December 2021

OPEN DATA

Additional Action Required for Full Public Access

GAO@100

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OPEN DATA

Additional Action Required for Full Public Access

Why GAO Did This Study

Federal agencies create and collect large amounts of data to fulfill their missions. Public access to open data—data that are free to use, modify, and share—holds great promise for promoting government transparency and engendering public trust.

The OPEN Government Data Act includes provisions for GAO to report on federal agencies' comprehensive data inventories and on the value of the data made available to the public, among other requirements.

This report examines, among other things, (1) the extent to which OMB met its statutory requirements; (2) selected agencies' progress developing comprehensive data inventories; (3) the extent to which selected agencies engage with the public; and (4) how data users value and use information made publicly available.

GAO reviewed four selected agencies' websites and related documentation, and interviewed OMB staff, General Services Administration and agency officials, and data users.

What GAO Recommends

GAO is making 10 recommendations, including that OMB issue guidance on making data open by default, and that AmeriCorps, DOJ, the Department of State, and FDIC fully address the act's public engagement requirements.

GSA, the Department of State, FDIC, and AmeriCorps concurred, and OMB and DOJ neither agreed nor disagreed, with GAO's recommendations. OMB, the Department of State, DOJ, and GSA also provided technical comments, which GAO incorporated as appropriate.

What GAO Found

The Open, Public, Electronic and Necessary Government Data Act of 2018 (OPEN Government Data Act) codifies and expands on existing open data policy. It requires, among other things, agencies to publish information as open data by default, as well as develop and maintain comprehensive data inventories.

However, the Office of Management and Budget (OMB) has not issued statutorily-required implementation guidance to agencies on making data open by default and comprehensive data inventories. GAO previously recommended that OMB issue inventory guidance, but that recommendation has not been implemented.

Despite the lack of guidance, selected agencies—AmeriCorps, the Departments of Justice (DOJ) and State, and the Federal Deposit Insurance Corporation (FDIC)—made progress developing data inventories. Specifically, DOJ, the Department of State, and FDIC are at varying stages of updating their data inventories as required under the act. Further, although AmeriCorps lacks a comprehensive data inventory of all of its data assets, it has developed a searchable open data portal.

Regarding engaging with the public, GAO found that the selected agencies had mixed results in addressing all requirements of the act (see figure below). For example, while most of the agencies were assisting the public in expanding use of data assets, none were fully addressing the requirement to publish information on such use.

Selected Agencies' Efforts to Address Requirements to Engage with the Public on Open Data

OPEN Government Data Act Requirements	AmeriCorps	DOJ	Dept. of State	FDIC
Provide opportunity for the public to request specific data to be prioritized for disclosure and make suggestions for the development of agency criteria on prioritizing data assets for disclosure	●	●	◐	●
Assist the public in expanding the use of data assets	●	●	◐	●
Host relevant challenges, competitions, events, or other open data related initiatives to create additional value from public data assets	○	○	●	●
Publish information on the use of data assets	◐	○	○	○

● Generally addressed ◐ Partially addressed ○ Not addressed

Source: Pub. L. No. 115-435, § 202(c), 132 Stat. 5529, 5535 (2019), *codified at* 44 U.S.C. § 3506(d)(6), and GAO analysis of documents and information from AmeriCorps, Department of Justice (DOJ), Department of State, and Federal Deposit Insurance Corporation (FDIC). | GAO-22-104574

Federal data users spanning the public, private, and nonprofit sectors reported that they use and value a variety of data from across the federal government, such as demographic, spending, economic, and law enforcement data. Data users suggested that creating more comprehensive, standardized, accessible, and curated government data could increase the overall value and usefulness of open data. Full implementation of the public engagement requirements in the act could help address issues identified by federal data users.

United States Government Accountability Office

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Abbreviations

API	application programing interface
CBJ	Congressional Budget Justification
CDO	Chief Data Officer
CFO	Chief Financial Officer
COVID-19	Coronavirus Disease 2019
DATA Act	Digital Accountability and Transparency Act of 2014
DOJ	Department of Justice
Evidence Act	Foundations for Evidence-Based Policymaking Act of 2018
FDIC	Federal Deposit Insurance Corporation
GSA	General Services Administration
NARA	National Archives and Records Administration
OMB	Office of Management and Budget
OPEN Government Data Act	Open, Public, Electronic and Necessary Government Data Act
XBRL	extensible business reporting language

December 16, 2021

The Honorable Gary C. Peters
Chairman
The Honorable Rob Portman
Ranking Member
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable Carolyn B. Maloney
Chairwoman
The Honorable James Comer
Ranking Member
Committee on Oversight and Reform
House of Representatives

Federal agencies create and collect considerable amounts of information to fulfill their missions. As of November 22, 2021, the Federal Data Catalogue includes more than 293,000 publicly available data sets from 50 federal agencies.[1] Open data—public access to federal data that are free to use, modify, and share—hold great promise for promoting government transparency, engendering public trust in government, and stimulating entrepreneurship, innovation, and economic activity.

Recognizing the need to make federal government data accessible and usable for the public, Congress passed and the President signed into law the Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act).[2] Title II of the Evidence Act—the Open, Public, Electronic and Necessary Government Data Act (OPEN Government Data Act)—requires that federal agencies make their data assets available in an open format, and their public data assets available as an open government

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[1]The Federal Data Catalogue is a public searchable consolidated resource of federal open data, available at https://www.data.gov/ (Data.gov) and hosted by the General Services Administration.

[2]Pub. L. No. 115-435, 132 Stat. 5529 (2019).

data asset and under an open license.[3] The act codifies and expands on existing federal open data policy including the Office of Management and Budget's (OMB) memorandum M-13-13, *Open Data Policy—Managing Information as an Asset.*[4]

Federal agencies, OMB, and the General Services Administration (GSA) are responsible for implementing several provisions in the OPEN Government Data Act. Among other things, the act generally requires that agencies develop and maintain comprehensive data inventories and engage the public in using open data.[5] It directs OMB to establish guidance for agencies to develop and maintain comprehensive data inventories, and to electronically publish a report on agency performance and compliance with the statutory requirements.[6] The act also directs GSA to maintain the Federal Data Catalogue.[7]

The OPEN Government Data Act includes a provision for us to report on, to the extent practicable, the value of information made available to the public as a result of the act, information that has yet to be made available that would be valuable to the public, and the completeness of federal

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[3]Pub. L. No. 115-435, tit. II, § 202(c)(1)(A)(iv) (2019), *codified at* 44 U.S.C. § 3506(b)(6). Under the OPEN Government Data Act, the term "agency" means any executive department, military department, government corporation, government controlled corporation, or other establishment in the executive branch of the government (including the Executive Office of the President), or any independent regulatory agency, but does not include: (1) ourselves; (2) the Federal Election Commission; (3) the governments of the District of Columbia and of the territories and possessions of the United States, and their various subdivisions; or (4) government-owned contractor-operated facilities, including laboratories engaged in national defense research and production activities. 44 U.S.C. § 3502(1). We determined that the act applies to agencies that have Chief Data Officers (CDO) who are members of the CDO Council. These agencies determined they are subject to the act because they met the act's requirement to designate a CDO who will serve as a member of the CDO Council as required in 44 U.S.C. §§ 3520, 3520A. As of November 22, 2021, 85 agencies have CDOs who are members of the CDO Council.

[4]Office of Management and Budget, *Open Data Policy—Managing Information as an Asset,* OMB Memorandum M-13-13 (Washington, D.C.: 2013).

[5]44 U.S.C. §§ 3506(b)(2)(B)(i)(II), 3511(a), *as amended by* OPEN Government Data Act, §§ 202(c)(1)(A)(i), (d). The term "data" means recorded information, regardless of form or the media on which the data are recorded.

[6]44 U.S.C. § 3511(a)(2), *as amended by* OPEN Government Data Act, §§ 202(d), (g); 5 U.S.C. § 306 note.

[7]44 U.S.C. § 3511(c)(1), *as amended by* OPEN Government Data Act, § 202(d)(1).

agencies' comprehensive data inventories.[8] In October 2020, we reported on the extent to which OMB, GSA, and the National Archives and Records Administration met statutory requirements under the act, and on the extent to which Chief Financial Officers (CFO) Act agencies developed data inventories.[9]

This report addresses (1) the extent to which OMB has met selected statutory requirements under the OPEN Government Data Act, (2) progress selected agencies have made toward developing comprehensive data inventories, (3) the extent to which selected agencies have met statutory requirements under the act to engage with the public, (4) the extent to which GSA addresses user-centered design practices in maintaining Data.gov, and (5) the value selected data users attribute to federal open data, and whether additional information would be valuable if it were made available.

To assess the extent to which OMB, GSA, and selected agencies addressed selected statutory requirements, we evaluated agency documents and information from interviews with agency staff and officials.

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[8]OPEN Government Data Act, § 202(g)(1). In the absence of OMB implementation guidance required in 44 U.S.C. § 3511(a)(2), we determined it was not practicable at this time to assess the completeness of each agency's comprehensive data inventory. Instead, this report describes selected agencies' progress toward developing comprehensive data inventories, and agencies' progress publishing data sets on Data.gov. We plan to conduct additional work examining the completeness of agencies' comprehensive data inventories once OMB issues implementation guidance and agencies have had time to implement the guidance.

[9]GAO, *Open Data: Agencies Need Guidance to Establish Comprehensive Data Inventories; Information on Their Progress is Limited*, GAO-21-29 (Washington, D.C.: Oct. 8, 2020). The CFO Act, among other things, established the position of agency CFO in the following 24 agencies, known as the CFO Act agencies: Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Housing and Urban Development, Interior, Justice, Labor, Department of State, Transportation, Treasury, and Veterans Affairs; National Aeronautics and Space Administration; Environmental Protection Agency; Agency for International Development; General Services Administration; National Science Foundation; Nuclear Regulatory Commission; Office of Personnel Management; Small Business Administration; and Social Security Administration. 31 U.S.C. § 901(b).

These analyses addressed federal standards for internal control that we determined were significant to our audit.[10]

We selected a nongeneralizable sample of four agencies to provide insights on agencies' progress toward developing comprehensive data inventories, and on the extent to which agencies have met statutory requirements to engage with the public. The selected agencies represent a range of experiences with open data, and include two CFO Act agencies and two non-CFO Act agencies.[11] Although the information we obtained from these selected agencies is not representative of all agencies, it provides useful insight into agency implementation of the OPEN Government Data Act.

We also interviewed a nongeneralizable sample of data users to provide insights into the public's use and value of federal open data. Selected data users represented a variety of sectors and backgrounds, including state and local governments, academia, businesses, journalists, and researchers.[12] Although their views are not representative of the views of all data users, we selected them because they have experience using federal open data, and provide views from across a wide range of perspectives of user groups. Appendix I provides additional details on our objectives, scope, and methodology.

We conducted this performance audit from October 2020 to December 2021 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe

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[10]GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: September 2014). We determined that portions of the "control activities" and "information and communication" components of internal control were significant to our audit work.

[11]The four agencies we selected are AmeriCorps (previously known as Corporation for National and Community Service), the Department of Justice (DOJ), the Department of State, and the Federal Deposit Insurance Corporation (FDIC).

[12]For reporting purposes, we use the term "data user" to describe an organization using federal government data and represented in our interviews. In some cases, we spoke with more than one individual at an organization. See appendix II for a list of all organizations represented in our interviews.

that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The OPEN Government Data Act is one of several government-wide initiatives focused on improving the public's access to government information.[13] During the past 15 years, Congress and the executive branch have taken several steps to improve the availability, transparency, and quality of federal data. For example, in 2014, Congress passed and the President signed into law the Digital Accountability and Transparency Act of 2014 (DATA Act).[14] The DATA Act expanded prior transparency legislation to include direct federal agency expenditures and to link federal contract, loan, and grant spending information to federal programs. This expansion was meant to enable taxpayers and policy makers to more effectively track federal spending. In 2006, Congress passed and the President signed into law the Federal Funding Accountability and Transparency Act of 2006 (FFATA). FFATA required agencies to report information on federal awards to the public—such as contracts, grants, and loans.[15]

Enacted in 2019, the Evidence Act created a framework for federal agencies to take a more comprehensive and integrated approach to evidence building. It requires federal evidence-building activities, open government data, and confidential information protection and statistical efficiency. Under the OPEN Government Data Act, agencies are responsible for making data open by default by, among other things, making their data assets available in an open format.[16] More recently, Congress passed and the President signed into law the Congressional Budget Justification (CBJ) Transparency Act.[17] The act requires agencies to publicly post their CBJs as an open government data asset, in a manner that enables users to download reports in bulk, and in a

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[13]Pub. L. No. 115-435, tit. II, 132 Stat. at 5534.

[14]Pub. L. No. 113-101, 128 Stat. 1146 (2014). The DATA Act amended the Federal Funding Accountability and Transparency Act of 2006. Pub. L. No. 109-282, 120 Stat. 1186 (2006), *codified at* 31 U.S.C. § 6101 note.

[15]Pub. L. No. 109-282, 120 Stat. 1186 (2006), *codified at* 31 U.S.C. § 6101 note.

[16]44 U.S.C. § 3506(b)(6), *as amended by* Pub. L. No. 115-435, § 202(c), 132 Stat. 5537.

[17]Pub. L. No. 117-40, 135 Stat. 337 (2021).

structured data format.[18] For additional information on open data initiatives, see appendix III.

