



Office of Audits
Office of Inspector General
U.S. General Services Administration

GSA Is Not Fully Complying with the Geospatial Data Act of 2018

Report Number A220037/A/T/F23001
October 5, 2022

Executive Summary

GSA Is Not Fully Complying with the Geospatial Data Act of 2018

Report Number A220037/A/T/F23001

October 5, 2022

Why We Performed This Audit

We performed this audit pursuant to Geospatial Data Act of 2018 (GDA) Section 759(c), which requires the inspector general of each covered agency to conduct an audit, not less than once every 2 years, of the covered agency's compliance with the GDA. Accordingly, we assessed GSA's fulfillment of the requirements set forth in the GDA. Specifically, we evaluated GSA's compliance with the 13 covered agency responsibilities listed in GDA Section 759(a).

What We Found

GSA is not fully complying with the GDA. We found that GSA has excluded geospatial data from its GDA implementation and reporting efforts and is not adhering to geospatial data and metadata standards. Overall, we found that these deficiencies occurred because GSA lacks comprehensive, formalized oversight to ensure Agency-wide compliance with the GDA.

What We Recommend

Based on our findings, we make several recommendations to the GSA Administrator. These recommendations include GSA implementing a comprehensive, formalized oversight structure that ensures GSA's Agency-wide compliance with the GDA. We also recommend that GSA incorporate all geospatial data into its GDA implementation efforts, adhere to the appropriate geospatial data and metadata standards, and establish roles and responsibilities for officials responsible for these efforts. A complete list of our recommendations is included in the ***Conclusion*** section of this report.

GSA agreed with our findings and recommendations. GSA's comments are included in their entirety in ***Appendix D***.

Table of Contents

Introduction	1
--------------------	---

Results

<i>Finding 1 – GSA is not fully complying with the GDA because it excluded geospatial data from its GDA implementation and reporting efforts.</i>	<i>3</i>
<i>Finding 2 – GSA does not adhere to geospatial data standards for both the IOLP and the FRPP MS datasets, which limits their completeness, usefulness, and reliability.</i>	<i>5</i>
<i>Finding 3 – GSA does not adhere to geospatial metadata standards for both the IOLP and the FRPP MS datasets, which limits their accessibility, usability, and reliability.</i>	<i>8</i>
<i>Finding 4 – GSA lacks comprehensive, formalized oversight of its Agency-wide compliance with the GDA.....</i>	<i>9</i>

Conclusion.....	12
-----------------	----

Recommendations	12
-----------------------	----

GSA Comments.....	13
-------------------	----

Appendixes

Appendix A – Objective, Scope, and Methodology	A-1
Appendix B – Excerpt from the GDA: Section 759(a), <i>Covered Agency Responsibilities</i>	B-1
Appendix C – CIGIE Letter to Congress	C-1
Appendix D – GSA Comments	D-1
Appendix E – Report Distribution.....	E-1

Introduction

We performed an audit of GSA's compliance with its responsibilities under the Geospatial Data Act of 2018 (GDA).

Purpose

We performed this audit pursuant to GDA Section 759(c), which requires the inspector general of each covered agency to conduct an audit, not less than once every 2 years, of the covered agency's compliance with the GDA.

Objective

Our audit objective was to assess GSA's fulfillment of the requirements set forth in the GDA. Specifically, we evaluated GSA's compliance with the 13 covered agency responsibilities listed in GDA Section 759(a).

See **Appendix A** – Objective, Scope, and Methodology for additional details.

Background

On October 5, 2018, Congress passed the GDA to promote greater access to and use of geospatial data, which is information that is tied to a location on Earth, such as a street address or latitude and longitude coordinates.¹ The GDA's goals are to spur economic growth, advance science, and improve public health and other services. Potential users of geospatial data include federal, state, tribal, and local government agencies; academic institutions; and the private sector.

The GDA formalizes governance processes related to geospatial data, including the requirements agencies must implement to comply with the act. Covered agencies under the GDA, including GSA, are the executive branch departments that collect, produce, acquire, maintain, distribute, use, or preserve geospatial data. The GDA also established the Federal Geographic Data Committee (FGDC), an executive branch interagency committee, as the lead entity for the development, implementation, and review of policies, practices, and standards relating to geospatial data.

Under the GDA, each covered agency must annually report its performance in implementing the 13 covered agency responsibilities (see **Appendix B**) to the FGDC. These responsibilities include developing a strategy for advancing geospatial data, sharing geospatial data with other

¹ The GDA is included as Subtitle F of the Federal Aviation Administration Reauthorization Act of 2018, Public Law 115-254, H.R. 302. This act has been codified into 43 U.S.C. 2801-2811.

federal and non-federal users, and adhering to data standards.² The FGDC uses the information from these reports to create annual government-wide GDA summary reports that are published online and submitted to Congress not less than once every 2 years.

