chief Data Officer estimated a cost savings of $3.1 million through self-service access to open data in lieu of individual public records requests.[7]
- Enabling growth and innovation. Successful open data is built upon a foundation of proactive transparency and building community and civic engagement. The release of open data can help promote the development of new technologies and help stimulate growth of new sectors within Oregon.

Oregon's Open Data Program is codified within ORS 276A.350-374 and is overseen by Oregon's Chief Data Officer within Enterprise Information Services' Data Governance and Transparency Program. The statute requires that state agencies identify data used within agency information systems, contribute this information to an enterprise data inventory maintained by the Chief Data Officer, and that agencies publish data defined as "publishable" under the statute to a centralized open data portal. The Chief Data Officer is required to maintain an enterprise inventory of data assets as provided by agencies, and to create and maintain the Open Data Standard and Technical Standards Manual as part of the program's development and implementation. Oregon's Open Data Program officially launched in February 2021 with the publication of Oregon's Open Data Standard, Technical Standards Manual, and Open Data Resources Website.

Oregon's Open Data Standard outlines the requirements and expectations of state agencies as they inventory, identify, and publish data in accordance with statute. As part of the Open Data Program, state agencies are expected to:

1) Identify an Open Data Coordinator
2) Create an inventory of agency datasets and submit to the Chief Data Officer
3) Submit an Open Data Plan to the Chief Data Officer

State agencies received guidance and requirements for completing the above deliverables through Oregon's Open Data Standard and Technical Standards Manual. The Chief Data Officer also hosts regular webinars and trainings for Open Data Coordinators and produced a series of publicly available Open Data Webinars to teach state agencies and the public about open data and the requirements of Oregon's Open Data Program.

Open Data Program Status

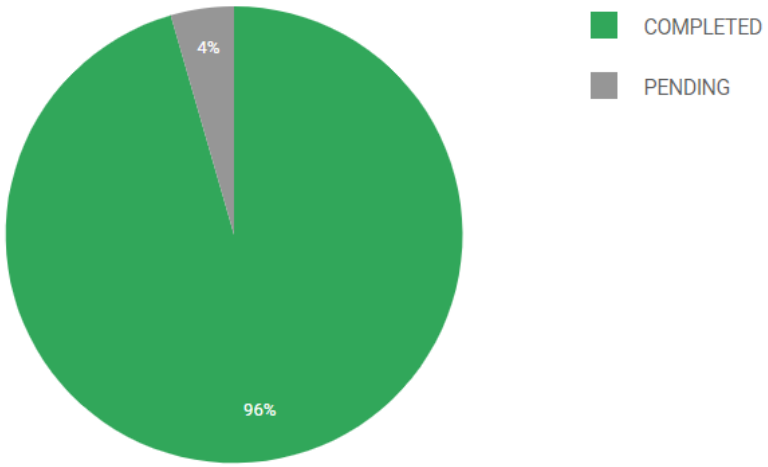
[7] State of Texas, *2022 Biennial Performance Report*, https://data.texas.gov/stories/s/x7uu-y9c3

Agency participation in the Open Data Program is measured through an Open Data Progress Report produced by the Chief Data Officer and made available online.[8] The Open Data Progress report is updated regularly, with changes taking place on an ad-hoc basis as agencies complete the expectations of the Open Data Program. Figures provided in this report are taken from the online visualizations available in the Open Data Progress report and are current as of January 31, 2023.

Open Data Coordinator Appointments

The Open Data Standard requires that each state agency appoint an Open Data Coordinator to act as the single point of contact to the Chief Data Officer in completing and submitting the deliverables associated with the Open Data Program. Open Data Coordinators can be appointed from a variety of positions, including Operations and Policy Analysts, Geographic Information System Analysts, Data Analysts, and Research Analysts/Research Directors. Open Data Coordinators are not required to possess a specific level of positional authority, but they are required to be imbued with appropriate authority to guide and direct open data activities within their respective agency. A full description of the Open Data Coordinator role, responsibilities, and recommended skills is available for download on the Open Data Resources website to aid agencies in selecting an appropriate staff member to fulfill the duties associated with the role.[9]

Open Data Coordinator Appointments



Presently, 64 of 67 agencies have appointed an Open Data Coordinator, representing 96% of state agencies in compliance with this requirement of the Open Data Program.