Among other provisions, the OPEN Government Data Act requires OMB to establish guidance for federal agencies to develop and maintain comprehensive data inventories by July 2019 that includes:

- a requirement for agencies to include metadata on each data asset;

- criteria for agencies to use in determining whether a particular data asset should not be made publicly available; and

- a requirement for agencies to exclude any data asset contained on a national security system, among other requirements.[19]

The act requires OMB guidance by January 2020 on making data open by default; the guidance is to take into account, among other things:

- risks and restrictions related to the disclosure of personally identifiable information, including the risk that an individual data asset in isolation does not pose a privacy or confidentiality risk but when combined with other available information may pose such a risk; and

- the cost and benefits to the public of converting a data asset into a machine-readable format that is accessible and useful to the public.[20]

The act also requires:

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[18]Pub. L. No. 117-40, § 2, 135 Stat. at 338. CBJs are documents Executive Branch agencies submit to OMB in conjunction with the president's annual budget request to Congress submitted under section 1105(a) of Title 31, United States Code. The justifications provide explanations of how agencies propose to spend funding they request, descriptions of agencies' core priorities and performance goals, and a summary of agencies' programs' past performance.

[19]44 U.S.C. § 3511(a)(2), *as amended* by the OPEN Government Data Act, § 202(d)(1); Pub. L. No. 115-435, § 403, 132 Stat. at 5557. Under the OPEN Government Data Act, a data asset is a collection of data elements or data sets that may be grouped together.

[20]44 U.S.C. § 3504(b)(6), *as amended by* OPEN Government Data Act, § 202(b). Pub. L. No. 115-435, § 202(c)92)-(3), 132 Stat. at 5538. Machine-readable data are data in a format that can be easily processed by a computer without human intervention while ensuring no semantic meaning is lost. 44 U.S.C. § 3502(18*), as amended by* OPEN Government Data Act, § 202(a).

- OMB to electronically publish a report on agency performance and compliance with the act and amendments made by the act.[21]

- GSA to maintain a single public interface online as a point of entry dedicated to sharing agency data assets with the public, known as the Federal Data Catalogue.[22]

- Agencies to develop and maintain, in accordance with OMB guidance, a comprehensive data inventory that accounts for all data assets created by, collected by, under the control or direction of, or maintained by the agency.[23]

- Agencies to submit their public data assets, or links to public data assets, for inclusion in the Federal Data Catalogue.[24]

Regarding engaging the public to encourage data use and collaboration, the act requires agencies to (1) provide opportunities for the public to request specific data assets to be prioritized for disclosure and make suggestions for the development of agency criteria on prioritizing data assets for disclosure; (2) assist the public in expanding the use of public data assets; (3) host relevant challenges, competitions, events, or other open data related initiatives; and (4) publish information on the use of data assets by non-government users.[25] The act does not require that OMB provide agencies with guidance on implementing these requirements to engage with the public.

The Federal Data Catalogue is a public searchable consolidated resource of federal open data, available at Data.gov, as illustrated in figure 1.

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[21]Pub. L. No. 114-435, § 202(g), 132 Stat. at 5544.

[22]44 U.S.C. § 3511(c)(1), *as amended by* OPEN Government Data Act, § 202(d)(1). In October 2020, we reported that GSA met this requirement to maintain the Federal Data Catalogue. See GAO, *Open Data: Agencies Need Guidance to Establish Comprehensive Data Inventories; Information on Their Progress is Limited*, GAO-21-29 (Washington, D.C.: Oct. 8, 2020).

[23]44 U.S.C. § 3511(a), *as amended by* OPEN Government Data Act, § 202(d). A comprehensive data inventory does not include the underlying data assets themselves, but includes metadata describing the data assets. Metadata are structural or descriptive information about data such as content, format, source, rights, accuracy, provenance, frequency, periodicity, granularity, publisher or responsible party, contact information, method of collection, and other descriptors. 44 U.S.C. §§ 3502(15), (19), *as amended by* OPEN Government Data Act, § 202(a).

[24]44 U.S.C. § 3511(b), *as amended by* OPEN Government Data Act, § 202(d).

[25]44 U.S.C. § 3506(d)(6), *as amended by* OPEN Government Data Act, § 202(c).

Launched in 2009, Data.gov also hosts an online repository providing tools and resources to federal agencies to help them develop and maintain their data inventories.[26]

Figure 1: Data.gov Home Page
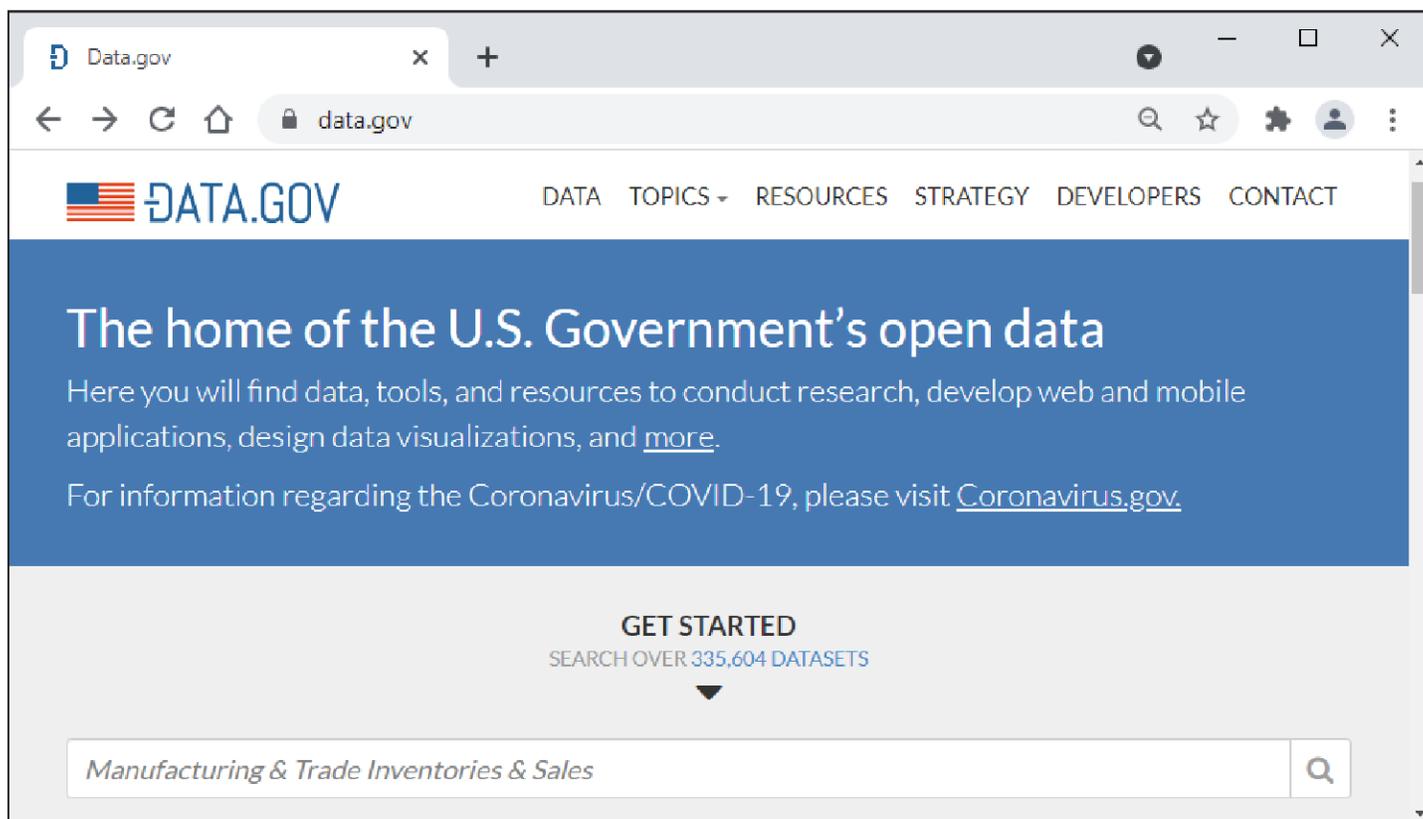
Source: GAO snapshot of Data.gov website (https://www.data.gov), accessed November 29, 2021. | GAO-22-104574

GSA's Technology Transformation Services manages and hosts Data.gov. According to GSA officials, Data.gov—which reached approximately 21 million page views in 2019, and about 16.5 million in 2020—provides access to government data sets covering a wide range of

[26]https://resources.data.gov. OMB developed this collection of resources in coordination with GSA and the National Archives and Records Administration in response to a requirement in the OPEN Government Data Act to develop and maintain an online repository of tools, best practices, and schema standards to facilitate the adoption of open data practices across the federal government. 44 U.S.C. § 3511(c)(2), *as amended by* OPEN Government Data Act, § 202(d)(1).

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topics, such as weather, demographics, health, education, housing, and agriculture.

OMB Has Neither Issued Implementation Guidance nor Fully Reported on Agencies' OPEN Government Data Act Performance and Compliance

OMB Has Drafted but Not Finalized Implementation Guidance

As of November 22, 2021, OMB had not issued final implementation guidance to agencies on developing inventories and making data open by default. This implementation guidance required under the act is referred to as Phase II guidance (see text box).

Evidence Act Implementation Guidance

As stated in the Office of Management and Budget's (OMB) *Phase 1: Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Learning Agendas, Personnel, and Planning Guidance* (OMB Memorandum M-19-23), published in July 2019, OMB plans to issue four iterations or phases of supplemental guidance to facilitate agency compliance with the Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act), signed into law on January 14, 2019:

- **Phase I: Learning Agendas, Personnel, and Planning**. Includes information on implementation of agency requirements in the act related to developing Learning Agendas; designating and developing roles and responsibilities for agency positions established in the act (e.g., Chief Data Officer, Evaluation Officer); and undertaking strategic planning activities to promote better use and management of data and evidence. OMB issued Phase I guidance in OMB Memorandum M-19-23 in July 2019.

- **Phase II: Open Data Access and Management**. In Phase II guidance, OMB plans to include information for agencies on implementing the provisions in Title II of the Evidence Act—the Open, Public, Electronic and Necessary Government Data Act (OPEN Government Data Act)—to, among others, (1) develop and maintain comprehensive data inventories, and (2) fulfill their responsibilities to make data open by default. As of November 22, 2021, OMB has not issued Phase II guidance.

- **Phase III: Data Access for Statistical Purposes**. In Phase III guidance, OMB plans to include information on data access for statistical purposes. As of November 22, 2021, OMB has not issued Phase III guidance.

- **Phase IV: Program Evaluation.** Phase IV guidance provides program evaluation standards to guide agencies in developing and implementing evaluation policies, among other things. OMB issued *Phase 4 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Program Evaluation Standards and Practices* (OMB Memorandum M-20-12) in March 2020.

Source: GAO analysis of OMB documents. | GAO-22-104574

Note: The OPEN Government Data Act is Title II Foundations for Evidence-Based Policymaking Act of 2018. Pub. L. No. 115-435, 132 Stat. 5529, 5534 (2019).

We previously recommended that OMB comply with its statutory requirement to issue implementation guidance to agencies to develop and maintain comprehensive data inventories.[27] We reported that implementation of this statutory requirement is critical to agencies' full implementation of and compliance with the OPEN Government Data Act. In the absence of this guidance, agencies, particularly agencies that have not previously been subject to open data policies, could fall behind in

[27]GAO-21-29.

meeting their statutory requirement for implementing comprehensive data inventories. As of November 22, 2021, OMB has not addressed this recommendation.

In September 2020, OMB shared a draft of the Phase II implementation guidance with members of the Chief Data Officers (CDO) Council. The OPEN Government Data Act required the establishment of the CDO Council as a vehicle for, among other things, sharing best practices with agencies on using, protecting, disseminating, and generating data.[28] OMB staff said that they received comments from agencies on this draft, which they are reviewing.

OMB staff told us that while they continue to develop Phase II guidance, they help agencies meet requirements in the OPEN Government Data Act—including on making data open by default—by pointing them to existing policies and resources. Specifically, the staff said that OMB directs agencies to open data policies in OMB memorandum M-13-13, published prior to the enactment of the OPEN Government Data Act.[29] They added that OMB collaborates with GSA and the National Archives and Records Administration (NARA) to provide agencies with a repository of open data tools, best practices, and schema standards on resources.data.gov.[30] OMB staff told us that they also assist agencies by participating in the CDO Council and Chief Information Officers Council.[31] OMB staff added that these groups provide a forum for talking with agency officials about challenges and questions agencies face as they work to implement the OPEN Government Data Act requirements.

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[28]44 U.S.C. § 3520A, *as amended by* OPEN Government Data Act, § 202(f). As of November 22, 2021, 85 agencies have CDOs who are members of the CDO Council. We determined that the OPEN Government Data Act applies to agencies that have CDOs who are members of the CDO Council because they met the act's requirement to designate a CDO who will serve as a member of the CDO Council.

[29]OMB Memorandum M-13-13.

[30]https://resources.data.gov. In GAO-21-29, we reported that OMB, GSA, and NARA established and were maintaining this repository of resources intended to facilitate the adoption of open data practices across the federal government, as required by the OPEN Government Data Act. 44 U.S.C. § 3511(c)(2), *as amended by* OPEN Government Data Act, § 202(d)(1).

[31]The Chief Information Officers Council is the principal interagency forum for improving agency practices related to the design, acquisition, development, modernization, use, sharing, and performance of federal information resources.

In September 2021, OMB staff told us that they had yet to finalize Phase II guidance due to delays resulting from the Coronavirus Disease 2019 (COVID-19) pandemic and the transition to a new presidential administration. They stated that changes in their priorities resulting from the COVID-19 pandemic had affected their ability to regularly communicate and meet with stakeholders. In addition, OMB staff said that they want to afford new leadership at the agency the opportunity to reflect and respond to OMB staff's proposed approach to the Phase II guidance before finalizing it. OMB staff did not provide a planned time frame for issuing the guidance.

OMB's delay in issuing the guidance on making data open by default could lead to delays in agency implementation of key provisions under the act and potential increased costs for agencies if they are required to revise their approaches to implementation after OMB releases the guidance. For example, by January 2020, agencies subject to the OPEN Government Data Act were to have met a number of requirements in the act, including making each of their data assets available in an open format.[32] While agencies have begun to implement the act's requirements on making data open by default, OMB guidance was to help agencies implement this requirement. Without guidance on making data open by default, agencies have not had the information needed to fully implement this requirement.