The GDA also requires the inspectors general of each covered agency to audit, not less than once every 2 years, the covered agency's compliance with:

- Section 757, *Geospatial Data Standards*;
- Section 759(a), *Covered Agency Responsibilities*; and
- Section 759A, *Limitation on Use of Federal Funds*.

In its October 2021 letter to Congress, the Council of the Inspectors General on Integrity and Efficiency (CIGIE) explained that Sections 757 and 759A of the GDA could not be audited—Section 757 due to the lack of updated and refined FGDC-endorsed data standards and Section 759A due to its still ongoing 5-year implementation period (see **Appendix C**). As it had in advance of the inaugural GDA audit in 2020, CIGIE recommended to Congress that the covered agency offices of inspectors general focus their audits only on evaluating the agencies' compliance with the 13 responsibilities set forth in GDA Section 759(a).

We conducted our inaugural GDA audit in 2020 and found that GSA's ability to comply with its responsibilities under the GDA was impaired by data quality issues and internal control weaknesses.³ Specifically, the geospatial data and metadata in GSA's Inventory of Owned and Leased Properties (IOLP) dataset, a dataset of GSA properties across the United States and its territories, did not consistently comply with geospatial data standards.⁴ We also found that GSA's internal controls were insufficient to ensure that the IOLP geospatial data and metadata were complete, in conformance with applicable standards, and correctly formatted prior to publication.

We recommended that GSA establish effective internal controls that would ensure: (1) the IOLP data and metadata were complete, accurate, and correctly formatted; and (2) oversight responsibilities and procedures related to data and metadata were implemented, effective, and consistently followed. GSA's Chief Information Officer and Public Buildings Service Commissioner both agreed with our 2020 audit findings and recommendations.

² Data standards are the guidelines for describing and recording data.

³ *Audit of GSA's Compliance with the Geospatial Data Act of 2018* (Report Number A201005/M/T/F20005, September 25, 2020).

⁴ Metadata provides users with information about the content, extent, quality, purpose, and limitations of a dataset. For example, metadata might include the dataset's title, creation and publication dates, keywords, author, and download URL.

Results

GSA is not fully complying with the GDA. We found that GSA has excluded geospatial data from its GDA implementation and reporting efforts and is not adhering to geospatial data and metadata standards. Overall, we found that these deficiencies occurred because GSA lacks comprehensive, formalized oversight to ensure Agency-wide compliance with the GDA.

Finding 1 – GSA is not fully complying with the GDA because it excluded geospatial data from its GDA implementation and reporting efforts.

GSA has not fully complied with the GDA because it excluded geospatial data from its GDA implementation and reporting efforts. GSA officials have considered the IOLP dataset as the Agency's only geospatial data covered by the GDA. However, we found that GSA has additional geospatial data from two sources—the Federal Real Property Profile Management System (FRPP MS) and purchased real estate market data.

GSA Excluded the FRPP MS Dataset from Its GDA Implementation and Reporting Efforts

GSA has not included the FRPP MS dataset in its GDA implementation and reporting. However, the FRPP MS is subject to the GDA because it is a GSA-owned system that contains geospatial data.

The FRPP MS is a GSA-owned system. The FRPP MS was initially created by GSA in response to Executive Order 13327, *Federal Real Property Asset Management*, issued in February 2004. This executive order required GSA to “establish and maintain a single, comprehensive, and descriptive database of all real property under the custody and control of all executive branch agencies, except when otherwise required for reasons of national security.”

In December 2016, Congress passed the Federal Assets Sale and Transfer Act. Using language similar to Executive Order 13327, the Federal Assets Sale and Transfer Act required GSA to “publish a single, comprehensive, and descriptive database of all federal real property under the custody and control of all executive agencies, other than federal real property excluded for reasons of national security” GSA uses the FRPP MS to fulfill this requirement and lists this system as a business application in its information technology inventory. Therefore, the FRPP MS is a GSA-owned system. Because GSA is a covered agency under the GDA, it must include any geospatial data maintained in the FRPP MS in its GDA implementation and reporting efforts.

The FRPP MS contains geospatial data. The GDA defines geospatial data as information that is tied to a location on Earth. This data includes street addresses and latitude and longitude coordinates, both of which are captured for over 300,000 civilian federal real property assets in the FRPP MS. Accordingly, the FRPP MS contains geospatial data that is subject to the GDA.

In sum, because the FRPP MS is a GSA-owned system that contains geospatial data, it is subject to the GDA and must be included in the Agency's GDA implementation and reporting efforts.

GSA Excluded Purchased Real Estate Market Data from Its GDA Implementation and Reporting Efforts

GSA has not included purchased real estate market data in its GDA implementation and reporting efforts. During our audit, GSA officials repeatedly maintained that GSA does not purchase geospatial data. However, as described below, we found that GSA purchased geospatial data through two contracts issued by GSA's Public Buildings Service (PBS) for national real estate market data.