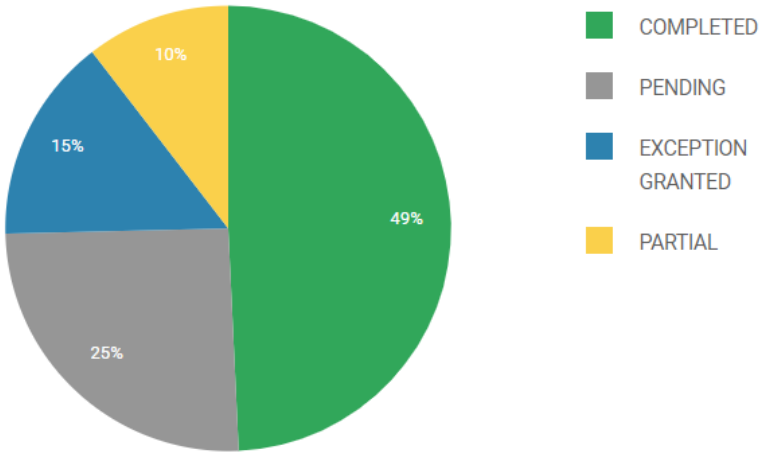
Data Inventory Submission

The data inventory is a requirement of ORS 276A.365(c)(B) and must be submitted to the State Chief Data Officer for inclusion in an enterprise inventory. The data inventory must be completed according to the template provided by the Chief Data Officer and is validated for completeness by data quality scripts written by Data Governance and Transparency staff before being published as part of the enterprise data inventory available on

[8] *Oregon Open Data Progress Report*, https://data.oregon.gov/stories/s/y49e-7s6y
[9] *Agency Data Coordinator Role Description,* https://data.oregon.gov/Administrative/Agency-Data-Coordinator-Role-Description/4f2s-2c9m

data.oregon.gov. The deadline for submission of a complete data inventory was March 1, 2022, with a deadline extension process made available to agencies who possessed a large volume of data to inventory, or with resource constraints requiring additional time to submit a completed data inventory. Agencies who have submitted a deadline extension request were required to submit a summary explanation of the reasons for the extension request, an open data inventory plan and a deadline for submission of their final data inventory.

Agency Data Inventory Submissions

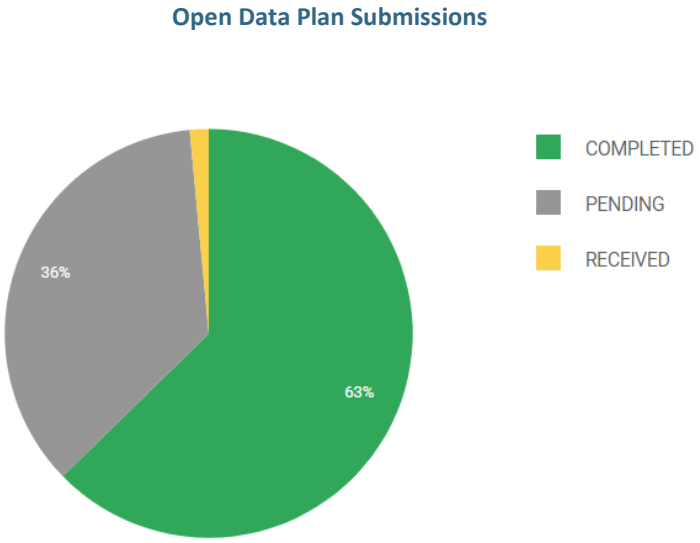


Presently, 49% of agencies (33 total) have submitted complete and validated data inventories, 25% (17 total) agencies have approved extensions and are in the process of inventorying data, and 25% (17 total) agencies have not yet submitted an inventory or requested an extension and are represented as 'pending' in the figure above. Agencies listed as 'partial' (seven total) in the above figure have submitted a partially complete inventory as part of their inventory plan and are included in the total number of approved extensions listed above.