OMB Reports Some Information on Agencies' Performance and Compliance with the OPEN Government Data Act but Gaps Remain

In October 2020, we recommended that OMB comply with its statutory requirement to publish a report electronically on agencies' performance and compliance with the OPEN Government Data Act.[33] OMB staff told us that they meet this statutory requirement by publishing information on the

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[32]44 U.S.C. § 3506(b)(6), *as amended by* OPEN Government Data Act, § 202(c).

[33]GAO-21-29. The act requires OMB to publish these reports biennially. OMB's first report was due 1 year after enactment, in January 2020. Subsequent reports are due biennially thereafter (e.g., January 2022, January 2024). Pub. L. No. 114-435, § 202(g)(2), 132 Stat. at 5544.

Agency Progress Dashboard.[34] Specifically, OMB staff said that the dashboard reports information on agencies':

- development and maintenance of comprehensive data inventories, including requirements to include metadata in these inventories;[35] and

- submission of public data assets or links to public data assets available online for inclusion in the Federal Data Catalogue.[36]

As illustrated in figure 2, the Agency Progress Dashboard provides a number of metrics related to agencies' comprehensive data inventories, including the number of public data sets, the percentage of restricted data sets, and the percentage of data sets with valid metadata.

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[34]The Agency Progress Dashboard is officially titled "Project Open Data Dashboard." We refer to it as the "Agency Progress Dashboard" in this report for clarity and readability. GSA administers the dashboard, which is a public-facing website available at https://labs.data.gov/dashboard. A description of the dashboard is available at https://labs.data.gov/dashboard/docs. According to GSA officials, Data.gov automatically harvests agencies' data files if they are in the ".json" format and located at www.agency.gov/data.json. For initial setup of the automated harvest, an agency must notify GSA that it has a data listing that meets these standards.

[35]44 U.S.C. § 3511(a), *as amended by* OPEN Government Data Act, § 202(d).

[36]44 U.S.C. § 3511(b), *as amended by* OPEN Government Data Act, § 202(d).

Figure 2: Screenshot of Agency Progress Dashboard

Source: GAO snapshot of Agency Progress Dashboard website (https://labs.data.gov/dashboard/offices/2021-06-30/qa), accessed November 29, 2021. | GAO-22-104574

Note: The Agency Progress Dashboard is officially titled, "Project Open Data Dashboard." We refer to it as the "Agency Progress Dashboard" in this report for clarity and readability.

However, the Agency Progress Dashboard neither reports information on all agencies that have determined they are subject to the requirements of the OPEN Government Data Act, nor provides information on agency progress toward meeting all of their requirements. For example, information reported for the milestone ending on June 30, 2021—the latest date for which an update is available—includes metrics for 40 of 85 agencies.

The Agency Progress Dashboard does not include information on agencies' progress in meeting the act's requirements to develop open

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data plans, engage with the public, or designate a CDO.[37] Moreover, although the Agency Progress Dashboard indicates that it is a public dashboard showing how federal agencies are performing on open data policy, it does not include information identifying it as the mechanism OMB is using to report on agencies' performance and compliance with the act. It is therefore unclear how data users would identify the dashboard as the electronically published report on agency compliance and performance OMB is required to issue under the OPEN Government Data Act.

In addition, our prior work identified a number of errors in the data that are routinely published on the Agency Progress Dashboard, including inaccurate data labeling and incomplete or missing data.[38] In response, we recommended that the Director of OMB, in collaboration with the Administrator of GSA, establish a policy to ensure the routine identification and correction of errors in electronically published performance information.[39] GSA concurred with this recommendation and OMB did not comment on it. As of September 2021, neither agency has taken steps to address our recommendation.

In September 2021, GSA officials told us that they do not have plans to update the Agency Progress Dashboard. Instead, they plan to create a different mechanism for reporting this information that would be located on Data.gov. Similarly, in September 2021, OMB staff told us that they have not made progress toward fixing the errors on the Agency Progress Dashboard. OMB staff also said that as the federal government's open data operations mature, including in response to the issuance of new and updated policies, OMB will evaluate and, in collaboration with GSA, take appropriate steps to improve open data reporting.

Nevertheless, as OMB and GSA work to retool OMB's mechanism for reporting on agencies' performance and compliance with the act, they should take steps to address our prior recommendation to establish a

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[37]Some information on agencies' progress in meeting these requirements is available on https://strategy.data.gov/progress/. For example, the site includes a milestone in the fourth quarter of 2020 describing agencies' OPEN Government Data Act requirement to publish an open data plan, and states that the completion status of this milestone is pending OMB open data guidance. However, OMB staff said they do not use this webpage to track or report on agencies' performance and compliance with the act. This webpage was last updated in January 2021.

[38]GAO-21-29.

[39]GAO-21-29.

policy to ensure the identification and correction of errors in electronically published agency performance reports.

Selected Agencies Developed Data Inventories and Catalogues despite Challenges

Selected agencies in our review made progress developing data inventories and catalogues. The Department of Justice (DOJ), the Department of State, and the Federal Deposit Insurance Corporation (FDIC) have developed data inventories and are at varying stages of updating them as required under the OPEN Government Data Act. For example, DOJ has developed a data inventory that lists the agency's data assets and associated metadata, as illustrated by figure 3. In addition, some of the agencies have developed or are developing agency-specific data catalogues, which—similar to Data.gov—allow users to search for and access data assets.[40] For example, AmeriCorps has developed an agency data catalogue, as illustrated by figure 4.

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[40]Agency data catalogues are similar to data inventories, but may include underlying data assets and provide additional features such as a search function.

Figure 3: Example of Agency Data Inventory
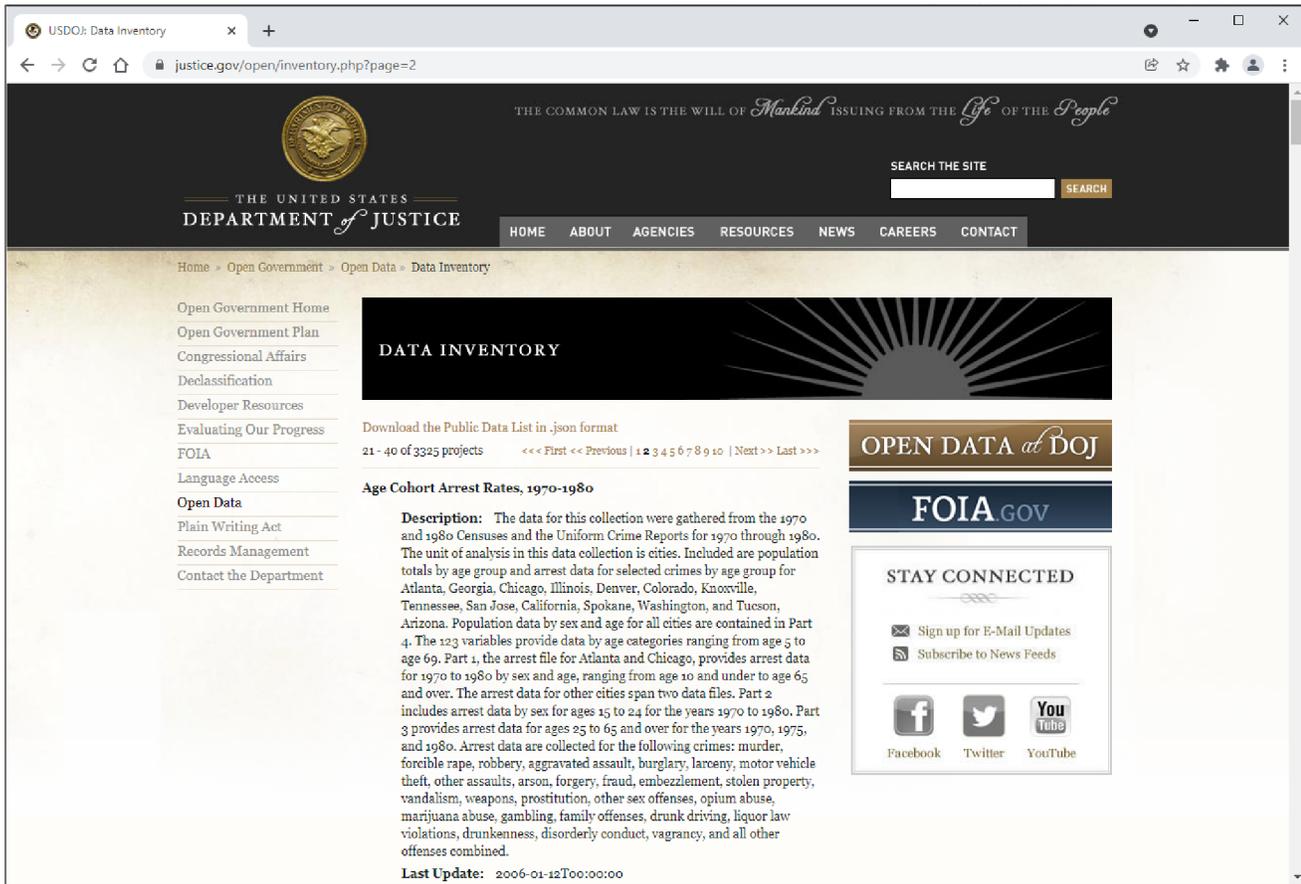
Source: GAO snapshot of Department of Justice website (https://www.justice.gov/open/inventory.php?page=2), accessed November 29, 2021. | GAO-22-104574

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Figure 4: Example of Agency Data Catalogue
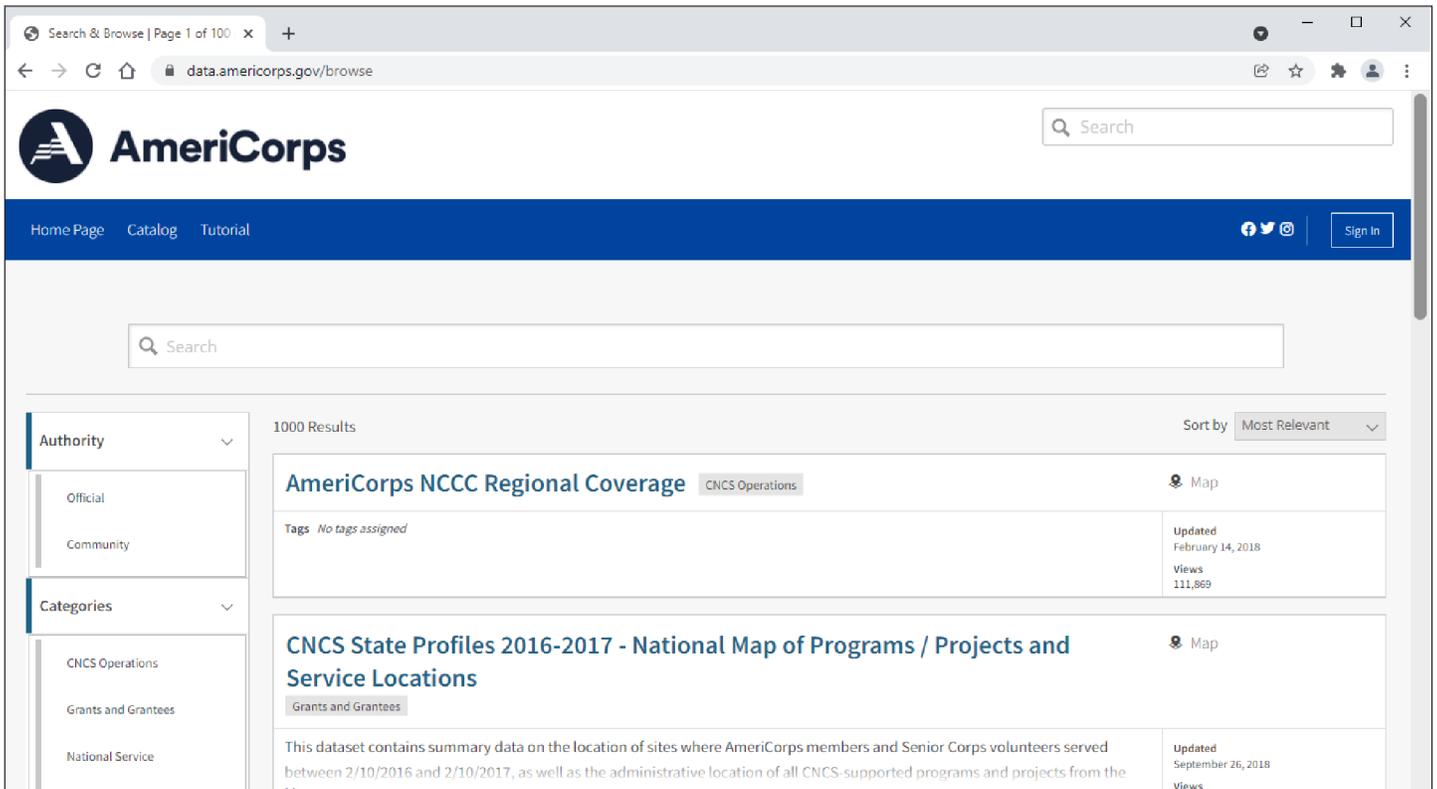
Source: GAO snapshot of AmeriCorps website (https://data.americorps.gov/browse), accessed November 29, 2021. | GAO-22-104574

AmeriCorps. Officials told us they developed their agency data catalogue in 2017. The catalogue is a searchable open data portal, though it is not a comprehensive inventory of all agency data. These officials also told us that the agency's first CDO, onboarded in August 2021, will lead plans to develop a comprehensive data inventory and process for publishing open data, including on Data.gov. These officials also told us they prioritize data for inclusion in the agency data catalogue based on: (1) public data requests; (2) agency priorities; and (3) general awareness of key agency efforts, such as deployment reports.[41]

[41]Deployment reports detail where AmeriCorps National Civilian Community Corps teams are serving across the country and which organizations, efforts, and initiatives they are currently supporting.

