Federal Data Strategy: 2021 Action Plan

The 2021 Action Plan identifies specific actions to be taken in support of the FDS, while also recognizing that 2021 is a transition year for the Executive Branch. Given the timing of the release of this 2021 Action Plan in the context of a transition year and with significant efforts underway across agencies on the Administration's immediate priorities, agencies may only begin working on toward the Plan's milestones before the end of calendar year 2021. Nevertheless, this Action Plan establishes these aspirational milestones in order to encourage agencies to make steady progress on the Plan's actions and milestones. In doing so, agencies will enhance their ability to use data to achieve their missions and deliver to the American public.

To account for the changing role of data and meet the needs of democracy, the federal government created a coordinated and integrated Federal Data Strategy (FDS). Leaders from the Office of Management and Budget, Office of Science and Technology Policy, Department of Commerce, and Small Business Administration built an interdisciplinary team that worked with private industry, academia, civil servants, and the public to build a robust integrated approach to managing and using data. The result was a strategy that plans for agencies' use of data for a variety of critical purposes: to generate evidence-based policy, to deliver on mission, to serve the public, and to steward resources. At the same time, the FDS emphasizes the vital need to protect security, privacy, and confidentiality.

Contents

Office of Management and Budget (OMB)

Vision

Steady progress

Mission

To identify specific actions to be taken in support of the FDS

Action 1. Questions

Gather and Assess Data Identified for Priority Agency Questions

In 2020, as part of developing Interim Learning Agendas, agencies began to consult with key agency leaders, such as CDOs, Evaluation Officers (EOs), and Statistical Officials (SOs), to identify data needed to answer priority agency questions. They also began to develop plans to acquire, access, and analyze that data. In 2021, agency CDOs and SOs should remain actively involved in their agency's strategic planning activities and in the development of Learning Agendas, led by EOs, as outlined in OMB Memorandum M-19-23, Phase 1 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Learning Agendas, Personnel, and Planning Guidance (July 10, 2019).6 CDOs, EOs, and SOs should also begin to assess the quality of the data identified in Learning Agendas. Agencies are encouraged to build upon their existing frameworks7 in assessing the quality of the data needed to answer Learning Agenda questions. In accordance with the concept of "fitness for purpose," information destined for a higher-impact purpose must be held to higher standards of quality. The systematic application of the "fitness for purpose" concept will enable appropriate data to answer priority Learning Agenda questions and should lead to strategic quality improvements in existing assets as well as inform new data collection processes. Agencies should also consider secondary uses of data, while protecting privacy and confidentiality, as part of this assessment. After assessing the quality and security of the data assets to be used in pursuit of their Learning Agenda goals, CFO Act agencies should include these data assets in their comprehensive data inventories, and indicate within their inventory which Learning Agenda questions particular assets support.

1.1. Data Assets

Assess data assets for fitness of purpose, in support of Learning Agenda items

Measurement: Progress | Reporting Mechanism: Progress Reporting Tool | Target Date: Measure Annually | Required or Encouraged: Required for CFO Act Agencies only, encouraged for non-CFO Act agencies

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

1.2. Access & Acquisition

Acquire or access data needed to answer priority questions

Measurement: Progress | Reporting Mechanism: Progress Reporting Tool | Target Date: Measure Annually | Required or Encouraged: Required for CFO Act Agencies only, encouraged for non-CFO Act agencies

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

1.3. Inventory

Indicate which data assets support Learning Agenda questions in comprehensive data inventory

Measurement: Progress | Reporting Mechanism: Progress Reporting Tool | Target Date: Measure Annually | Required or Encouraged: Required for CFO Act Agencies only, encouraged for non-CFO Act agencies

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

Action 2. Governance

Mature Data Governance

In 2020, agencies designated CDOs, formed Data Governance Bodies, and posted key governance materials publicly on their websites. Many agencies dedicated full-time employees to support of their data-governance processes. In 2021, agencies should continue to prioritize the data-governance planning efforts encouraged in the 2020 Action Plan. In addition, agencies should identify and document priority goals for their Data Governance Body to accomplish over each of the next three years. The priority goals provide an overview of each agency's data maturity and accomplishments during FY 2020, as well as the data maturity gaps the agency plans to address in fiscal years 2021, 2022, and 2023. In setting those goals, agencies create a customized data-governance plan that demonstrates their progress over time in each of the FDS Practices. Agency plans should include specific initiatives to improve the current state of data management (e.g., data quality or metadata management), data use (e.g., new data access mechanisms or new uses of existing data assets), and agency priority projects.