Agencies are expected to update and refresh their data inventories on a biennial basis, with the next submission of updated agency data inventories required in March 2024.

Open Data Plan Submission

Each biennium, agencies are expected to complete and submit an Open Data Plan to the Chief Data Officer. The Open Data Plan captures agency commitments related to open data, identifies which agencies are actively planning to publish open data during the biennium, and provides agencies an opportunity to set individualized goals to make incremental progress towards publishing data. As part of the Open Data Plan, agencies identify whether they are in one of three open data phases: *planning*, *publishing*, and *maintenance*. Agencies in a *planning phase* have indicated that they are continuing to work through Open Data Program requirements (such as an agency data inventory) and/or are undertaking a planning period with the expectation that they will publish data next biennium. The *publishing phase* indicates the agency has committed to publishing open data in the coming biennium, and the plan articulates in detail which datasets the agency intends to publish. Agencies in a *maintenance phase* with open data have published all datasets in their inventory that are eligible for publication and are in the process of maintaining their participation in the Open Data Program. The deadline for Open Data Plans was June 1, 2022, with the next Open Data Plan submission date being June 1, 2024.



Currently, 63% of agencies (42 total) have submitted a complete Open Data Plan, one agency has submitted an incomplete Open Data Plan, and 36% of agencies (24 total) have not yet submitted an Open Data Plan.

Of the Open Data Plans submitted, ten agencies are in a publishing phase and intend to publish open data this biennium. Thirty-one agencies are in a planning phase, with common reasons for the planning phase being systems undergoing modernization that will impact dataset publication, ongoing data inventory efforts, and resource constraints related to supporting open data publication. Two agencies are in a maintenance phase, indicating they have published all data that can be made available as open data on the agency's data inventory. All agency Open Data Plans are available for review on the Open Data Progress Report website.

The state of Oregon publishes open data through two specific portals, data.oregon.gov, the Oregon's Open Data Portal, and ArcGIS Online, the state's data portal for geospatial data assets such as map layers.[10] As datasets are published, the enterprise inventory dataset available on data.oregon.gov is updated to reflect the publishing status of the dataset and provide a hyperlink to the associated dataset available on data.oregon.gov. The Open Data Portal also contains a fully searchable catalog with over 2,700 assets, which includes datasets, visualizations, linked datasets from external portals, and filtered views of datasets. Of these assets, 434 are classified as datasets, or open data that has been published and made available by the state of Oregon through data.oregon.gov. Oregon's open data catalog is federated, meaning that data resources published through the geospatial data platform that meet the requirements of the Open Data Technical Standards Manual are linked directly in data.oregon.gov, so users can search out relevant datasets from a single catalog, regardless of publishing location.

Monitoring and Maintaining the Open Data Program

Enterprise Information Services (EIS) Data Governance and Transparency is continually expanding services to support agencies in complying with the requirements of the Open Data Program. In the 2021-2023 biennium, two Data Engineer roles were added to assist agencies with identifying automation approaches for dataset publication. These publication services are currently being piloted with the Oregon Department of Transportation and the Oregon Youth Authority, with the goal of helping state agencies eliminate resource intensive, manual processes and make open data publication more sustainable for agencies. Additional agencies will be onboarded throughout the year as part of ongoing program operations, with future engagements scheduled with the Department of Environmental Quality, the State Library of Oregon, and the Construction Contractors Board.

[10] *Oregon ArcGIS Online,* https://geo.maps.arcgis.com/home/index.html

The Open Data Program operates on a biennial cycle, with agencies expected to update their data inventories and data plans every even-numbered year. In October 2023, Data Governance and Transparency will provide agencies with their current inventory submissions and ask for any updates, changes, or amendments to the inventory for submission and update in the enterprise inventory by March 2024. Agencies are also expected to report out on progress associated with their Open Data Plans as part of their June 2024 submission deadline for Open Data Plans. All new submissions and materials will be continually made available through the Open Data Progress Report website.