- **Contract for Commercial Property Data** – In September 2017, PBS awarded a contract for continuously updated commercial property information, which PBS uses to make real property investment and disposal decisions. The contractor is required to provide the commercial property locations in major real estate markets across the United States. GSA officials told us that the contractor also provides shapefiles related to the commercial properties. A shapefile is a type of file format used to store geographical information consisting of points, lines, and polygons. Both property locations and shapefiles are considered geospatial data under the GDA. Therefore, GSA purchased geospatial data through this PBS contract.
- **Contract for Mapping Real Estate Markets** – In September 2019, PBS awarded a contract for mapping individual real estate markets. PBS uses this data to calculate performance measures, conduct research, issue reports used by its regional offices, and calculate cost savings. The contractor is required to provide shapefiles, which are considered geospatial data under the GDA. Therefore, GSA also purchased geospatial data through this PBS contract.

The GDA requires GSA to include all geospatial data, including any purchased data, in its GDA implementation and reporting efforts. By excluding purchased geospatial data from its GDA implementation and reporting efforts, GSA inaccurately reported the status of its GDA compliance to the FGDC.

To fully comply with the GDA, GSA should ensure that it includes geospatial data maintained in the FRPP MS and purchased through contractors in its GDA reporting efforts. GSA should also conduct an Agency-wide assessment to identify all geospatial data in its possession and ensure the collection, maintenance, dissemination, and preservation of that data complies with the GDA. This should include, but not be limited to, incorporating this data into GSA's *Geospatial Data Strategy* and its *Covered Agency Annual Report and Self-Assessment*.

Finding 2 – GSA does not adhere to geospatial data standards for both the IOLP and the FRPP MS datasets, which limits their completeness, usefulness, and reliability.

GSA does not adhere to geospatial data standards for the IOLP and the FRPP MS datasets. With regard to the IOLP dataset, we found that GSA does not conform to data standards because it did not include three required data elements. We also found that GSA does not adhere to data standards for the FRPP MS dataset because its data verification process does not identify incomplete and invalid data.

GSA Excluded Three Required Data Elements from the IOLP Dataset and as a Result, Does Not Conform to Data Standards

GSA's geospatial data within the IOLP dataset does not conform to the required data standard for real property datasets—the FGDC's *U.S. Government Real Property Asset Data Standard, a Geospatial Data Content Standard* (RPADS). RPADS defines the minimal set of data elements required to identify and locate real property on a map. However, GSA has excluded the following three required data elements from the IOLP dataset:

- **Real Property Asset Type** – Identifies a property as land, building, or structure;
- **Real Property Asset Name** – Allows users to find information about a specific building; and
- **Installation Name** – Allows users to identify whether a property is part of an installation, such as a campus.

Figure 1 on the next page is an example of the types of information that were included and excluded in the IOLP dataset for the Vincent E. McKelvey Building at the U.S. Geological Survey Menlo Park Campus.

Figure 1 – Example of Information Included in and Excluded from the IOLP Dataset for the Vincent E. McKelvey Building

Data Element	Data Included in the IOLP Dataset	Data Excluded from the IOLP Dataset
Real Property Asset Type		Building
Real Property Asset Name		Vincent E. McKelvey Building
Installation Name		U.S. Geological Survey Menlo Park Campus
Location Code	CA0915	
Street Address	345 Middlefield Rd	
City	Menlo Park	
State	CA	
Zip Code	94025	
Congressional District	0618	
Building Vacant Rentable Square Feet	0.00	
Building Rentable Square Feet	147,609.47	
Year Built	1995	
Building Status	Active	
Owned or Leased Indicator	F	
Latitude	37.4563800	
Longitude	-122.1713010	
GSA Region	09	

Because these data elements are needed to identify and locate real property, excluding them makes the IOLP dataset incomplete and less useful. The IOLP dataset can be used to support federal government initiatives such as real property management, homeland security, emergency response, and green buildings management. However, if a dataset user is unable to identify an asset by type, name, or installation name, the usefulness of the dataset is diminished. Without these data elements, users cannot identify real property assets in the IOLP dataset. The absence of the property type also prevents analysis, such as searching for all buildings in a city or all land in a congressional district.

GSA officials were unable to explain why they did not adhere to RPADS. Initially, GSA officials incorrectly stated that the IOLP dataset complies with RPADS, even though the IOLP dataset did not include the three required data elements identified above. GSA officials then said that these three required data elements were likely excluded from the IOLP dataset due to national security concerns. However, they could not provide evidence to support their assertion. In addition, this assertion is contradicted by the fact that GSA makes this information publicly available in the FRPP MS dataset.

GSA lacks a routine process to review and update the IOLP dataset to ensure compliance with data standards. According to GSA officials, GSA has not changed the data elements in the IOLP dataset since it was created in 2002. However, to ensure adherence to geospatial data standards, GSA should include these three data elements in the IOLP dataset and develop a process for reviewing and updating the IOLP dataset.