AmeriCorps's agency data are publicly available on the agency's website.[42] As of November 22, 2021, the agency data catalogue includes 1,000 data sets, though Data.gov does not include any data sets from AmeriCorps.

DOJ. Officials told us they developed a data inventory in 2013 in response to OMB memorandum M-13-13. They are currently updating DOJ's process for converting data assets to a machine-readable format to modernize the agency's data inventory. They also told us they developed an internal application, called the Justice Data Catalog, in 2018 to support data collection and open data reporting activities. DOJ collects data from each of its organizational components quarterly to update its data inventory for accuracy and completeness. During these quarterly updates, components are required to make appropriate additions, changes, or corrections to ensure that they have included all their data assets and available metadata. Officials said they use input obtained from the public through the agency's website and Data.gov to inform their decisions about prioritizing data for inclusion in their data inventory.[43] DOJ's agency data are publicly available on the agency's website and Data.gov.[44] As of November 22, 2021, Data.gov includes 1,514 data sets from DOJ.

Department of State. Officials told us they developed a data inventory in response to OMB open data guidance in M-13-13, published before enactment of the OPEN Government Data Act. They told us they are currently modernizing the agency's data inventory by developing an agency data catalogue that provides additional functionality. The agency data catalogue is intended to facilitate data sharing by providing an interface enabling agency staff to search for and access agency data assets from one central location. Although the agency data catalogue is for use within the agency, officials are considering developing an external version of the agency data catalogue for the public's use in the

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[42]AmeriCorps's agency data catalogue is available at https://data.americorps.gov.

[43] DOJ officials said they provide a contact form on their website (https://www.justice.gov/doj/webform/your-message-department-justice) and list points of contacts for the public on Data.gov (https://catalog.data.gov/organization/about/doj-gov).

[44]DOJ's data inventory, available at https://www.justice.gov/open/inventory.php, identifies a large set of raw data and other information the agency believes will be of interest to the public.

future. The Department of State prioritizes data for inclusion in its data inventory and catalogue by rating data assets according to its business unit and enterprise effect, as well as feasibility of ingestion. The Department of State's agency data are publicly available on Data.gov. As of November 22, 2021, Data.gov includes 381 data sets from the Department of State.

FDIC. Officials told us they developed a data inventory in 2006 for operational reasons. They told us in April 2021 that they are in the process of upgrading the software platform that hosts their data inventory. They said they are currently developing an agency data catalogue to facilitate data discovery, data classification, and metadata management, among other things. FDIC reviews and updates its data inventory for accuracy and completeness every 2 years. It prioritizes data for inclusion in the data inventory by reviewing data requirements for new projects the agency undertakes. FDIC's agency data are publicly available on the agency's website and Data.gov.[45] As of November 22, 2021, Data.gov includes nine data sets from FDIC.

The four agencies selected for our review cited a number of challenges developing and maintaining data inventories. AmeriCorps officials said that they seek further OMB guidance, and that a lack of staff to track and review data has hindered the agency's ability to develop a comprehensive data inventory. DOJ officials said that the lack of OMB guidance on scope, definitions, attributes, and appropriate safeguards has made maintaining a comprehensive data inventory difficult. Department of State and FDIC officials noted that they faced difficulties determining which data to include in their data inventories that would not result in security or privacy risks should they be made available to the public. Department of State officials also said they experienced challenges identifying metadata, updating older information technology infrastructure (such as legacy systems) that host agency data, and inventorying data across numerous agency components.

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[45]FDIC provides a suite of data tools and searchable databases on https://www.fdic.gov/resources/data-tools/ to help analysts, bankers, and the public find information on specific banks, their branches, and the industry.

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Selected Agencies Have Not Addressed All Requirements for Engaging with the Public

As required under the OPEN Government Data Act, the four agencies selected for our review— AmeriCorps, DOJ, Department of State, and FDIC—took steps to engage the public to encourage data use and collaboration (see figure 5).[46] Specifically, the act requires agencies to (1) provide the public with the opportunity to request specific data to be prioritized for disclosure and make suggestions for the development of agency criteria on prioritizing data assets for disclosure; (2) assist the public in expanding the use of data; (3) host relevant challenges, competitions, events, or other open data related initiatives to create additional value from public data assets; and (4) publish information on the use of data assets.[47]

Figure 5: Selected Agencies' Efforts to Address Requirements in the OPEN Government Data Act to Engage with the Public on Open Data

OPEN Government Data Act Requirements	AmeriCorps	DOJ	Department of State	FDIC
Provide opportunity for the public to request specific data to be prioritized for disclosure and make suggestions for the development of agency criteria on prioritizing data assets for disclosure	●	●	◐	●
Assist the public in expanding the use of data assets	●	●	◐	●
Host relevant challenges, competitions, events, or other open data related initiatives to create additional value from public data assets	○	○	●	●
Publish information on the use of data assets	◐	○	○	○

● Generally addressed ◐ Partially addressed ○ Not addressed

Source: Pub. L. No. 115-435, § 202(c), 132 Stat. 5529, 5535 (2019), *codified at* 44 U.S.C. § 3506(d)(6), and GAO analysis of documents and information from AmeriCorps, Department of Justice (DOJ), Department of State, and Federal Deposit Insurance Corporation (FDIC). | GAO-22-104574

Most Selected Agencies Allow the Public to Make Suggestions on Their Criteria for Prioritizing Data Assets for Disclosure

As illustrated in figure 5, we found that three of the selected agencies in our review generally addressed the requirement to provide the public with the opportunity to (1) request specific data, and (2) make suggestions for the development of agency criteria on prioritizing data assets for disclosure. Specifically, AmeriCorps, DOJ, and FDIC officials generally addressed this requirement by listing email addresses, and requesting that the public use them to provide feedback on the data available and requests for additional data.

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[46]See appendix I for our agency selection methodology.

[47]44 U.S.C. § 3506(d)(6), *as amended by* OPEN Government Data Act, § 202(c).

The Department of State partially addressed this requirement. While the public can use general feedback forms on Department of State's website to request data, Department of State officials from several sub-components told us that they currently do not provide the public with the opportunity to make suggestions for developing agency criteria on prioritizing data assets for disclosure. However, officials said they are considering how to do so as their data analytics capacities mature. They told us that the federated nature of the agency's data efforts is a challenge to better understanding the public's data needs and engaging with the public. Historically, the agency's various components have been the stewards of their own data, which can make a single agency-wide data effort challenging. However, in the long term, Department of State officials stated that they hope to take a broader enterprise view toward engaging with the public on the agency's data.

Agencies that do not provide the public with the opportunity to directly provide feedback on open data miss the opportunity to better understand public demand for their data sets, and limit potential public use of data. We previously identified key practices for transparently reporting government data, which underscore the importance of agencies' engagement with the public.[48] One activity associated with those key practices calls on agencies to engage website users by soliciting and being responsive to user feedback, among other actions. This feedback can identify issues with the functionality of a federal website and the quality of open data. Thus, the agency can make corrections when needed.

Most Selected Agencies Assisted the Public in Expanding Data Use

Three of the four agencies in our review, AmeriCorps, DOJ, and FDIC, generally addressed the requirement to engage with the public to expand data use. For example, FDIC officials told us that they engaged with the public through the BankFind Suite. The BankFind Suite is a collection of application programing interfaces (API) that allow users access to various bank and FDIC data.[49] Prior to developing the BankFind Suite, FDIC officials solicited internal and external stakeholders' input to determine data users' needs. The officials stated that the goal of developing the

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[48]GAO, *Open Data: Treasury Could Better Align USAspending.gov with Key Practices and Search Requirements*, GAO-19-72 (Washington, D.C.: Dec. 13, 2018).

[49]APIs allow users to connect directly with the data set by enabling machine-to-machine communication. APIs can be particularly useful for large, frequently updated, or highly complex data sets because they offer users flexibility to obtain the data they need.

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BankFind Suite was to make FDIC data more accessible and usable to the public.

The Department of State partially addressed this requirement. Specifically, Department of State officials told us about various partnerships and collaborative efforts that some agency sub-components have undertaken to increase the use and value of agency data. However, the Department of State does not conduct these efforts at an agency-wide level because, according to Department of State officials, the agency generally takes a federated approach to assisting the public with using its open data.

Expanding the use of federal data can promote innovation and transparency. As a result, agencies that do not assist the public—or that do not do so agency-wide—miss opportunities to promote their data. Actively engaging potential users can provide an opportunity to educate them on how the data can be appropriately used and encourage innovation. For example, data trainings can provide potential users with important context and information. In turn, this can teach users how the data can be used. Resources such as how-to guides can also encourage data use.

Two Selected Agencies Have Hosted Initiatives Designed to Create Additional Value from Their Data

Two of the selected agencies in our review—the Department of State and FDIC—generally addressed the requirement to host challenges, competitions, events, or other initiatives designed to create additional value from agency public data assets. For example, FDIC hosts an annual team competition for undergraduate students that involves using some of FDIC's open data to conduct research related to the banking industry.

AmeriCorps and DOJ did not address this requirement. AmeriCorps has not hosted initiatives related to creating additional value from public data assets. AmeriCorps officials told us that they have not fully addressed the act's public engagement requirements due to resource limitations.

DOJ officials told us that they have hosted challenges and competitions prior to the enactment of the OPEN Government Data Act. While DOJ officials hosted a recidivism forecasting challenge, the event did not use DOJ data assets as part of the competition. The act specifies that the initiatives should create additional value to the agency's public data assets. DOJ officials stated that OMB's forthcoming Phase II guidance

should help the agency develop an agency-wide public engagement strategy.[50]

We previously reported that open data collaboration and prize competitions or challenges are two strategies agencies can use to harness the ideas, expertise, and resources of those outside of their organization.[51] Open data related challenges, competitions, events, or other initiatives can expand the public's use of agencies' information.

Selected Agencies Do Not Fully Address the Requirement to Publish Information on Data Usage

One of the selected agencies in our review—AmeriCorps—partially addressed the requirement to post information annually on its website about the use of its data assets by non-government users. Although GSA publishes data on the number of individuals using federal agencies' webpages on Analytics.usa.gov, the act specifies that agencies must publish this information on their own websites. Additionally, that information must include details about the use of their data assets by non-government users.[52]

We found that AmeriCorps partially addressed this requirement by posting on its website information on the number of times users view and download its data assets. However, AmeriCorps neither updates this information regularly, nor differentiates between government and non-government users' views and downloads. AmeriCorps officials stated that they are aware of these issues and plan to work on them in the future. However, they have yet to completely address them due to a lack of resources.

DOJ, the Department of State, and FDIC do not post usage data or other information—such as examples of the ways in which people outside the federal government have used their open data—on their websites. DOJ officials said that while some of their components do this, there is not an agency-wide effort to collect information about how the public uses the

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[50]The OPEN Government Data Act does not require that OMB release guidance to agencies regarding the act's public engagement requirements, but does not preclude OMB from including relevant information about public engagement topics if desired.

[51]GAO, *Open Innovation: Practices to Engage Citizens and Effectively Implement Federal Initiatives*, GAO-17-14 (Washington, D.C.: Oct. 13, 2016).

[52]GSA's data on analytics.usa.gov come from a unified Google Analytics account for U.S. federal government agencies known as the Digital Analytics Program. This program helps government agencies understand how people find, access, and use government services online. The program does not track individuals, and anonymizes the IP addresses of visitors.

data on their website. However, DOJ plans to increase the availability of data usage analytics on its own website. Similarly, Department of State officials stated that they have not done so because the agency's size limited their ability to develop an agency-wide set of usage metrics.

FDIC officials said that they do not publish information on how non-government users use their data because they currently do not track how external users use their data as part of daily operations. Currently, FDIC neither collects nor solicits examples or use cases of how non-government entities use FDIC data. However, FDIC officials told us that the agency plans to publish information regarding how non-government users use FDIC public data assets.

Monitoring how the public uses federal data assets can help agency officials determine which of their content and features are most useful. Web analytics can show how the data are being used, such as by identifying commonly used search terms and data sets, and showing trends over time. Additionally, publishing usage information on agencies' websites annually can help the public discover potentially relevant and high-value data sets.

Data.gov Is Inconsistent with User-Centered Design Practices

OMB memorandum M-17-06 directs agencies to ensure that their public-facing websites and digital services are designed around user needs.[53] It directs agencies to determine user goals, needs, and behaviors, and continually test websites and digital services to ensure that they address user needs. We previously reported on key practices for transparently reporting federal data.[54] We found that agencies address the key practice "engage with users" by identifying data users and their needs, and by soliciting and being responsive to user feedback, among other things.

GSA officials said they solicit and respond to user feedback on Data.gov by providing links for users to suggest new features or report problems with the website, as illustrated in figure 6. These links direct users to the Data.gov GitHub website, a repository providing an issue tracker for all

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[53]Office of Management and Budget, *Policies for Federal Agency Public Websites and Digital Services,* OMB Memorandum M-17-06 (Washington, D.C.: 2016).

[54]See GAO, *Open Data: Treasury Could Better Align USAspending.gov with Key Practices and Search Requirements*, GAO-19-72 (Washington, D.C.: Dec. 13, 2018).

requests related to Data.gov, as illustrated in figure 7.[55] According to the issue tracker, as of November 29, 2021, GSA officials have responded to and closed 712 out of 854 total issues (83 percent). GSA officials said that they also engage with users through the Data.gov Twitter account, and by responding to questions that users send them via the Data.gov contact form, as illustrated in figure 8. GSA officials said they receive about 2,000 questions on Data.gov each year and aim to respond to questions within 1 day. They noted they commonly receive questions seeking guidance for finding particular data sets, and inquiries concerning broken links in agencies' metadata.