2.1. Priority Goals

Data Governance Bodies document priority goals for calendar years 2021, 2022, and 2023 respectively

Measurement: Completion | Reporting Mechanism: Progress Reporting Tool & Post to Agency/data web page | Target Date: Dec. 31, 2021 | Required or Encouraged: Required for all agencies

Stakeholder(s):
Data Governance Bodies

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

Action 3. Maturity

Advance Data and Infrastructure Maturity

In 2020, agencies selected an operational maturity assessment model for their data and data infrastructure and worked to conduct the initial assessment. Some agencies began building a data strategy or road map, established plans for data assets and infrastructure capital planning, and adopted agency master data-management programs. Many agencies are considering new capabilities and approaches for data assets and infrastructure to address capability gaps identified in their data strategy. In 2021, building on the prior year activities, agencies should use their data strategy and the outcomes of the operational maturity assessment in their strategic planning processes. They should analyze and document data asset and infrastructure requirements that support mission functions and the FDS. Where appropriate, agencies are encouraged to develop business-case analyses for enterprise-wide data infrastructure funding and identify which cross-agency projects or shared data services would be most impactful. Business cases should include a risk-rated return-on-investment analysis that considers, at a minimum: mission performance measures; reduced cost; increased quality, speed, flexibility, or transparency; and improved customer experience and satisfaction. Agencies should ensure appropriate resources are identified in future-year budget requests to support enterprise data assets and infrastructure. They should also clearly identify enterprise data infrastructure investments in budget year 2023 IT Capital Planning and Investment Control (CPIC) products or in their budget submissions.

3.1. Implementation

Begin implementing enterprise data asset and infrastructure capital plans developed in 2020

Measurement: Progress | Reporting Mechanism: Progress Reporting Tool & FY2023 Budget Submission | Target Date: Dec. 31, 2021 | Required or Encouraged: Required for all agencies

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

3.2. Budgets

Agency budget submissions should include data asset and infrastructure needs

Measurement: Completion | Reporting Mechanism: FY 2023 Budget Submission | Target Date: As required by the FY2023 budget timeline | Required or Encouraged: Required for all agencies

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

Action 4. Skills

Increase Staff Data Skills

The 2020 Action Plan set goals for all agencies to perform an assessment of staff data literacy skills, to conduct a gap analysis between existing and agency-required skills, and to develop a performance plan to close the identified gaps. In 2021, agencies should prioritize completing assessments and performance plans, as directed in the 2020 Action Plan, and should consider following the best practices of agencies that have already successfully achieved these milestones. Agencies may find it useful to include the data skills gap analysis as part of the Capacity Assessment for Research, Evaluation, Statistics, and Other Analysis required by the Foundations for Evidence-Based Policymaking Act of 2018. Additionally, in 2021, agencies should begin work to fill immediate skills gaps by improving the data literacy of all employees, increasing professional development opportunities, and planning to hire staff with the requisite data skills. The Office of Personnel Management intends to issue a new Data Scientist job series in 2021 to facilitate the hiring of candidates with the appropriate skillsets. By the end of 2022, agencies should have a solid foundation throughout their workforce, including a minimum level of data literacy among all staff and a sufficient accumulation of data skills to allow for effective performance of all aspects of the data lifecycle.

4.1. Training & Experiences

Incorporate data skills training and rotational experiences into agency professional development offerings

Measurement: Completion | Reporting Mechanism: Progress Reporting Tool | Target Date: Dec. 31, 2021 | Required or Encouraged: Required for CFO Act agencies only, encouraged for non-CFO Act agencies

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

4.2. Workforce

Establish 2022 workforce goals and specify how they will be met (e.g. training or hiring goals), using data skills gap analysis and performance plans

Measurement: Progress | Reporting Mechanism: Progress Reporting Tool | Target Date: Dec. 31, 2021 | Required or Encouraged: Required for CFO Act agencies only, encouraged for non-CFO Act agencies

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

Action 5. Plans

Publish Agency Open Data Plans

In 2021, agencies should continue activities from the 2020 Action Plan, including the identification of priority data assets for open data plans in accordance with the requirements of the Evidence Act and with guidance from the Office of Management and Budget.