GSA Does Not Adhere to Data Standards for the FRPP MS Dataset Because Its Data Verification Process Does Not Identify Incomplete and Invalid Data

GSA does not adhere to data standards for the FRPP MS dataset because the Agency's data verification process does not identify incomplete and invalid data. This deficiency has resulted in a considerable amount of missing, incorrect, and improperly formatted data. Incomplete and invalid data in the FRPP MS dataset limits the dataset's reliability and usefulness in helping the government effectively manage its real property.

GSA collects and maintains the FRPP MS's data for over 50 federal agencies and is required by the GDA to adhere to the FRPP MS data standard—the Federal Real Property Council's *Guidance for Real Property Inventory Reporting* (FRPP Data Dictionary). GSA maintains this standard, which identifies and defines the data elements that participating agencies must submit. GSA also has a data verification process intended to ensure data submitted by agencies conforms to the FRPP Data Dictionary's requirements.

Of the FRPP MS dataset's 113 data elements required by the FRPP Data Dictionary, 25 are missing data and 11 include invalid data. For example:

- The Building Age data element contains 5,465 blank cells.
- The State Code data element contains the number zero (0) in 1,053 cells and alphabetic characters in 238 cells, neither of which are valid values for this data element.
- The Latitude data element contains 32,048 values that did not contain the minimum number of decimal places.
- The Longitude data element contains 177,288 values that did not contain the minimum number of decimal places.

GSA officials told us they were aware that the data verification process was flawed because it did not identify the missing or invalid data listed above. While GSA officials said they are addressing this flaw, incomplete and invalid data in the FRPP MS dataset limits the dataset's reliability and usefulness in helping the government reduce its real property footprint and costs.

To address these deficiencies, GSA should work with participating agencies to obtain any missing data during the next FRPP MS reporting cycle. GSA should also review and revise the FRPP MS data verification process to ensure the FRPP MS dataset complies with data standards and contains complete and valid data.

Finding 3 – GSA does not adhere to geospatial metadata standards for both the IOLP and the FRPP MS datasets, which limits their accessibility, usability, and reliability.

Metadata describes the elements of a dataset so potential users can understand its contents and how the data can be used. The GDA requires covered agencies to use FGDC-endorsed metadata standards for geospatial data. However, we found that GSA does not adhere to the applicable metadata standards; instead, it uses a less-thorough standard for both the IOLP and FRPP MS datasets. We also found that the metadata for the IOLP dataset contains inconsistencies and errors. Taken together, these deficiencies limit the accessibility, usability, and reliability of GSA’s geospatial datasets.

GSA Does Not Adhere to the Applicable Metadata Standards for both the IOLP and FRPP MS Datasets

GSA does not adhere to the applicable metadata standards for the IOLP and FRPP MS datasets, limiting their accessibility and usability. The GDA requires GSA to adhere to FGDC-endorsed metadata standards for geospatial data. The FGDC endorses use of either the *Content Standard for Geospatial Metadata* or the International Standards Organization’s (ISO’s) geospatial metadata standards. These standards require metadata to include certain information about the content, extent, quality, purpose, and limitations of a dataset.

However, GSA does not adhere to either of these geospatial metadata standards. Instead, the Agency uses a less-thorough standard for both the IOLP and FRPP MS datasets—the *DCAT-US Schema v1.1* metadata standard. This standard, which is designed for metadata posted to Data.gov, is not specifically designed for geospatial data.⁵ The *DCAT-US Schema v1.1* also lacks components included in the FGDC-endorsed geospatial metadata standards, such as the data element definitions, range of valid values, and topic categories for the dataset.

GSA officials said the cause for this deficiency is that GSA relied on the Data.gov team to create its metadata. Representatives from the Data.gov website confirmed that they cannot customize the metadata that they create to adhere to FGDC-endorsed geospatial metadata standards. Rather, GSA would have to create geospatial-specific metadata that conforms to the required standards.

The GDA also requires GSA to publish its geospatial metadata to the GeoPlatform, a public website for geospatial information.⁶ However, we found that GSA did not comply with this responsibility because GSA only included the IOLP dataset and did not consider the FRPP MS dataset to be covered under the GDA.

⁵ GSA’s Technology Transformation Service manages and hosts Data.gov (<https://data.gov>), which is a data catalog that provides public access to federal data.

⁶ <https://www.geoplatform.gov>

As discussed above, GSA does not adhere to metadata standards for the IOLP and FRPP MS datasets, limiting their accessibility and usability. To address these deficiencies, GSA should implement one of the FGDC-endorsed metadata standards for the IOLP and FRPP MS datasets' metadata—either FGDC's *Content Standard for Digital Geospatial Metadata* or ISO geospatial metadata standards. GSA should also publish the FRPP MS dataset's metadata to the GeoPlatform.