Figure 6: Data.gov Links to Solicit User Feedback
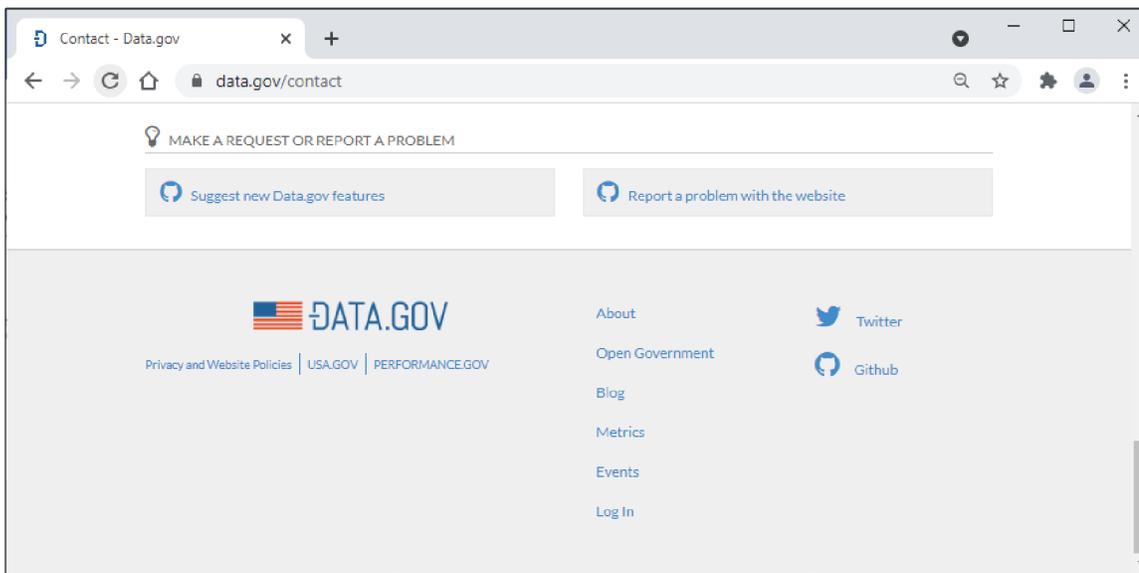
Source: GAO snapshot of Data.gov website (https://www.data.gov/contact/), accessed November 23, 2021. | GAO-22-104574

[55]According to GSA, GitHub is a publicly accessible place to share and collaborate on (primarily) open source software projects. According to GitHub, agencies use GitHub to engage developers and collaborate with the public on open source, open data and open government efforts. The Data.gov GitHub issue tracker is available at https://github.com/GSA/data.gov/issues. Data.gov also has a GitHub repository at https://github.com/GSA/datagov-deploy/.

Figure 7: Data.gov Github Issue Tracker
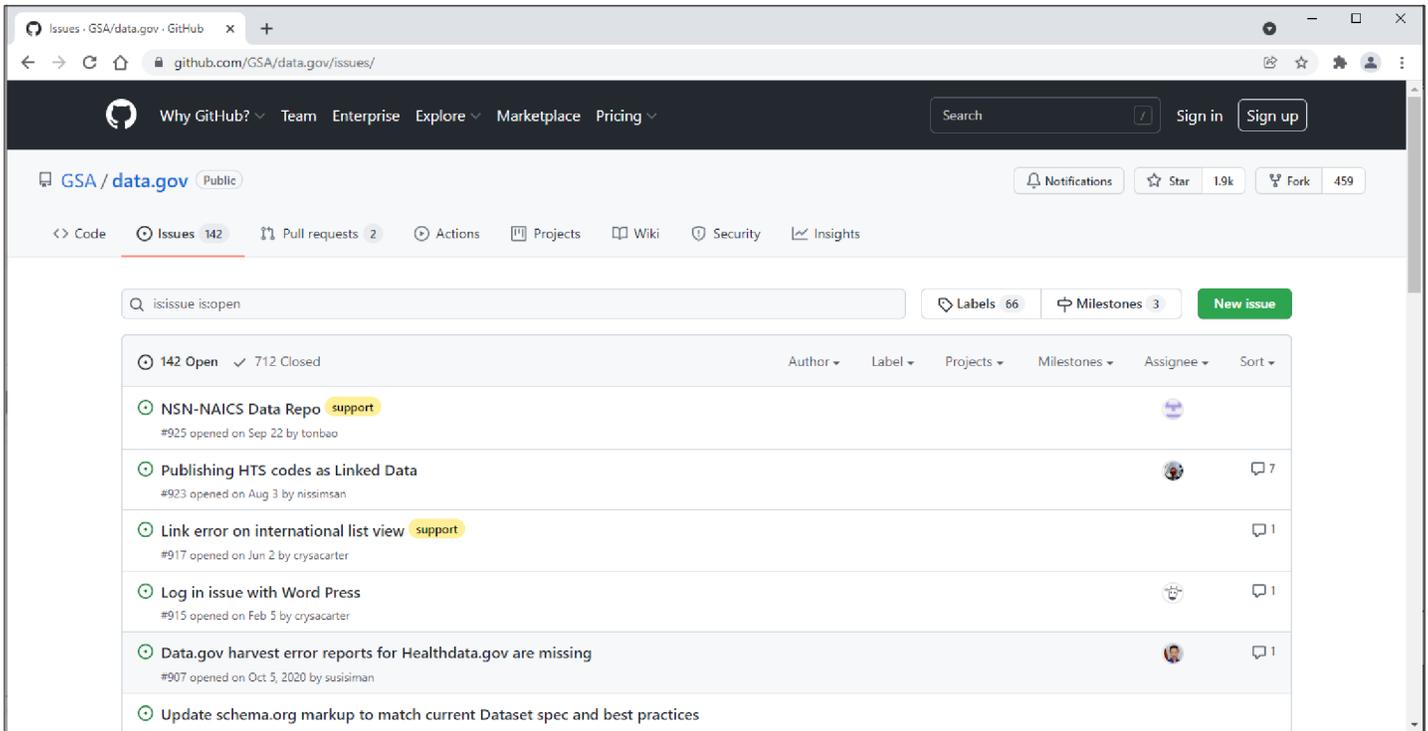
Source: GAO snapshot of Data.gov GitHub website (https://github.com/GSA/data.gov/issues/), accessed November 29, 2021. | GAO-22-104574

Figure 8: Data.gov Contact Form
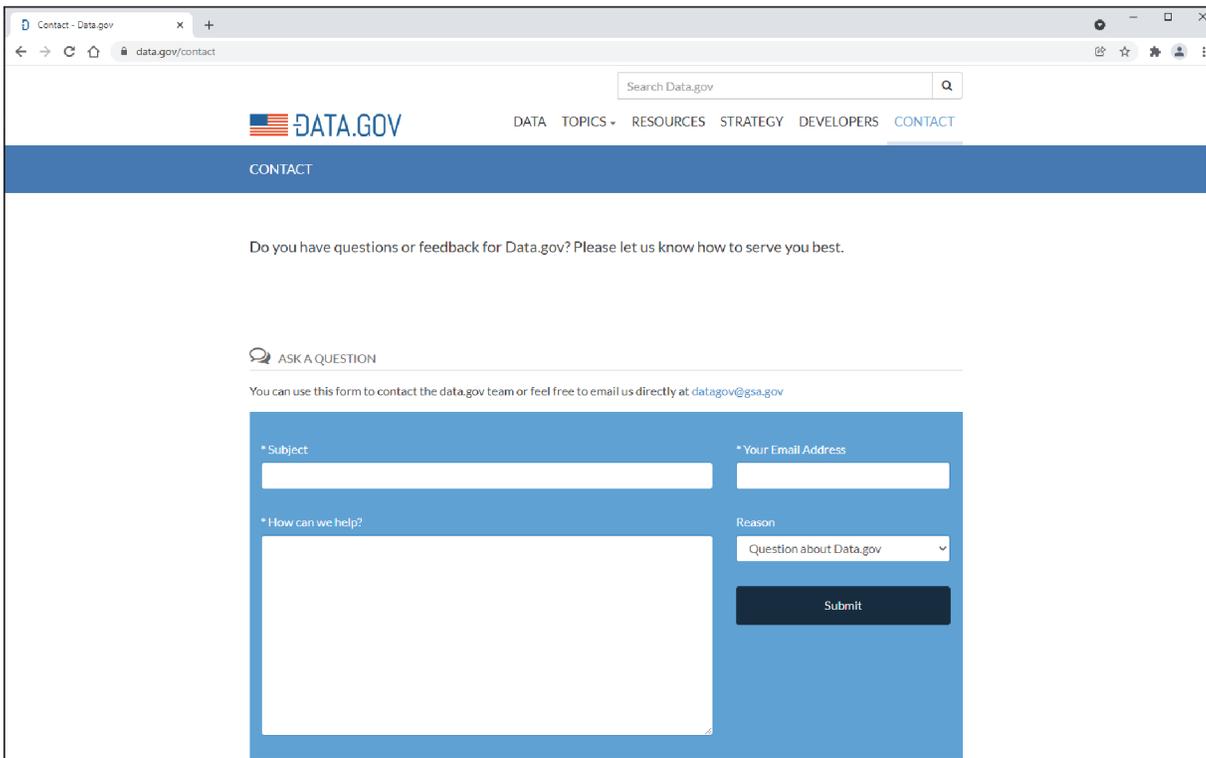
Source: GAO snapshot of Data.gov website (https://www.data.gov/contact/), accessed November 22, 2021. | GAO-22-104574

Although GSA officials engage Data.gov users to some extent by soliciting and responding to user feedback and questions, they neither determine user needs for the website nor continually test the website to ensure Data.gov addresses user needs. GSA officials said that the initial Data.gov development team developed Data.gov's current design in 2014. The initial development team followed user-centered design practices, such as determining user needs as well as conducting usability testing, to develop this design.[56] Since then, however, the current Data.gov development team has neither determined user needs nor conducted usability testing to ensure the website continues to address user needs.

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[56]GSA, "Data.gov – Usability Case Study," accessed October 1, 2021, https://digital.gov/2014/03/18/data-gov-usability-case-study/.

GSA officials said they are currently prioritizing updates to Data.gov's back-end infrastructure over its front-end design.[57] They knew Data.gov would benefit from usability testing and user-centered design updates to ensure the website continues to address user needs. However, they have been unable to do so because they are focusing their limited resources on the more critical need of upgrading Data.gov's outdated back-end infrastructure. GSA officials are currently migrating Data.gov to a new back-end infrastructure, Cloud.gov, to modernize and improve the website's performance and information security.[58]

By not following user-centered design practices such as determining user needs and conducting usability testing, GSA officials cannot ensure that Data.gov addresses user needs, as required by M-17-06, which aligns with key practices for transparently reporting federal data. As a result, Data.gov may have limited usefulness to data users seeking to discover or access federal open data. For example, many of the data users we interviewed said they do not use Data.gov.[59] Some users said that it was easier for them to obtain data directly from agency websites or other sources, while some said they were unaware of Data.gov. When asked about issues using Data.gov, many users said that data sets were difficult to discover or not organized in a useful way. Several said that Data.gov may be difficult to use for nontechnical users without experience using government data.

To improve Data.gov, many data users we interviewed recommended making data sets more discoverable by, for example, refining the search function, or curating data sets using additional topics and tags.[60] Some recommended improving the site by (1) prioritizing a user-centered

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[57]According to GSA officials, "back-end" refers to the part of a website not visible to users, including the server, application, and database; "front-end" refers to the visible part of the website which users interact with.

[58]18F, an office within GSA's Technology Transformation Services, built Cloud.gov to address the specific needs of federal agencies wanting to move their web-based services to the cloud. According to 18F, Cloud.gov is a government-customized hosting platform that addresses technical infrastructure and security compliance requirements.

[59]For the purpose of reporting, we define several data users as two to four; some data users as five to seven; many data users as eight to 17; and most data users as 18 or more.

[60]For the purpose of reporting, we define data curation as the organization of data in ways that are useful or add value. For example, curating data can entail identifying or arranging data based on user needs, topics of interest, or metadata tags.

design, and (2) providing tutorials or other guidance to help the public use the site to find and analyze data sets.

Selected Data Users Highlighted Opportunities to Increase the Use and Value of Federal Open Data Assets

Selected Data Users Value a Variety of Federal Open Data Assets

The data users we interviewed told us they use and value access to the data federal agencies create and collect to help fulfill their missions.[61] Federal data assets include data federal agencies collect from individuals, households, businesses, institutions (such as schools and hospitals), and state, local, and tribal governments to serve a wide variety of purposes. Many of the data users we interviewed said they have used federal data for their work, such as demographic, spending, economic, law enforcement, and contractor data assets. For example, they use the Census Bureau's American Community Survey data, the Department of the Treasury's Monthly Statement data, the National Oceanic and Atmospheric Administration's weather data, and the Bureau of Labor Statistics' Current Employment Statistics data.

Data users in the private sector, state and local governments, and nonprofit organizations use these data to inform policy and investment decisions.[62] For example, businesses could use government geographic data as an important input to optimize their supply chains, and state and

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[61]See appendix I for information on how we selected the data users. See appendix II for a list of the selected data users that we interviewed. For the purposes of this report, we define "value" as including the extent to which the data are used.

[62]Some data users we spoke to told us about published research and surveys on the value of federal open data to various types of users. For example, see Ellen Hughes-Cromwick and Julia Coronado, "The Value of US Government Data to US Business Decisions," *Journal of Economic Perspectives*, vol. 33, no. 1 (2019): https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.33.1.131; Center for Open Data Enterprise, *Open Data Impact Map*, https://opendataimpactmap.org/; New York University, The Governance Lab, *Open Data 500*, https://thegovlab.org/project/project-open-data-500-global-network.

local governments could use government demographic data to understand population changes in their jurisdictions.