5.1. Plan

Publish an Open Data Plan that identifies specific priority data assets, including assets that support COVID-19 response and AI R&D

Measurement: Completion | Reporting Mechanism: Information Resource Management (IRM) Strategic Plans and agency digital strategy web page | Target Date: Annually in accordance with OMB Guidance | Required or Encouraged: Required for all agencies

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

Action 6. Inventories

Improve Data Inventories

In 2021, agencies should continue to take necessary steps to include all required data assets in their comprehensive data inventories and to update their inventories as applicable. For some small agencies, this may mean taking further steps to develop an inventory and ensure its inclusion on Data.gov. For more mature agencies with an established inventory, CDOs may focus on ensuring that their inventories provide a clear and comprehensive understanding of agency data assets. Use of appropriate metadata schema may aid in that effort.

6.1. Inventory

Update comprehensive public data inventory on data.gov

Measurement: Completion | Reporting Mechanism: Agency public data.json APIs & Progress Reporting Tool | Target Date: Quarterly | Required or Encouraged: Required for all agencies

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

Action 7. AI & Automation

Advance Artificial Intelligence and Automation

Executive Order 13859, Maintaining American Leadership in Artificial Intelligence, calls on agencies to increase public access to government data and models where appropriate. Executive Order 13960, Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government, establishes principles for agency use of AI and requires action by the CIO Council and agencies in 2021. To initiate this process, the following milestones adopted for the 2021 Action Plan focus on developing and disseminating a robust set of AI use cases across the government and the public, and developing recommendations to significantly increase AI-specific government expertise. Additionally, recognizing the growing need to understand the risks associated with automated decision-support systems, the CIO Council will deliver in 2021 an open-source Algorithmic Assessment Tool that will help guide federal agencies through process improvement along with data and system considerations.

7.1. Algorithms

Make the Algorithmic Assessment Tool publicly available for agency use

Measurement: Completion | Reporting Mechanism: CIO Council web page and Resources. data.gov | Target Date: Dec. 31, 2021 | Responsible Party: CIO Council

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

7.2. Use Cases

Prepare an inventory of nonclassified AI use cases, including current and planned uses

Measurement: Completion | Reporting Mechanism: As determined by the CIO Council | Target Date: Dec. 31, 2021 | Responsible Party: Required for all agencies

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

7.3. Inventories

Coordinate the sharing of AI use case inventories among agencies

Measurement: Completion | Reporting Mechanism: Progress Reporting Tool | Target Date: Within 60 days of the completion of agency respective inventories | Responsible Party: CIO and Chief Data Officer Councils, as well as other interagency bodies

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

7.4. Publication

Make agency AI use cases available to the public, to the extent practicable and in accordance with applicable law and policy, including those concerning the protection of privacy and of sensitive law enforcement, national security, and other confidential information

Measurement: Completion | Reporting Mechanism: Progress Reporting Tool | Target Date: Within 120 days of the completion of agency inventories | Responsible Party: Required for all agencies

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

Action 8. Dashboards & Infrastructure

Develop Government-Wide Dashboards and Infrastructure

Agencies have made significant progress in leveraging data as a strategic asset to enable effective decision-making using data that is timely, reliable, and actionable. Several agencies have created integrated approaches to data analytics and decision-support development, infrastructure, and tools, yet there is no strategy for an approach that would provide decision support on common or urgent issues across multiple federal agencies. The COVID-19 national emergency demonstrated the need to share decision-support tools widely across agencies with urgent, emerging needs to ensure leadership have the data for critical decisions. The CDO Council's COVID-19 Data Coordination Working Group identified opportunities to improve data access and data infrastructure, and to enhance data modelling and dashboard sharing across federal agencies. In 2021, the CDO Council will analyze the key areas and use cases for which shared, interagency decision-support would provide the most value; issue a set of recommendations for a government-wide infrastructure solution and associated funding mechanisms; and create a proof-of-concept demonstration.

8.1. Dashboard

Demonstrate a dashboard prototype to the CDO Council and relevant interagency Councils

Measurement: Demonstration to CDO Council and relevant interagency Councils | Reporting Mechanism: Progress Reporting Tool | Target Date: Dec. 31, 2021 | Responsible Party: CDO Council

Stakeholder(s):
CDO Council

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

8.2. Infrastructure

Document recommendations for government-wide infrastructure solutions and funding mechanisms

Measurement: Completion | Reporting Mechanism: Progress Reporting Tool | Target Date: Dec. 31, 2021 | Responsible Party: CDO Council

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

Action 9. Skills

Pursue Data Skills Workforce Development

In support of Action 4, agencies need documented examples of successful data-skills training efforts already in use across the federal government. GSA, in collaboration with an interagency working group, developed a Curated Data Skills Catalog in 2020. Responsibility for the Catalog was transferred to the CDO Council. In 2021, the CDO Council will develop a data-skills workforce development playbook that will serve as a roadmap for designing, implementing, and administering a data-skills training program that includes data ethics as a theme.