Metadata for GSA's IOLP Dataset Contains Inconsistencies and Errors

Metadata is used to, among other things, describe the elements of a dataset so potential users can understand its contents and how the data can be used. However, we found that metadata for GSA's IOLP dataset contains inconsistencies and errors, making it unreliable and limiting its usefulness.

Thirteen data element names in the IOLP metadata are inconsistent with the names in the IOLP dataset. For example, GSA uses "Construction Date" in the IOLP metadata as opposed to "YEAR_BUILT" in the IOLP dataset. Further, the order of the data elements in the IOLP metadata does not align with the order of the data elements in the IOLP dataset, which can lead to inefficiencies in analyzing the data. The IOLP metadata also lists four data elements for leased properties, but these data elements are not included in the IOLP dataset.

Collectively, these deficiencies make the metadata unreliable and limit its usefulness in helping users find and use the IOLP dataset. To address these deficiencies, GSA should review and update the IOLP metadata for consistency with the information in the IOLP dataset. GSA should also develop a routine review process to ensure geospatial metadata is accurate and complete.

Finding 4 – GSA lacks comprehensive, formalized oversight of its Agency-wide compliance with the GDA.

Taken together, the deficiencies identified in the findings above demonstrate that GSA lacks a comprehensive, formalized oversight structure to ensure that it meets the requirements of the GDA. GSA's view of its responsibilities under the GDA are overly narrow and Agency officials lack clarity regarding GDA requirements. GSA also has not adequately established processes needed to ensure GDA compliance. GSA currently manages its geospatial data out of the following offices:

- Office of GSA IT's Building Information Planning and Strategy Branch;
- Office of Government-wide Policy's Real Property Policy Division; and
- PBS's Pricing Policy and Tools Division.

We found that GSA officials from these offices lack clarity regarding GDA requirements. GSA also lacks formalized processes to ensure public access to GSA geospatial datasets and the safeguarding of controlled unclassified information (CUI).⁷

Lack of Clarity Regarding GDA Requirements

GSA officials lack clarity regarding GDA requirements, which cover geospatial data Agency-wide. For example, GSA officials stated on multiple occasions, as discussed in *Finding 1*, that its responsibilities under the GDA include only the IOLP dataset and not the FRPP MS dataset. Also, as discussed in *Finding 1*, GSA officials repeatedly maintained that GSA does not purchase geospatial data; however, GSA has at least two contracts that include the purchase of geospatial data. The GDA covers all of GSA's geospatial data, including the FRPP MS dataset and purchased geospatial data.

GSA officials also appeared to not understand the IOLP data standards and were unable to explain why the IOLP dataset did not follow the prescribed standards, as discussed in *Finding 2*. GSA also used a less-thorough metadata standard than required for both the IOLP and FRPP MS datasets, as discussed in *Finding 3*. This has negatively affected the completeness and usability of GSA's geospatial datasets.

Collectively, these deficiencies affect the integrity of GSA's geospatial data reported on Data.gov, a data catalog that provides public access to federal data, and the GeoPlatform, a public website for geospatial information. Ultimately, these deficiencies affect the users of GSA's geospatial datasets, such as other federal agencies and the general public.

To ensure compliance with the GDA, GSA must implement a comprehensive, formalized oversight structure that defines, documents, and disseminates GDA-related roles and responsibilities. In addition, GSA must implement mechanisms to ensure those responsible for GDA compliance are fully aware of all geospatial-related activities Agency-wide.

Lack of Formalized Process for Ensuring Public Access to GSA-Maintained Geospatial Datasets

In accordance with the GDA, GSA is required to make both the IOLP and FRPP MS datasets publicly available. However, GSA lacks a formal process for verifying that the IOLP and FRPP MS datasets are publicly available on Data.gov. Currently, GSA becomes aware of availability issues only if users report them to GSA. As a result, federal agencies and other users may be unable to access these datasets for extended periods.

During our audit, we attempted to access the IOLP dataset on Data.gov, but encountered a "Not Found" error that persisted for 17 days. GSA officials acknowledged that, although they have a process for verifying that new IOLP dataset uploads to Data.gov are successful, they do

⁷ CUI is unclassified information that requires safeguarding or dissemination controls, pursuant to and consistent with applicable law, regulations, and government-wide policies.

not have a routine oversight process for determining whether the dataset is continuously available online. GSA officials responsible for the FRPP MS dataset similarly stated that they do not have a routine oversight process for ensuring the dataset is continuously available online. In both cases, GSA officials reported that they only become aware of availability issues if users report them to GSA.

To ensure that GSA's geospatial datasets are publicly available, the Agency should develop formal oversight and quality control mechanisms to identify and prevent ongoing availability issues.