Many of the data users we interviewed stated that analyzing the extent to which the public uses federal data assets is a way to understand the value of these data. According to data users we interviewed, measuring the public's use of federal data can be accomplished in a variety of ways, such as measuring the number of times a data set is downloaded or the number of times a data set is cited in published research papers. However, the use of government data is unknown because there are no copyrights for federal government data and anyone can use the data without attribution.[63] Additionally, selected data users also stated that accurately determining how often the public uses data assets can be challenging for a variety of other reasons. For example:

- Data users could use government data for exploratory analyses, or for other internal, unpublished purposes. These unpublished uses are valuable to their research, but are by nature difficult to observe and therefore measure.

- Data users may access government data from government third-party websites. This can lower the number of data asset downloads that federal agencies could observe through website analytics.

- In some cases, a data set may have many downloads from an agency website, but a limited number of practical uses, as data users discover the data have limited use for their purposes after downloading them.

For federal agencies, understanding the value data users place on their data sets can help them prioritize the order in which they publish their data, and can justify the costs of producing and publicly disseminating their data.

To mitigate the challenges of measuring the value of federal open data, the selected data users we interviewed suggested alternative approaches that federal agencies could take to measure value, including:

- **Collecting feedback from the public.** Several data users we interviewed stated that engaging and collecting information from the public could highlight the value of these data. Questions could include what data and information the public would like to see made publicly available, how it uses the data, and what it finds useful about the data.

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[63]Federal data are not subject to copyright.

Agencies could use the feedback to better understand the public's demand for specific data sets. This, in turn, could help inform their data disclosure priorities.

- **Constructing use cases.** Several of the data users we interviewed stated that collecting and publishing illustrative examples of ways in which the public has used their data (i.e., use cases) could highlight the value of these data. These use cases could help demonstrate that a specific data set provided value to the public by helping improve a business operation or increase government transparency. The information collected could also bring the data to life for the public, and help the public understand the importance of federal open data.

- **Measuring the impact of data used for research.** Some of the data users we interviewed stated that measuring the impact of open data, such as on policies or research papers, could highlight the value of these data. However, determining which research papers use federal data could be time consuming. One data user we interviewed told us that there is an ongoing initiative to use artificial intelligence and machine learning to automatically track how federal data sets are used and by whom.[64]

- **Measuring the growth in private sector data aggregation services.** Several of the data users we interviewed stated that measuring how much people pay for repackaged government data from private sector companies could highlight the value of these data. Private data aggregation companies provide the public with curated access to federal data. Specifically, these companies access government data and then reformat these data for a fee.

Selected Data Users Would Value Improvements to Federal Data Assets

Data users we interviewed suggested that more comprehensive, standard, accessible, and curated data could increase the value of federal open data to the public.[65]

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[64]For more information on this initiative, see https://coleridgeinitiative.org/rich-context-project, accessed October 25, 2021.

[65]The OPEN Government DATA Act requires OMB to issue guidance to federal agencies on developing and maintaining comprehensive data inventories. The guidance must require agencies to include in the comprehensive data inventory, among other things, metadata on each of their open data assets including how the public can access each data asset, and exclude data assets contained on a national security system. 44 U.S.C. § 3511(a)(2), *as amended by* OPEN Government Data Act, § 202(d).

- **Comprehensive.** Many of the selected data users we interviewed stated that making government data more comprehensive—by either publishing more data, publishing more timely data, or ensuring the accuracy of published data—would increase the value of these data to them. Specifically, they emphasized that agencies could proactively publish all data subject to the OPEN Government Data Act so that users do not have to request specific data sets.[66]

  Many of the data users we interviewed also stated that having access to more historical data or more granular data would be valuable to them. For example, a data user told us that more historical data could allow for more trend analyses. We also heard from some of the selected data users that we interviewed that more granular data, such as data at the individual level, rather than aggregated data, could allow for more in-depth analyses.

  Additionally, many of the data users we interviewed stated that more timely data or data that are more consistently verified could be valuable to them. Specifically, disclosing where the data come from and how frequently they are updated provides context that helps users judge their quality and determine whether they can be appropriately used for the intended purpose. For example, a data user told us that agencies sometimes publish multiple versions of the same data set, but do not provide context on which version is accurate or most up to date.

- **Standardized.** Many of the data users we interviewed stated that standardizing certain variables and metadata across the federal government would make federal data more valuable to them.[67] For example, several of the data users we interviewed told us that more standardized geographic data across agencies and governments would be valuable to them. A data user told us that one agency may publish data at the zip code level, while another agency may publish related data at a different level of detail.

  Several of the data users we interviewed also stated that providing unique identifiers for businesses or links between data sets would be

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[66]The OPEN Government Data Act requires, among other things, that federal agencies make each data asset available in an open format, and each public data asset available as an open government data asset and under an open license. Pub. L. No. 115-435, tit. II, § 202(c)(1)(A)(iv), 132 Stat. at 5537, codified at 44 U.S.C. § 3506(b)(6).

[67]Within the context of a data set, a variable is a category of items that have been collected or measured. For example, some of the Census Bureau's American Community Survey data sets include the following variables, among others: income, race, and age.

valuable to them. Making data interoperable with other data sets can make them more useful because users may want to create new opportunities for analysis by linking datasets together. This can be done by standardizing the way that the data are reported.

- **Accessible.** Many of the data users we interviewed told us that more accessible data would be valuable to them. For example, making data available to download in bulk would allow users who need large data sets that agencies provide in multiple files to download these data sets all at once, rather than retrieving each file individually. In addition, some of the selected users stated that being able to access all federal open data through APIs would be valuable to them. Accessing data through APIs can be particularly useful for large, frequently updated, or highly complex datasets. Additionally, one selected data user stated that providing data in extensible business reporting language (XBRL) format could also be valuable because it stores mathematical formulas and facilitates data analysis better than other machine-readable formats.[68]

  Some of the selected data users we interviewed told us that improved search functionality or improved metadata on open data websites could make data more accessible and valuable to them. Federal agency officials could accomplish this by including a search function that is optimized to display the most relevant data first. For example, one selected data user stated that providing natural language search capabilities—or allowing users to use everyday language—would reduce barriers to finding information.

- **Curated.** Some of the data users we interviewed said that more curated content (i.e., content, such as data, organized in ways that are useful or add value) to make the existing open data more understandable would be valuable to them. For example, several of the selected data users we interviewed said they would value use cases or user guides that help condense or explain information. For example, data visualizations can help users explore complicated data and can provide a starting point for users before navigating through the more granular data. Additionally, several data users we interviewed said that summary information or online tools would be valuable to them. Curated content can provide users valuable

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[68]XBRL is an international standard for digital reporting of financial, performance, risk, and compliance information, although it is also used for many other types of reporting.

information without requiring users to perform their own data analyses.

Full implementation of the public engagement requirements under the OPEN Government Data Act could increase the use and enhance the value of federal data assets by data users. Further, it could lead to more accessible and curated data. Similarly, GSA's implementation of user-centered design practices to improve Data.gov could further expand the public's use and value of open data.

Conclusions

The enactment of the OPEN Government Data Act is one of an evolving set of actions taken by Congress and the administration to improve the availability and transparency of the federal government's vast store of information. While OMB has drafted implementation guidance on making data open by default, the agency has yet to issue final guidance as required by statute. Although agencies have made progress in this area, without this guidance, agencies do not have all the information required to address the act's requirements on making data open by default.

In addition, engaging with the public can help agencies facilitate access to their open data. While the agencies in our review have taken steps to engage with the public, they have not fully implemented all of the public engagement requirements specified in the act. Fully implementing these requirements could increase the use and value of federal data assets to the public.

While GSA has engaged Data.gov users by soliciting and responding to feedback, the agency has neither determined user needs nor continually tested Data.gov as required by user-centered design practices in OMB guidance M-17-06. Determining users' needs and conducting usability tests could help ensure that GSA designs and updates Data.gov specifically around those needs to maximize the usability of the federal data catalogue.

The data users we interviewed stated that opportunities exist to make open data more useful and valuable to the public. Agency implementation of the act's public engagement requirements, and website improvements based on user-centered design practices, could help further expand the public's use and value of open data.

Recommendations for Executive Action

We are making 10 recommendations, including one to OMB, two to AmeriCorps, two to DOJ, three to the Department of State, one to FDIC, and one to GSA.

The Director of OMB should comply with its statutory requirement under the OPEN Government Data Act to issue implementation guidance to agencies on making data open by default. (Recommendation 1)

The Chief Executive Officer of AmeriCorps should, in coordination with the Chief Data Officer of AmeriCorps, develop and implement an agency-wide plan to host relevant challenges, competitions, events, or other open data related initiatives to create additional value from public data assets of the agency. (Recommendation 2)

The Chief Executive Officer of AmeriCorps should, in coordination with the Chief Data Officer of AmeriCorps, develop and implement an agency-wide plan to collect and publish information on the use of data assets by nongovernmental entities at least once a year. (Recommendation 3)

The Attorney General should, in coordination with the Chief Data Officer of the Department of Justice, develop and implement an agency-wide plan to host relevant challenges, competitions, events, or other open data related initiatives to create additional value from public data assets of the agency. (Recommendation 4)

The Attorney General should, in coordination with the Chief Data Officer of the Department of Justice, develop and implement an agency-wide plan to collect and publish information on the use of data assets by nongovernmental entities at least once a year. (Recommendation 5)

The Secretary of the Department of State should, in coordination with the Chief Data Officer of the Department of State, develop and implement an agency-wide plan to provide an opportunity for the public to request specific data and make suggestions for the development of agency-wide criteria on prioritizing data assets for disclosure. (Recommendation 6)

The Secretary of the Department of State should, in coordination with the Chief Data Officer of the Department of State, develop and implement an agency-wide plan for assisting the public in expanding the use of the Department's public data assets. (Recommendation 7)

The Secretary of the Department of State should, in coordination with the Chief Data Officer of the Department of State, develop and implement an agency-wide plan to collect and publish information on the use of data assets by nongovernmental entities at least once a year. (Recommendation 8)

The Chairman of FDIC should, in coordination with the Chief Data Officer of FDIC, develop and implement an agency-wide plan to collect and publish information on the use of data assets by nongovernmental entities at least once a year. (Recommendation 9)

The Administrator of GSA should develop and implement procedures for determining user needs and conducting usability testing to ensure Data.gov addresses user needs, consistent with OMB guidance in M-17-06. (Recommendation 10)

Agency Comments and Our Evaluation

We provided a draft of this report to OMB, GSA, the CDO Council, the Department of State, DOJ, FDIC, and AmeriCorps. AmeriCorps, the Department of State, FDIC, and GSA concurred with our recommendations and their formal responses are summarized below and reproduced in appendices V through VIII, respectively. OMB and DOJ neither agreed nor disagreed with our recommendations. In addition, OMB, the Department of State, DOJ, and GSA provided technical comments, which we incorporated as appropriate. The CDO Council did not have any comments on the draft report.

In their response, GSA officials said that they agree with the recommendation and plan to take appropriate action to address it.

The Department of State also concurred with our recommendations. In their written response, officials said that the agency's Enterprise Data Council, chaired by the Department of State's Chief Data Officer, is overseeing the three-year implementation of the agency's first-ever Enterprise Data Strategy. They stated that they will prioritize the agency-wide plans described in our recommendations while they are implementing their Enterprise Data Strategy. They also noted that successful implementation of our recommendations will include coordination with GSA and with the agency's bureaus and offices that produce open data. The Department of State also suggested that we revise the recommendation related to developing and implementing an agency-wide plan for expanding the use of data to align with the language

in the OPEN Government DATA Act. We agreed with this suggestion and adjusted the language in the recommendation.

In its response, FDIC concurred with our recommendation and noted that FDIC is committed to fully complying with the public engagement requirements of the OPEN Government DATA Act. FDIC also said that they expect the actions they are taking in response to our draft report will further improve and strengthen the FDIC's Enterprise Data Strategy.

AmeriCorps concurred with our recommendations. In their response, agency officials said that they are updating their technology and processes in accordance with the OPEN Government DATA Act and OMB guidance to fully publish their data assets in the Federal Data Catalogue. They also noted that these actions will better allow their open data to be searchable and will increase their engagement with the public.

We are sending copies of this report to relevant congressional committees; the Acting Director of the Office of Management and Budget; the Administrator of the General Services Administration; the Chair of the Chief Data Officers Council; the Secretary of the Department of State; the Attorney General; the Chairman of FDIC; and the Chief Executive Officer of AmeriCorps. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions about this report, please contact Michelle Sager at (202) 512-6806 or sagerm@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of our report. Key contributors to this report are listed in appendix IX.

Michelle Sager
Managing Director, Strategic Issues

Appendix I: Objectives, Scope, and Methodology

Our objectives were to determine (1) the extent to which the Office of Management and Budget (OMB) has met selected statutory requirements under the Open, Public, Electronic and Necessary Government Data Act (OPEN Government Data Act), (2) progress selected agencies have made toward developing comprehensive data inventories, (3) the extent to which selected agencies have met statutory requirements under the act to engage with the public, (4) the extent to which the General Services Administration (GSA) addresses user-centered design practices in maintaining Data.gov, and (5) the value selected data users attribute to federal open data, and whether additional information would be valuable if it were made available.

To assess the extent to which OMB met selected statutory requirements, we evaluated open data websites (e.g., labs.data.gov/dashboard) and written responses from OMB staff. These written responses included information from OMB staff about their implementation of selected act requirements, among other topics. We used this evidence to determine the extent to which OMB had addressed legal requirements and time frames set forth in the OPEN Government Data Act on (1) providing implementation guidance to agencies on making data open by default, and (2) reporting on agencies' performance and compliance with the act. This analysis addressed federal standards for internal control on information and communication that we determined were significant to this objective.[1]

We selected a nongeneralizable sample of four agencies to provide insights on agencies' progress toward developing comprehensive data inventories, and on the extent to which agencies have met statutory requirements to engage with the public.[2] In selecting agencies, we considered:

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[1]GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: September 2014).