Future enhancements to Open Data Program reporting and monitoring include the development of a data quality dashboard to assess compliance with the Open Data Technical Standards Manual, ensuring that all data made available through data.oregon.gov aligns to the structure, quality, and metadata standards of the Open Data Program, and further development of Open Data Program metrics associated with the publication of data by agencies. As agencies are in their first biennium of implementing the requirements of the program, further monitoring and analysis is required to identify gaps in resourcing or education in implementing program requirements, and in establishing baselines associated with data publication and overall program participation.

Agency Data Sharing

The critical public sector issues impacting Oregonians such as housing, health, and workforce development cross agency boundaries and require Oregon to integrate data across policy areas in support of clear strategic outcomes. Integrated, shared data is foundational in improving service delivery, evaluating programs, and informing policy development. From giving a caseworker seamless access to client information to support wraparound services, to a longitudinal research initiative evaluating outcomes of program investments, integration between data systems and sharing of data between agencies is fundamental to supporting the work of government. For data to serve as a tool in improving policy decisions and program outcomes, cross-agency data sharing and collaboration are vital, with one of the identified Data Practices in Oregon's Data Strategy being to "facilitate inter-agency coordination and data sharing to identify shared solutions to common concerns and program objectives and to better utilize data resources."[11] When applied strategically, data sharing can:

- Improve the customer/client experience of engaging with government by creating a holistic, constituent-centric view.
- Facilitate coordination of care and improve access to services across agency boundaries.
- Identify gaps and barriers in service delivery, allowing Oregon to allocate resources when and where needed.
- Inform future policy investments.
- Evaluate programmatic and policy interventions and investments that meaningfully improve outcomes for Oregonians.
- Increase transparency and accountability through a standardized approach for reporting on outcomes.
- Support in-depth research and evaluation to address pressing, cross-sector challenges.

To realize these benefits, Oregon's approach to integrated data and data sharing must be centrally crafted with a clear, enterprise vision. At present, state agencies participate in multiple integrated data systems to improve outcomes, inform policy, conduct research, and evaluate programs, in addition to the development of technologies and infrastructure to support operational data integration. The efforts below are highlighted as samples of current work underway throughout the state to integrate data, each utilizing data from three or more agencies and requiring shared legal and governance models that span beyond a single state agency's authority.

1) *Oregon Child Integrated Dataset*: Launched in 2019, the Oregon Child Integrated Dataset (OCID) is a partnership between the state of Oregon and the Center for Evidence Based Policy at Oregon Health and Science University. OCID contains data from five state agencies (Oregon Department of Education, Oregon

[11] *Oregon's Data Strategy: Unlocking Oregon's Potential.* https://www.oregon.gov/das/OSCIO/Documents/68230_DAS_EIS_DataStrategy_2021_v2.pdf

Department of Human Services, Oregon Youth Authority, Oregon Health Authority, and Department of Early Learning and Care) and includes program data for child welfare, employment-related daycare, temporary assistance for needy families, supplemental nutrition assistance program, early learning programs, k-12 educational records, juvenile justice information, birth records, Medicaid enrollments and claims data, and home visiting data. The project provides a publicly available Child Well-being Dashboard[12], in addition to performing in-depth research analyses as prioritized by OCID's Governance Committee. The vision of OCID is to bring together data from disparate public programs to address policy research questions focused on the well-being of Oregon children.[13] Oregon's Chief Data Officer currently serves on the Analyst Forum in OCID's governance structure.