Lack of Formalized Process for Safeguarding Controlled Unclassified Information

The GDA requires covered agencies to maintain confidentiality in accordance with federal policy and law. This requirement applies to CUI. However, GSA lacks a formal process for determining what geospatial data, if any, should be excluded from the IOLP dataset as CUI. Instead, GSA relies on IOLP users to notify the Agency if CUI is included in the IOLP dataset. As a result of this inadequate approach, GSA cannot ensure that CUI is protected from improper release to the public. Accordingly, in developing its comprehensive, formalized oversight structure, GSA should implement a routine process to ensure CUI is proactively identified and removed from the IOLP dataset.

Conclusion

GSA is not fully complying with the GDA. We found that GSA has excluded geospatial data from its GDA implementation and reporting efforts and is not adhering to geospatial data and metadata standards. Overall, we found that these deficiencies occurred because GSA lacks comprehensive, formalized oversight to ensure Agency-wide compliance with the GDA.

To address the deficiencies identified in this report, GSA should implement a comprehensive, formalized oversight structure that ensures GSA's Agency-wide compliance with the GDA. GSA should incorporate all geospatial data into its GDA implementation efforts, adhere to the appropriate geospatial data and metadata standards, and establish roles and responsibilities for officials responsible for these efforts.

Recommendations

We recommend that the GSA Administrator:

1. Ensures that the collection, maintenance, dissemination, and preservation of GSA's geospatial data complies with the GDA Agency-wide by:
 - a. Incorporating the FRPP MS dataset into the Agency's GDA compliance efforts;
 - b. Conducting an Agency-wide assessment to identify and inventory all geospatial data, including, but not limited to, contracts purchasing geospatial data; and
 - c. Incorporating all geospatial data into GSA's *Geospatial Data Strategy* and *Covered Agency Annual Report and Self-Assessment*.
2. Ensures that GSA adheres to the appropriate geospatial data standards by:
 - a. Developing a process for reviewing and updating the IOLP and FRPP MS datasets to ensure they comply with the appropriate data standards;
 - b. Working with submitting agencies to obtain any incomplete data during the next FRPP MS dataset reporting cycle;
 - c. Reviewing and revising the FRPP MS data verification process to ensure the FRPP MS dataset contains complete and valid data; and
 - d. Including the Real Property Asset Type, Real Property Asset Name, and Installation Name data elements in the IOLP dataset and updating the IOLP metadata accordingly.

3. Ensures that GSA adheres to the appropriate geospatial metadata standards by:
 - a. Adhering to one of the FGDC-endorsed metadata standards for the IOLP and FRPP MS datasets—either FGDC’s *Content Standard for Digital Geospatial Metadata* or the ISO geospatial metadata standards;
 - b. Reviewing and updating the IOLP metadata for consistency with the information in the IOLP dataset;
 - c. Developing a routine review process to ensure geospatial metadata is accurate and complete; and
 - d. Publishing the FRPP MS dataset’s metadata to the GeoPlatform.
4. Implements a comprehensive, formalized oversight structure that ensures GSA’s Agency-wide compliance with the GDA, including, but not limited to:
 - a. Delineation, documentation, and dissemination of GDA-related roles and responsibilities across GSA;
 - b. Implementation of mechanisms to ensure those responsible for GDA compliance are fully aware of geospatial-related activities Agency-wide;
 - c. Development of oversight mechanisms that ensure the completeness, accessibility, and usability of GSA geospatial data uploaded to Data.gov and the GeoPlatform; and
 - d. Development of oversight mechanisms to identify and exclude CUI from the IOLP dataset.

GSA Comments

GSA agreed with our findings and recommendations. GSA’s comments are included in their entirety in **Appendix D**.

Audit Team

This audit was managed out of the Information Technology and Finance Audit Office and conducted by the individuals listed below:

Sonya Panzo	Associate Deputy Assistant Inspector General for Auditing
Kyle Plum	Audit Manager
James Dean	Auditor-In-Charge
Victor Pimentel	IT Specialist
Suzanne Weiss	Auditor

Appendix A – Objective, Scope, and Methodology

Objective

Our audit objective was to assess GSA's fulfillment of the requirements set forth in the GDA. Specifically, we evaluated GSA's compliance with the 13 covered agency responsibilities listed in GDA Section 759(a).

Scope and Methodology

To evaluate GSA's compliance with the requirements of the GDA, we analyzed: (1) GSA's overall GDA compliance efforts, (2) GSA's IOLP and FRPP MS datasets, and (3) GSA's metadata for the IOLP and FRPP MS datasets using applicable geospatial data and metadata standards.