[2]The four agencies we selected are AmeriCorps (previously known as Corporation for National and Community Service), the Department of Justice (DOJ), the Department of State, and Federal Deposit Insurance Corporation (FDIC).

- whether the agency was a member of the Chief Data Officers (CDO) Council (we included in our sample only agencies that are subject to the OPEN Government Data Act);[3]

- whether the agency is a statistical agency (we included in our sample both statistical and nonstatistical agencies);[4]

- whether the agency is a Chief Financial Officers (CFO) Act agency (we included in our sample both CFO Act and Non-CFO Act agencies);[5] and

- whether the agency has already demonstrated progress toward publishing open data by successfully having data entries on the

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[3]Under the OPEN Government Data Act, the term "agency" means any executive department, military department, government corporation, government controlled corporation, or other establishment in the executive branch of the government (including the Executive Office of the President), or any independent regulatory agency, but does not include: (1) ourselves; (2) the Federal Election Commission; (3) the governments of the District of Columbia and of the territories and possessions of the United States, and their various subdivisions; or (4) government-owned contractor-operated facilities, including laboratories engaged in national defense research and production activities. 44 U.S.C. § 3502. We determined that the act applies to agencies that have Chief Data Officers (CDO) who are members of the CDO Council. These agencies determined they are subject to the act because they met the act's requirement to designate a CDO who will serve as a member of the CDO Council. 44 U.S.C. §§ 3520, 3520A, *as amended by* OPEN Government Data Act, § 202(e)-(f). As of November 22, 2021, 85 agencies have CDOs who are members of the CDO Council.

[4]There are 13 federal agencies, referred to as the principal statistical agencies, which have statistical activities as their core mission. These principal statistical agencies are the: Bureau of Economic Analysis; Bureau of Justice Statistics; Bureau of Labor Statistics; Bureau of Transportation Statistics; Census Bureau; Economic Research Service; Energy Information Administration; National Agricultural Statistics Service; National Center for Education Statistics; National Center for Health Statistics; National Center for Science and Engineering Statistics; Office of Research, Evaluation and Statistics (Social Security Administration); and Statistics of Income (Internal Revenue Service).

[5]The CFO Act, among other things, established the position of agency CFO in the following 24 agencies, known as the CFO Act agencies: Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Housing and Urban Development, Interior, Justice, Labor, Department of State, Transportation, Treasury, Veterans Affairs, National Aeronautics and Space Administration, Environmental Protection Agency, Agency for International Development, GSA, National Science Foundation, Nuclear Regulatory Commission, Office of Personnel Management, Small Business Administration, and Social Security Administration. 31 U.S.C. § 901(b).

Project Open Data Dashboard (we included in our sample agencies with a range of experiences with open data).[6]

We reviewed documentation and interviewed officials from selected agencies. For example, we reviewed selected agencies' data inventory websites, data strategies, and open data plans. Although the information we obtained from these selected agencies is not representative of all agencies, it provides useful insight into agency implementation of the OPEN Government Data Act.

To determine selected agencies' progress in developing comprehensive data inventories, we reviewed agency documents, such as open government plans and data strategies, and interviewed agency officials. We used this evidence to determine whether they had developed data inventories and processes for regularly reviewing and updating the data inventories. We also used this evidence to describe how agencies prioritized data for inclusion in their data inventories, and challenges that officials said they face developing and maintaining data inventories.

To evaluate selected agencies' public engagement activities against requirements under the OPEN Government Data Act, we reviewed agency documents and interviewed agency officials. The act requires agencies to engage the public in using their public data assets and encourage collaboration by:

- publishing on the website of the agency, on a regular basis (not less than annually), information on the usage of such assets by non-government users;

- providing the public with the opportunity to request specific data assets to be prioritized for disclosure and to provide suggestions for the development of agency criteria with respect to prioritizing data assets for disclosure;

- assisting the public in expanding the use of public data assets; and

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[6]In GAO-21-29, we reported that GSA tracks several automated metrics regarding the content of agency data inventories on the Project Open Data Dashboard (referred to in that report as Agency Progress Dashboard), located at https://labs.data.gov/dashboard. For example, these metrics include number of public datasets, percentage of datasets with working links to data, and percentage of datasets that include all required descriptive information.

- hosting challenges, competitions, events, or other initiatives designed to create additional value from public data assets of the agency.[7]

To ensure that our analysis was accurate and valid, we used a multi-step approach and a standard rating system. Before making our assessments, two analysts verified that we considered all relevant and sufficient evidence. The first determined the extent to which agencies' actions addressed each public engagement requirement in the act. Then, an attorney in our Office of General Counsel reviewed these determinations and provided input on the extent to which they were legally sufficient. Following that review, additional analysts reviewed the evidence, initial determinations, and legal input to develop a final determination. The Assistant Director then reviewed all of the selected agencies' final determinations. We used the following rating system to make our determinations:

- "generally addressed," meaning the agency addressed all of a requirement's components;

- "partially addressed," meaning the agency addressed some of a requirement's components; and

- "not addressed," meaning the agency did not address any of a requirement's components.

This analysis addressed federal standards for internal control on information and communication that we determined were significant to this objective.[8]

To evaluate the extent to which GSA addressed user-centered design practices in maintaining Data.gov, we reviewed documentation and interviewed GSA officials on user engagement and usability testing. We evaluated GSA's actions to maintain Data.gov against key practices for user-centered design, including OMB memorandum M-17-06, *Policies for Federal Agency Public Websites and Digital Services*, and our December 2018 report outlining key practices and actions for transparently reporting

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[7]44 U.S.C. § 3506(d)(6), *as amended by* OPEN Government Data Act, § 202(c).

[8] GAO-14-704G.

the government's open data.[9] Specifically, we reviewed the extent to
which GSA officials:

- determined user needs, and

- obtained user feedback and continually tested Data.gov to ensure that
  user needs are addressed.

To ensure that our analysis was accurate and valid, we used a multi-step
approach and a standard rating system. First, one analyst initially
determined the extent to which agency actions addressed a criteria
category. Then, two additional analysts reviewed the evidence and initial
determination to develop a final determination. Afterwards, the Assistant
Director reviewed the determinations. We used the following rating
system to make our determinations:

- "generally addressed," meaning the agency addressed all the
  requirements or practices in a criteria category;

- "partially addressed," meaning the agency addressed some of the
  requirements or practices in a criteria category; and

- "not addressed," meaning the agency did not address any of the
  requirements or practices in a criteria category.

This analysis addressed federal standards for internal control on control
activities that we determined were significant to this objective.[10]

To describe how data users value and use information made available
under the OPEN Government Data Act, we interviewed a
nongeneralizable sample of data users from 27 organizations.[11] We
identified data users by conducting background research and by asking
the stakeholders we interviewed to recommend additional stakeholders
with whom we should speak. Although their views are not representative
of all data users, we selected data users who represent a variety of
sectors and backgrounds, such as state and local governments,

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[9]Office of Management and Budget, *Policies for Federal Agency Public Websites and
Digital Services,* OMB Memorandum M-17-06 (Washington, D.C.: 2016); GAO, *Open
Data: Treasury Could Better Align USAspending.gov with Key Practices and Search
Requirements*, GAO-19-72 (Washington, D.C.: Dec. 13, 2018).

[10]GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G
(Washington, D.C.: September 2014).

[11]See appendix II for the list of individuals and organizations in our review.

academia, businesses, journalists, and researchers. We analyzed information obtained from interviews to identify common themes on how these external stakeholders use and value federal data, and what additional information would be valuable if made available to the public. For the purpose of reporting, we defined most data users as 18 or more; many data users as eight to 17; some data users as five to seven; and several data users as two to four.

To obtain background information, we reviewed documents and interviewed officials from the Chief Data Officers (CDO) Council. These documents include the CDO Council's meeting summaries, December 2020 report to Congress and OMB, and the data inventory working group charter, among others.[12]

We conducted this performance audit from October 2020 to December 2021 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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[12]Federal Chief Data Officers Council, *Report to Congress and the Office of Management and Budget*, (Dec. 21, 2020).

Appendix II: List of Individuals and Organizations Participating in Interviews

- American Council for Technology - Industry Advisory Council (ACT-IAC)
- Arizona State University, Walter Cronkite School of Journalism and Mass Communication
- California Government Operations Agency, Chief Data Officer
- Center for Data Innovation
- Center for Open Data Enterprise (CODE)
- City of Alexandria, Virginia, Office of Performance Analytics, Chief Performance Officer
- Coleridge Initiative
- Council of State Governments (CSG)
- Data Coalition
- Esri
- Georgetown University, Beeck Center for Social Impact and Innovation, State Chief Data Officers (CDO) Network
- GitHub
- HData
- IBM Center for The Business of Government
- Indeed Hiring Lab
- MacroPolicy Perspectives LLC
- National Association of State Auditors, Comptrollers and Treasurers (NASACT)
- National Association of State Budget Officers (NASBO)
- National Conference of State Legislatures (NCSL)
- New York University, Tandon School of Engineering, Governance Lab
- Peter G. Peterson Foundation
- Postman, Inc.
- Project On Government Oversight (POGO)
- The Pew Charitable Trust
- University of Pennsylvania, Wharton School, Penn Wharton Budget Model
- USAFacts
- Zillow Group

Appendix III: Government-wide Open Data Initiatives

The Open, Public, Electronic and Necessary Government Data Act (OPEN Government Data Act) is one of several government-wide initiatives focused on improving the public's access to government information.[1] For example, during the past 15 years, Congress and the administration have taken several steps to improve the availability, transparency, and quality of federal data (see figure 9):

- In 2006, Congress passed and the President signed into law the Federal Funding Accountability and Transparency Act (FFATA). This act requires agencies to report information on federal awards to the public—such as contracts, grants, and loans.[2]

- In 2013, the Office of Management and Budget (OMB) issued M-13-13. The memorandum requires agencies to make new government information accessible to the public in open formats, standardize data formats and locations to access information, and institute strategic planning and privacy protections for open data.[3]

- In 2014, Congress passed and the President signed into law the Digital Accountability and Transparency Act of 2014 (DATA Act). The DATA Act expanded FFATA to include direct federal agency expenditures and link contract, loan, and grant spending information to federal programs so that taxpayers and policy makers can track federal spending more effectively.[4]

- In 2016, Congress established the Commission on Evidence-Based Policymaking (the Commission) to conduct a comprehensive study of, among other things, the data inventory and data infrastructure related to federal policymaking and the agencies responsible for maintaining those data.[5] The Commission's 2017 report states that multiple entities within the federal government (such as components, agencies, or offices) are responsible for generating different sources of evidence. However, the Commission noted that agencies'

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[1]Pub. L. No. 115-435, 132 Stat. 5529, 5534 (2019).

[2]Pub. L. No. 109-282, 120 Stat. 1186 (2006), *codified at* 31 U.S.C. § 6101 note.

[3]Office of Management and Budget, M-13-13 Open Data Policy--Managing Information as an Asset.

[4]Pub. L. No. 113-101, 128 Stat. 1146 (2014).

[5]Evidence-Based Policymaking Commission Act of 2016, Pub. L. No. 114-140, § 4, 130 Stat. 317, 318 (2016).

capabilities to generate a full range of evidence varied and their efforts were poorly coordinated.[6]

- In 2019, Congress passed and the President signed into law the OPEN Government Data Act. It requires federal agencies to, among other things, make their data assets available in an open format, ensure their public data assets are machine readable, and engage the public in using public data assets and encourage collaboration.[7]

- In 2019, OMB issued M-19-23. This guidance directed agencies to continue following existing open data policies under M-13-13 and OMB Circular A-130 until OMB issued guidance on implementing the OPEN Government Data Act.[8]

- In December 2019, OMB issued a Federal Data Strategy 2020 Action Plan to guide agencies' initial efforts to establish processes, build capacity, and align existing work on strategic use of data.[9] The Federal Data Strategy supports Leveraging Data as a Strategic Asset Cross-Agency Priority (CAP) Goal. This CAP Goal focuses on enabling public use of and access to data and improving use of data for government decision-making and accountability.[10] The 2020 Action Plan incorporates some OPEN Government Data Act requirements.

- In 2021, Congress passed and the President signed into law the Congressional Budget Justification (CBJ) Transparency Act. The act requires agencies to publicly post their CBJs as an open government

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[6]Commission on Evidence-Based Policymaking, *The Promise of Evidence-Based Policymaking* (Washington, D.C.: Sept. 7, 2017).

[7]Foundations for Evidence-Based Policymaking Act of 2018, Pub. L. No. 115-435, tit. II, 132 Stat. 5529, 5534 (2019).

[8]Office of Management and Budget, *Phase 1 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Learning Agendas, Personnel, and Planning Guidance*, OMB Memorandum M-19-23 (Washington, D.C.: 2019); *Managing Information as a Strategic Resource*, OMB Circular A-130 (July 28, 2016). OMB Circular A-130 establishes general policy for the planning, budgeting, governance, acquisition, and management of federal information, personnel, equipment, funds, information technology resources, and supporting infrastructure and services.

[9]President's Management Agenda, Federal Data Strategy Development Team, *Federal Data Strategy 2020 Action Plan* (2020).

[10]CAP Goal, Leveraging Data as a Strategic Asset. OMB coordinates with agencies to develop CAP goals. These goals are 4-year, outcome-oriented goals covering a number of complex or high-risk management and mission issues.

data asset, in a manner that enables users to download reports in bulk, and in a structured data format.[11]

- In October 2021, the Federal Data Strategy Development team issued a Federal Data Strategy 2021 Action Plan.[12] This document states that it builds on the outcomes of the Federal Data Strategy 2020 Action Plan, and reinforces data governance, planning, and infrastructure activities. The 2021 Action Plan includes actions and milestones for agencies that are related to agencies' requirements in the OPEN Government Data Act, such as on publishing open data plans.