9.1. Use Cases

Document agency use cases and validate those use cases with the CDO Council Data Skills Development Working Group

Measurement: Completion | Reporting Mechanism: Progress Reporting Tool | Target Date: Dec. 31, 2021 | Responsible Party: CDO Council

Stakeholder(s):
CDO Council Data Skills Development Working Group

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

9.2. Playbook

Publish the data-skills workforce development playbook

Measurement: Completion | Reporting Mechanism: Progress Reporting Tool & Resources.data.gov | Target Date: Dec. 31, 2021 | Responsible Party: CDO Council

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

Action 10. Wildland Fires

Advance Interagency Wildland Fire Fuels Data Management

In 2020, devastating wildland fires took lives and destroyed property across the United States. Improved land management can reduce the risk of wildland fire by decreasing available fuel. Effective land management requires fusing, interpreting, and managing a wealth of diverse data produced by federal, state, local, tribal, and territorial governments. The Department of the Interior and the Department of Agriculture, in partnership with other state and federal land management agencies, will demonstrate best practices for governing and combining disparate data. Such practices include linking data to the original source, and then publishing the data as a knowledge graph that integrates feedback from subject matter experts. Adding value to the data using such techniques may enable new solutions. Interagency coordination in fuels data management will demonstrate the responsible use of such data to help reduce wildfire risk, increase transparency, and benefit future uses with AI. Similarly, the experience with data-sharing, transfer, and collaboration will have effects beyond this single project or even scientific domain. The processes may be transferable across the federal landscape.

10.1. Architecture & Roadmap

Wildland Fuels Modernization Architecture and Roadmap

Measurement: Completion | Reporting Mechanism: Progress Reporting Tool | Target Date: Dec. 31, 2021 | Responsible Party: CDO Council

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

Action 11. Geospatial Data

Integrate geospatial data practices into the federal data enterprise

Stakeholder(s)

Federal Geographic Data Committee (FGDC)

Role: Strategic Planning
The Federal Geographic Data Committee (FGDC) developed a National Spatial Data Infrastructure (NSDI) Strategic Plan that sets overarching goals to ensure that geospatial data supports agency missions, economic growth, and technological innovation.

Role: GeoPlatform Operation
The FGDC continues to operate GeoPlatform to make National Geospatial Data Assets (NGDA) publicly available and discoverable.

Role: Analysis
The FGDC will also complete an analysis to identify high-value geospatial investment areas for the Geospatial

Data Act (GDA) and the NSDI. The analysis will seek to capture federal agencies' perspectives and concerns, considering applicable laws, policies, missions, and data and service requirements across federal agencies and with non-federal partners.

Interagency Councils :
The FGDC is focusing on improving coordination and collaboration across interagency councils.

CDO Council Liaisons :
In particular, the FGDC will establish and identify CDO Council liaisons to participate in and champion discussions with the broader federal data community. These efforts will help advance the integrated use of the National Geospatial Data Asset portfolio and other geospatial data.

Geospatial Data Practices ~ Agency Actions Community of Practice and Shared Solutions Actions | The 2020 Action Plan articulated a series of milestones to better integrate geospatial data practices into the federal data enterprise.

11.1. Investments

Identify High-Value Geospatial Data Act Investment Areas

Measurement: Completion | Reporting Mechanism: Progress Reporting Tool and FGDC web page | Target Date: Dec. 31, 2021 | Responsible Party: Federal Geographic Data Committee

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

11.2. Coordination & Collaboration

Improve coordination and collaboration between the Federal Geographic Data Committee and interagency councils

Measurement: Number of Engagements | Reporting Mechanism: Progress Reporting Tool | Target Date: Dec. 31, 2021 | Responsible Party: Federal Geographic Data Committee

Stakeholder(s):

Federal Geographic Data Committee
Role: Coordination & Collaboration

Interagency Councils
Role: Coordination & Collaboration

Performance Indicators

Description	Type	Start Date	End Date
	Target		
[To be determined]	Actual		

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