To accomplish our objective, we:

- Reviewed the Geospatial Data Act of 2018 for the requirements and responsibilities of covered agencies and lead covered agencies under the act. We also reviewed related guidance, including:
 - Office of Management and Budget Circular A-16 Revised, *Coordination of Geographic Information and Related Spatial Data Activities*;
 - Foundations for Evidence-Based Policymaking Act of 2018 (Public Law 115-435);
 - Federal Assets Sale and Transfer Act of 2016 (Public Law 114-287); and
 - *DCAT-US Schema v1.1* (Project Open Data Metadata Schema);
- Researched applicable geospatial data standards for geospatial data, notably the FGDC's *U.S. Government Real Property Asset Data Standard, a Geospatial Data Content Standard* (RPADS) and the Federal Real Property Council's *2021 Guidance for Real Property Inventory Reporting* (FRPP Data Dictionary);
- Researched applicable geospatial metadata standards and guidance, notably FGDC's *Content Standard for Digital Geospatial Metadata* and *FGDC Technical Guidance: Data.gov and The GeoPlatform Metadata Recommendations*;
- Analyzed the entire IOLP dataset (16,512 records) and metadata generated on March 18, 2022, using RPADS and applicable metadata standards;
- Analyzed the entire FRPP's civilian agencies' Fiscal Year 2020 public dataset (313,549 records) and metadata generated on March 21, 2022, using the FRPP Data Dictionary and applicable metadata standards;
- Conducted interviews with GSA officials and staff involved in geospatial data collection, dissemination, and preservation, including those from the Office of GSA IT's Building Information Planning and Strategy Branch, the Office of Government-wide Policy's Real Property Policy Division, PBS's Pricing Policy and Tools Division, and the Real Estate Across the United States (REXUS) team;
- Obtained an understanding of internal controls, including components and principles, significant to the audit objective;

- Assessed the design, implementation, and operating effectiveness of controls that are significant to the audit objective; and
- Evaluated and documented the significance of identified internal control deficiencies within the context of the audit objective.

Data Reliability

We assessed the reliability of GSA’s publicly available IOLP and FRPP MS datasets by performing logical tests (e.g., identifying duplicates, invalid data, missing data, and outliers); reviewing existing system and data documentation (e.g., data dictionaries and system policies); and interviewing dataset managers. Our audit objective did not require us to verify the accuracy of the data with source documentation. Rather, we tested whether the datasets comply with the appropriate data standards. We determined that the data were sufficiently reliable for the purposes of this audit.

Internal Controls

We assessed internal controls significant within the context of our audit objective against GAO-14-704G, *Standards for Internal Control in the Federal Government*. The methodology above describes the scope of our assessment and the report findings include any internal control deficiencies we identified. Our assessment is not intended to provide assurance on GSA’s internal control structure as a whole. GSA management is responsible for establishing and maintaining internal controls.

Compliance Statement

We conducted the audit between January 2022 and July 2022 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 objective.

Appendix B – Excerpt from the GDA: Section 759(a), Covered Agency Responsibilities

SEC. 759. COVERED AGENCY RESPONSIBILITIES.

(a) IN GENERAL.—Each covered agency shall—

- (1) prepare, maintain, publish, and implement a strategy for advancing geographic information and related geospatial data and activities appropriate to the mission of the covered agency, in support of the strategic plan for the National Spatial Data Infrastructure prepared under section 755(c);
- (2) collect, maintain, disseminate, and preserve geospatial data such that the resulting data, information, or products can be readily shared with other Federal agencies and non-Federal users;
- (3) promote the integration of geospatial data from all sources;
- (4) ensure that data information products and other records created in geospatial data and activities are included on agency record schedules that have been approved by the National Archives and Records Administration;
- (5) allocate resources to fulfill the responsibilities of effective geospatial data collection, production, and stewardship with regard to related activities of the covered agency, and as necessary to support the activities of the Committee;
- (6) use the geospatial data standards, including the standards for metadata for geospatial data, and other appropriate standards, including documenting geospatial data with the relevant metadata and making metadata available through the GeoPlatform;
- (7) coordinate and work in partnership with other Federal agencies, agencies of State, tribal, and local governments, institutions of higher education, and the private sector to efficiently and cost-effectively collect, integrate, maintain, disseminate, and preserve geospatial data, building upon existing non-Federal geospatial data to the extent possible;
- (8) use geospatial information to—
 - (A) make Federal geospatial information and services more useful to the public;
 - (B) enhance operations;
 - (C) support decision making; and
 - (D) enhance reporting to the public and to Congress;
- (9) protect personal privacy and maintain confidentiality in accordance with Federal policy and law;
- (10) participate in determining, when applicable, whether declassified data can contribute to and become a part of the National Spatial Data Infrastructure;
- (11) search all sources, including the GeoPlatform, to determine if existing Federal, State, local, or private geospatial data meets the needs of the covered agency before expending funds for geospatial data collection;
- (12) to the maximum extent practicable, ensure that a person receiving Federal funds for geospatial data collection provides high-quality data; and
- (13) appoint a contact to coordinate with the lead covered agencies for collection, acquisition, maintenance, and dissemination of the National Geospatial Data Asset data themes used by the covered agency.