2) *Oregon Longitudinal Data Collaborative (OLDC)*: In 2011, Senate Bill 909 created the directive to establish a statewide longitudinal data system to provide an integrated, student-based data system that focuses on evaluating outcomes and investments in statewide education efforts. The OLDC project received approximately $6 million in funding from the legislature in 2016 and was completed in July 2019. A division of the Higher Education Coordinating Commission Office of Research and Data, the OLDC contains data from the Higher Education Coordinating Commission, the Oregon Department of Education, the Oregon Employment Department, GED Testing Service, the National Student Clearinghouse, and the Teacher Standards and Practices Commission. The vision of the OLDC is to provide data supported policy recommendations related to student learning, training, and workforce opportunities. Research studies and data reports are identified and prioritized by the OLDC Research Committee and approved by the Executive Governance Committee. The Chief Data Officer is a member of the OLDC Executive Committee and the current Chair.[14]
3) *Performance Reporting Information System (PRISM)*: Created in 2001 with the passage of SB 400, PRISM is maintained by the Oregon Employment Department to collect, analyze, and share statistical and demographic data about the effectiveness of workforce system programs and services. Containing data from five state agencies (Oregon Department of Human Services, Oregon Department of Education, Higher Education Coordinating Commission, Oregon Employment Department, and Bureau of Labor and Industries), PRISM contains program data for Supplemental Nutrition Assistance Program, Temporary Assistance for Needy Families, vocational rehabilitation programs, k-12 student data, apprenticeship programs, public universities and community colleges, and unemployment insurance and workforce programs, in addition to customer satisfaction surveys from employers, job seekers and Unemployment Insurance Claimants. PRISM produces publicly available reports and dashboards and monitors performance measures identifying the success of workforce system programs in assisting customers with finding and keeping jobs and improving earning power. The Chief Data Officer is a member of the PRISM Steering Committee.[15]
4) *Integrated Client Services (ICS)*: A shared service between the Oregon Department of Human Services (ODHS) and the Oregon Health Authority (OHA), ICS is a unit within the Office of Forecasting, Research, and Analysis. The primary purpose of ICS is to maintain a client index of individuals across nearly all ODHS and OHA program areas to identify service utilization across multiple program areas to forecast ODHS and OHA program caseloads to aid in program budgeting. Additionally, ICS provides client matching services using data from programs and agencies such as Oregon Department of Education, Oregon Employment Department, Oregon Department of Corrections, and Oregon Housing and Community Services. The client index maintained by ICS further supports statewide data sharing by responding to ad hoc data linking requests and providing unique identifiers that allow participating agencies to share anonymized data with one another to determine areas of common program utilization (i.e., overlaps of clients served across programs and agencies) and to support agency data studies and research. ICS is governed by a

[12] https://www.ocid-cebp.org/child-well-being-dashboard/
[13] https://www.ocid-cebp.org/about-ocid/ocid-overview/
[14] https://www.oregon.gov/highered/research/Pages/OLDC.aspx
[15] https://www.qualityinfo.org/pm

standardized memorandum of understanding and a governance committee with membership from participating agencies.[16]

These four initiatives represent a range of mature integrated data efforts taking place within the state of Oregon, with a specific focus on research, analysis, and forecasting. Additionally, Oregon has several nascent integrated data efforts that have been initiated both by agencies and legislative action, with more being created or codified on a regular basis. Examples of these additional data sharing efforts include ODHS' Building Well-being integrated data system, in addition to ODHS' Common Oregon Identifier Number (COIN) matching effort, the Children's System Data Dashboard[17] (codified in ORS 418.981 and maintained by the System of Care Advisory Council),[18] and the Oregon Water Data Portal, an integrated data initiative led by Department of Environmental Quality to build a "database framework of water and infrastructure data."[19]

Each of these integrated data efforts represent a diversity of strategic visions and possess their own governance committees, legal frameworks, data sharing agreements, and technical infrastructure designed to support their specific program outcomes. While some integrated efforts are centered on policy development and recommendations, others exist to evaluate current service utilization amongst program areas, monitor the efficiency of investments, or report on identified performance measures. Agencies are also investing in operational data sharing, where data is integrated between systems to improve access to information for caseworkers, field workers, and other direct service providers. Operational data integration and sharing includes Oregon Health Authority's Race, Ethnicity, Language, and Disability (REALD)[20] data system for demographic data and reporting currently underway,[21] and the expansion of Oregon Housing and Community Services' Homeless Management Information System (HMIS) to integrate data across multiple providers.[22]

Each of these systems also represent time and investment on the part of agency staff, executive leadership, and policymakers in attending governance meetings, transmitting data, negotiating agreements, determining research priorities, executing research projects, and providing subject matter expertise on agency-specific data. While this list is not exhaustive of all integrated data sharing efforts taking place amongst state agencies, it is reflective of the current landscape of data sharing within Oregon. Overall, agencies are very proactive in sharing and integrating data where permissible, but each integration effort is siloed into specific agency leadership and implementation, oftentimes resulting in duplicative efforts across agencies to integrate data for similar or overlapping policy purposes.