- In October 2021, the Advisory Committee on Data for Evidence Building released a report titled *Advisory Committee on Data for Evidence Building: Year 1 Report*.[13] In this report, the committee recommended, among other things, that OMB issue guidance to agencies on implementing the OPEN Government Data Act.

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[11]Pub. L. No. 117-40, 135 Stat. 337 (2021). CBJs are documents Executive Branch agencies submit to OMB in conjunction with the president's annual budget request to Congress submitted under section 1105(a) of Title 31, United States Code. The justifications provide explanations of how agencies propose to spend funding they request, descriptions of agencies' core priorities and performance goals, and a summary of agencies' programs' past performance.

[12]Federal Data Strategy Development Team, *Federal Data Strategy 2021 Action Plan* (2021).

[13]Advisory Committee on Data for Evidence Building, *Advisory Committee on Data for Evidence Building: Year 1 Report* (2021). Under the Foundations for Evidence-Based Policymaking Act of 2018, OMB was required to establish an Advisory Committee on Data for Evidence Building to review, analyze, and make recommendations on how to promote the use of federal data for evidence building. Pub. L. No. 115-435, 132 Stat. at 5531, *codified at* 5 U.S.C. § 315.

Figure 9: Timeline for Open Data Related Statutes and Guidance

2006

FFATA

Federal Funding Accountability and Transparency Act of 2006

Required OMB to establish a website to provide information on grant and contract awards, and subawards. This website is available at www.USASpending.gov. (Pub. L. No. 109-282, 120 Stat 1186 (2006), *codified at* 31 U.S.C. § 6101 note.)

2013

M-13-13

Office of Management and Budget (OMB) Memorandum

Directed agencies to open data to the public, create open data inventories. *(Memorandum M-13-13)*

2014

DATA Act

Digital Accountability and Transparency Act of 2014

Expands agencies' required reporting of federal expenditure data and directs OMB and the Department of Treasury to establish goverment-wide data standards. (Pub. L. No. 113-101, 128 Stat. 1146 (2014).)

2019

M-19-23

OMB Memorandum

Partial guidance for agencies on implementing the Evidence Act; directs agencies to follow their statutory responsibilities and OMB Memorandum M-13-13 until OMB issues guidance on open data. *(Memorandum M-19-23)*

Evidence Act

Foundations for Evidence-Based Policymaking Act of 2018

Created a framework for federal agencies to take a more comprehensive and integrated approach to evidence-building by requiring federal evidence-building activities, open government data, and confidential information protection and statistical efficiency. Title II of the Evidence Act—the Open, Public, Electronic and Necessary Government Data Act, requires agencies to publish information as open data; makes government information open by default. (Pub. L. No. 115-435, 132 Stat. 5529 (2019).)

2020

President's Management Agenda

Federal Data Strategy 2020 Action Plan

Lists agency actions to establish consistent data standards, interoperability, and skills across agencies. Includes actions related to opening data. (Cross Agency Priority Goal Leveraging Data as a Strategic Asset)

2021

CBJ Transparency Act

Congressional Budget Justification Transparency Act of 2021

Requires agencies to publicly post their Congressional Budget Justifications (CBJ) as an open government data asset, in a manner that enables users to download reports in bulk, and in a structured data format. (Pub. L. No. 117-40, 135 Stat. 337 (2021).)

Source: GAO analysis of select statutes and information from OMB and the Federal Data Strategy. | GAO-22-104574

Appendix V: Comments from AmeriCorps

AmeriCorps

December 3, 2021

Michelle Sager
Managing Director, Strategic Issues
U.S. Government Accountability Office

Re: Request for Comments on the Government Accountability Office's (GAO) Draft Report: *Open Data: Additional Action Required for Full Public Access* (GAO-22-104574)

Dear Ms. Sager:

Thank you for the opportunity to respond to the U.S. Government Accountability Office's (GAO's) report to Congress on Engagement 104574, entitled *Open Data: Additional Action Required for Full Public Access*. AmeriCorps is providing the following response to address the two Recommendations for Executive Action outlined in the draft report provided to the agency on November 4, 2021. We understand the GAO will provide AmeriCorps with a final copy of the report, inclusive of the response below.

GAO Recommendations for Executive Action:

- Report Recommendation # 2: "The Chief Executive Officer of AmeriCorps should, in coordination with the Chief Data Officer of AmeriCorps, develop and implement an agency-wide plan to host relevant challenges, competitions, events or other open data related initiatives to create additional value from public data assets of the agency." (pg. 34)

- Report Recommendation # 3: "The Chief Executive Officer of AmeriCorps should, in coordination with the Chief Data Officer of AmeriCorps, develop and implement an agency-wide plan to collect and publish information on the use of data assets by non-government entities at least once a year." (pg. 34)

AmeriCorps Response:

AmeriCorps agrees with the recommendations.

As noted in the draft report, AmeriCorps has prioritized our efforts to inventory and catalogue the agency's sets of data and publish these assets to the AmeriCorps open data portal (https://data.americorps.gov/). As part of this effort, and in accordance with the OPEN Government Data Act and Office of Management and Budget guidance, we are updating our technology and processes to fully publish our data assets to the

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Washington, D.C. 20525
202-606-5000/ 800-942-2677

AmeriCorps.gov

Federal Data Catalogue at Data.gov. This will better allow our open data to be searchable along with other agencies' open data. These continuing efforts will enable AmeriCorps to increase its engagement with the public, encourage data use and collaboration, and foster the creation of additional value from the agency's public data assets through public challenges and other events.

We are currently in the planning phase of this effort and expect to begin implementation in the second quarter of 2022. AmeriCorps looks forward to making steady progress to address the recommendations in the years ahead to ensure the public receives timely, complete, and accurate information.

Sincerely,

Mal Coles
Acting Chief Executive Officer
AmeriCorps

CC:
Jenny Mauk, Chief of Staff
Lisa Guccione, Deputy Chief of Staff
Gina Cross, Chief Operating Officer
Pape Cissé, Chief Information Officer
Andrea Gibbons, Chief Data Officer
Fernando Laguarda, General Counsel
Rachel Turner, Audits & Investigations Program Manager

AmeriCorps.gov

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Appendix VI: Comments from the Department of State

United States Department of State
Comptroller
Washington, DC 20520

DEC - 3 2021

Thomas Melito
Managing Director
International Affairs and Trade
Government Accountability Office
441 G Street, N.W.
Washington, D.C. 20548-0001

Dear Mr. Melito:

We appreciate the opportunity to review your draft report, "OPEN DATA: Additional Action Required for Full Public Access" GAO Job Code 104574.

The enclosed Department of State comments are provided for incorporation with this letter as an appendix to the final report.

Sincerely,

Jeffrey C. Mounts

Enclosure:
    As stated

cc: GAO – Michelle Sager
        M/SS – Janice DeGarmo
        OIG - Norman Brown

Department of State Response to GAO Draft Report

<u>**OPEN DATA: Additional Action Required for Full Public Access**</u>
(GAO-22-104574, GAO Code 104574)

Thank you for the opportunity to comment on the GAO draft report, *"OPEN DATA: Additional Action Required for Full Public Access."* These comments specifically respond to GAO's three recommendations for the Department of State, listed below.

Recommendation 6: The Secretary of the Department of State should, in coordination with the Chief Data Officer of the Department of State, develop and implement an agency-wide plan to provide an opportunity for the public to request specific data and make suggestions for the development of agency-wide criteria on prioritizing data assets for disclosure.

Response: The Department concurs with this recommendation. The Enterprise Data Council, chaired by the Department's Chief Data Officer, is overseeing the three-year implementation of the Department's first-ever Enterprise Data Strategy, and this agency-wide plan will be prioritized during the course of that implementation.

Recommendation 7: The Secretary of the Department of State should, in coordination with the Chief Data Officer of the Department of State, develop and implement an agency-wide plan for assisting the public in expanding the use of data.

Response: The Department concurs with this recommendation, however we would request the language be modified to say "... assisting the public in expanding the use of the Department's public data assets," to align with the language in the OPEN Government Data Act. The Enterprise Data Council, chaired by the Department's Chief Data Officer is overseeing the three-year implementation of the Department's first-ever Enterprise Data Strategy, and this agency-wide plan will be prioritized during the course of that implementation. Successful implementation will include coordination with bureaus and offices that produce open data at the Department, as these entities often engage directly with the public.

Recommendation 8: The Secretary of the Department of State should, in coordination with the Chief Data Officer of the Department of State, develop

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**and implement an agency-wide plan to collect and publish information on the
use of data assets by non-governmental entities.**

Response: The Department concurs with this recommendation. The Enterprise
Data Council, chaired by the Department's Chief Data Officer is overseeing the
three-year implementation of the Department's first-ever Enterprise Data Strategy,
and this agency-wide plan will be prioritized during the course of that
implementation. Successful implementation will include coordination with the
General Services Administration, the agency responsible for posting Department
content to www.data.gov.

Appendix VII: Comments from the Federal Deposit Insurance Corporation

FDIC

3501 Fairfax Drive, Arlington, VA 22226-3500

Chief Information Officer & Chief Privacy Officer

December 3, 2021

TO: Ms. Kathleen Drennan
             Assistant Director
             United States Government Accountability Office
             Washington, DC 20548

FROM: Sylvia Burns
             Chief Information Officer and Chief Privacy Officer
             Director, Division of Information Technology

SYLVIA BURNS   Digitally signed by SYLVIA BURNS
               Date: 2021.12.03 14:46:52 -05'00'

SUBJECT: Management Response to the Draft Audit Report Entitled *OPEN DATA –*
             Additional Access Required for Full Public Access (GAO-22-104574)

Thank you for the opportunity to review and comment on the Government Accountability Office's (GAO) draft report entitled *OPEN DATA – Additional Access Required for Full Public Access*, issued on November 4, 2021. The FDIC's Enterprise Data Strategy Program is critical to the agency's goal to provide transparent and accessible access to our data as part of our mission of maintaining stability and public confidence in the nation's financial system.

I am pleased your review determined that the FDIC has developed a data inventory, has taken steps to engage the public, and has encouraged data use and collaboration.

In its report, the GAO audit team made one recommendation to the FDIC Chairman and the Chief Data Officer (CDO), with which we concur. The FDIC is committed to fully complying with the public engagement requirements of the OPEN Government Data Act.

We expect that FDIC actions that are in progress and the new action we are undertaking in response to this draft report will further improve and strengthen the FDIC's Enterprise Data Strategy.

MANAGEMENT RESPONSE

Recommendation

   We are making one recommendation to the FDIC:

   1. The Chairman of the Federal Deposit Insurance Corporation (FDIC) should, in coordination with the Chief Data Officer of FDIC, develop and implement an agency-wide plan to collect and publish information on the use of data assets by non-government entities at least once a year.

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FDIC

3501 Fairfax Drive, Arlington, VA 22226-3500   Chief Information Officer & Chief Privacy Officer

Management Decision: Concur

Corrective Action:

The FDIC will develop and implement a process to collect and publish information on the use of agency data assets by non-government entities. The information will be updated at least once a year.

Estimated Completion Date: 12/16/2022

If you have questions regarding this response, please contact Montrice Yakimov, Chief, IT Risk Governance and Policy, Enterprise Strategy Branch, at MONYAKIMOV@FDIC.GOV.

cc: E. Marshall Gentry, Chief Risk Officer, Office of Risk Management and Internal Controls
       Elroy Holden, Manager, Office of Risk Management and Internal Controls
       Mark Mulholland, Acting Deputy Director, Enterprise Strategy Branch

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Appendix VIII: Comments from the General Services Administration

GSA

The Administrator

December 3, 2021

The Honorable Gene L. Dodaro
Comptroller General of the United States
U.S. Government Accountability Office
Washington, DC 20548

Dear Mr. Dodaro:

The U.S. General Services Administration (GSA) appreciates the opportunity to review and comment on the draft report, *OPEN DATA: Additional Action Required for Full Public Access* (GAO-22-104574). The U.S. Government Accountability Office (GAO) recommends that the GSA Administrator should develop and implement procedures for determining user needs and conducting usability testing, to ensure Data.gov addresses user needs, consistent with OMB guidance in M-17-06.

We agree with the findings and recommendations and will take appropriate action. We have also attached additional technical comments on the content of the audit to this letter.

If you have any additional questions or concerns, please do not hesitate to contact me, or Gianelle E. Rivera, Associate Administrator, Office of Congressional and Intergovernmental Affairs, at (202) 501-0563.

Sincerely,

Robin Carnahan
Administrator

Enclosure

cc: Michelle Sager, Managing Director - Strategic Issues

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U.S. General Services Administration
1800 F Street NW
Washington, DC 20405
www.gsa.gov

Appendix IX: GAO Contacts and Staff Acknowledgments

GAO Contact	Michelle Sager, (202) 512-6806 or SagerM@gao.gov
Staff Acknowledgments	In addition to the contact named above, Kathleen Drennan (Assistant Director), Colenn Berracasa (Analyst-in-Charge), Silvia Symber, Christopher Woika, Samuel Huang, Jenny Chanley, Jacqueline Chapin, Alicia White, Samantha Lalisan, and Andrew J. Stephens made major contributions to this report.

Related GAO Products

Evidence-Based Policymaking: Survey Data Identify Opportunities to Strengthen Capacity across Federal Agencies. GAO-21-536. Washington, D.C.: July 27, 2021.

Data Governance: Agencies Made Progress in Establishing Governance, but Need to Address Key Milestones. GAO-21-152. Washington, D.C.: December 16, 2020.

Open Data: Agencies Need Guidance to Establish Comprehensive Data Inventories; Information on Their Progress is Limited. GAO-21-29. Washington, D.C.: October 8, 2020.

Open Data: Treasury Could Better Align USAspending.gov with Key Practices and Search Requirements. GAO-19-72. Washington, D.C.: December 13, 2018.