Recommendations to Improve Data Sharing

State agencies are regularly engaging in data sharing in support of policy development and program improvement. However, many of these data sharing approaches are currently ad hoc and governed outside of a unified approach to standards, governance, technical architecture, or research question development. Oregon presently lacks a single, enterprise strategy and approach for integrated data sharing. This lack of coordinated approach means agencies are repeatedly asked to participate in and provide data to siloed integrated data systems and ad hoc research initiatives and are required to review, evaluate, and execute multiple data sharing agreements in support of each request. This decentralized approach also places an undue burden on agencies that provide data to multiple projects, such as the Department of Education, Oregon Housing and Community Services, Oregon Health Authority, Oregon Department of Human Services, Oregon Employment Department, and other agencies that provide direct services to Oregonians. With agencies initiating and managing their own integrated data approaches to address agency-specific concerns related to coordination of care and program administration, the collective

[16] https://www.oregon.gov/DHS/BUSINESS-SERVICES/OFRA/Pages/ICS.aspx
[17] System of Care Dashboard, https://www.oregon.gov/dhs/Pages/SOC-Dashboard.aspx
[18] Oregon Revised Statute, ORS 418.981, https://www.oregonlegislature.gov/bills_laws/ors/ors418.html
[19] House Bill 5006, Section 112, https://olis.oregonlegislature.gov/liz/2021R1/Downloads/MeasureDocument/HB5006/Enrolled
[20] Oregon Health Authority, REALD and SOGI website, https://www.oregon.gov/oha/oei/pages/demographics.aspx
[21] Oregon Revised Statute, ORS 413.163, https://www.oregonlegislature.gov/bills_laws/ors/ors413.html
[22] Oregon Housing and Community Services, Homeless Management Information System, https://www.oregon.gov/ohcs/for-providers/Pages/hmis.aspx and report on HMIS data governance and integration, https://www.oregon.gov/ohcs/about-us/Documents/gov-relations/2020-HMIS-OHCS-Report.pdf

power of agencies to collaborate and solve enterprise strategic challenges is diffused across multiple individualized programs.

The Chief Data Officer is tasked with "identify[ing] ways to use and share existing data for business intelligence and predictive analytic opportunities" and "identify[ing] strategies to combine internal and external data sources," (ORS 276A.353(g) and (h)). As part of this work, the Chief Data Officer has identified the following recommendations to improve the efficacy of data sharing amongst state agencies to enable cross-agency analysis, reduce duplication of effort, and enhance data-informed decision making.

1) *Create a statewide strategy and governance structure for integrated data sharing and collaboration amongst agencies.* A thoughtfully crafted strategy, directly aligned to the executive priorities of state government and driven by critical use cases, will allow Oregon to identify an appropriate path forward in the creation of integrated data systems and craft an enterprise approach to cross-sector data analysis. In support of this vision, the Chief Data Officer is participating in Actionable Intelligence for Social Policy's (AISP) Equity in Practice Learning Community[23] to receive training and support in developing a governance model and framework for integrated data. Utilizing best practices from AISP and lessons learned from other successful states such as Indiana and California, Oregon is poised to lead an effort to prioritize data sharing needs and establish an incremental and measurable road map for strategic data integration, sharing, and collaboration built upon a coordinated governance model that incorporates executive priorities and agency needs. If implemented, development of an enterprise strategy will require thoughtful prioritization of use cases and incremental efforts to build a shared governance structure that enables cross-agency data sharing to address strategic priorities such as housing, behavioral health, and education.
2) *Craft centralized policies and procedures to make data sharing approaches and agreements more consistent across the enterprise.* Agencies presently manage and maintain their own data sharing templates and policies, with each agency having their own process for reviewing and responding to data sharing requests. Development of a standardized process and templated language for inter-agency data sharing would ensure consistency across agencies, reduce time in legal vetting and review, and improve transparency between agencies about data sharing requests. In support of developing a standardized data sharing process within Oregon, the Chief Data Officer has conducted a preliminary analysis of nine different states'[24] enterprise data sharing agreements and identified a potential road map for development within Oregon. Success of this effort is dependent upon the ability to identify individual data sharing and privacy laws and regulations that govern agency data sharing and navigate through complex, and frequently overlapping, privacy protections. A coordinated approach to data sharing policies and procedures also opens opportunities for greater tracking of data sharing at the transaction level to identify possible trends or areas of commonality amongst agencies in data sharing priorities or ongoing data sharing requests.
3) *Invest in further analysis and information gathering surrounding statutory requirements that impact data sharing amongst state agencies.* Agencies must balance individual privacy protections, state and federal regulations, and the necessity of data sharing to effectively perform government services. While the topic of privacy has been visited in previous legislative sessions, Oregon presently does not have an enterprise approach to privacy, leaving individual agencies responsible for performing the risk-benefit analysis of sharing data for each new request they receive. To identify consistent data sharing barriers and create pathways for data sharing that respect privacy and confidentiality, there should be further investment in identifying the current state and federal laws and regulations that govern data sharing within the state, combined with development of an enterprise privacy program and approach to enable agencies to share data where possible. The federal and state approach to privacy legislation is fragmented and decentralized, leading to the creation of overlapping, and at times conflicting, privacy regulations, that can make negotiation of data sharing agreements a challenging and time-consuming process. As Oregon

[23] Actionable Intelligence for Social Policy at the University of Pennsylvania is an institute dedicated to assisting state and local governments in establishing integrated data systems and data sharing approaches in support of the public good.

[24] States were evaluated in 2020 and included Arizona, Florida, Indiana, Michigan, New York, Oklahoma, Texas, Utah, and Washington.

continues to invest in advancing privacy legislation that regulates how constituent data is collected, maintained, distributed, and in establishing the rights of constituents to opt into or out of specific data uses,[25] agencies will require enterprise guidance that establishes privacy practices and principles around data integration. Enterprise privacy guidance can ease the burden placed upon agencies, while identification of state regulations offers opportunities for improvement in crafting privacy regulations that respect the privacy of Oregonians while allowing the state to utilize data for the public good. For further reading, Enterprise Information Services published recommendation for elevating considerations of privacy, confidentiality, and data security in September 2022.[26]

The current status of agency data sharing shows that while agencies are incredibly active in sharing data for collaborative purposes, the lack of a strategic framework for integrating data is limiting Oregon's ability to effectively execute on the Oregon Data Strategy's vision to "build a better Oregon through effective use and sharing of data". These recommendations are presented as a preliminary analysis and evaluation to mature Oregon's strategic use of data, but implementation will not be successful without concerted investment and engagement from leadership at all levels of state government. Active, ongoing collaboration between state agencies and the Chief Data Officer is necessary to develop enterprise approaches to data sharing that enable Oregon to unlock the potential of data.

Additionally, these findings present people and process focused recommendations for improving data sharing. As the Chief Data Officer and state agencies work together to build enterprise strategies for integrating data, the state must also reconcile the vast amounts of technical debt that exist within state agencies. To take advantage of modern data capabilities such as enterprise data warehousing, data matching, and advanced analytics, agencies must incorporate data and information architecture as a fundamental part of system design and plan for information flows up front in the technology planning process. Modern data systems will also require investment in staff resources, providing opportunities for training and upskilling of employees in the areas of data analysis, data architecture, information architecture, and in the creation of new roles within the state such as informaticist and data scientist. The Oregon Data Strategy lays out a 10-year vision for incorporating and addressing these complex and interacting components through governance and effective management, ethical use of data, and in developing a data-informed culture. Data maturity is a long-term, iterative, transformational effort that requires continued support and investment from executive leadership but has the potential to provide lasting positive impact for Oregonians.

[25] Two examples from the 2023 Legislative Session include Senate Bill 619, relating to consumer privacy protections, and House Bill 2052, relating to the regulation of data brokers.

[26] SB 293 (2021) Enterprise Privacy: A copy of the report in entirety may be requested by emailing CIO_Info_Dist@das.oregon.gov.