Appendix C – CIGIE Letter to Congress



October 18, 2021

The Honorable Maria Cantwell
Chairwoman
The Honorable Roger F. Wicker
Ranking Member
Committee on Commerce, Science,
and Transportation
United States Senate
Washington, D.C.

The Honorable Eddie Bernice Johnson
Chairwoman
The Honorable Frank Lucas
Ranking Member
Committee on Science, Space,
and Technology
U.S. House of Representatives
Washington, D.C.

Dear Chairwomen and Ranking Members:

The Council of the Inspectors General on Integrity and Efficiency (CIGIE) recognizes and appreciates your leadership on issues of geospatial data. In particular, we believe the enactment of the Geospatial Data Act of 2018 (P.L. 115-254) will improve the continuing development of geospatial data and technology. To make sure this happens, the Geospatial Data Act provides for oversight by way of the Federal Inspectors General. Specifically, the Geospatial Data Act requires the biennial completion of a review of Covered Agencies' compliance with standards established by the Act, Covered Agencies' responsibilities detailed in the Act, and Covered Agencies' compliance with the prohibition of Federal funding for non-compliant datasets.

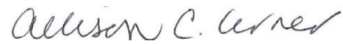
We are writing this letter on behalf of CIGIE to inform you of an important distinction with the biennial Geospatial Data Act audits by the Inspector General community. Specifically, the Fiscal Year 2022 mandatory audit scope period overlaps with the estimated Geospatial Data Act implementation period established by the Federal Geographic Data Committee (FGDC). As part of the implementation phase, the FGDC is evaluating the existing body of standards, among other items. Due to the continuing implementation of the Geospatial Data Act, conducting the mandatory audits as prescribed by the Act would result in reports submitted by the Inspectors General in October 2022 being inconclusive for two of the three audit requirements.

To address this challenge while continuing to meet the mandatory audit requirements, CIGIE convened a working group with representatives from the Covered Agency Inspectors General to reach a consensus on an audit approach for the Fiscal Year 2022 audits. The Covered Agency Inspectors General determined that audits focused on the Covered Agencies' progress toward compliance with the Geospatial Data Act, including the agencies' compliance with requirements under subsection (a), would likely provide the best value to the Covered Agencies, Congress, and the Public. This is a somewhat narrower approach than what the law requires because it is currently difficult to determine which standards the audits should use in evaluating compliance. Also, because the law establishes a five-year implementation period before limiting the use of Federal funds for non-compliant activities, this requirement would not be evaluated in the Fiscal Year 2022 audits.

This consensus approach will afford each Covered Agency Inspector General latitude to perform additional testing based on the Covered Agency's geospatial footprint, as determined necessary by the applicable Inspector General.

Should you or your staffs have any questions about our approach or other aspects of our collective Geospatial Data Act oversight activities, please do not hesitate to contact us at (703) 292-4978 or (703) 248-2296 respectively.

Sincerely,



Allison C. Lerner
Chair, Council of the Inspectors General on
Integrity and Efficiency
Inspector General, National Science
Foundation



Tammy L. Whitcomb
Chair, Council of the Inspectors General on
Integrity and Efficiency, Technology
Committee
Inspector General, U.S. Postal Service

cc: The Honorable Gary C. Peters, Chairman
The Honorable Rob Portman, Ranking Member
Senate Committee on Homeland Security and Governmental Affairs

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

The Honorable Jason Miller, Deputy Director OMB and Executive Chair, Council of the
Inspectors General on Integrity and Efficiency

The Honorable Gene Dodaro, Comptroller General, GAO

Appendix D – GSA Comments

DocuSign Envelope ID: 9FC5D2B1-D57A-4ABC-94E7-A0384642D78C



The Administrator

September 30, 2022

MEMORANDUM FOR: Sonya Panzo
Associate Deputy Assistant Inspector General for Auditing
Information Technology and Finance Audit Office (JA-T)

FROM: Robin Carnahan
Administrator (A)
General Services Administration

SUBJECT: GSA Is Not Fully Complying with the Geospatial Data Act
of 2018 Assignment Number A220037 Draft Report

Thank you for the opportunity to review the Office of Inspector General DRAFT Audit Report: *GSA Is Not Fully Complying with the Geospatial Data Act of 2018 (A220037)*. We have completed our review of the draft report.

GSA concurs with the findings and recommendations and has already taken action to improve the quality and availability of geospatial data. GSA is developing a plan to address all recommendations and will document these in a Corrective Action Plan.

If you have any questions or concerns, please contact David Shive, Chief Information Officer, at (202) 501-1000.

Sincerely,

A handwritten signature in blue ink that reads "Robin Carnahan".

Robin Carnahan
Administrator

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

Appendix E – Report Distribution

GSA Administrator (A)

GSA Deputy Administrator (AD)

GSA Chief of Staff (AC)

Chief Information Officer (I)

Associate Chief Information Officer for Public Buildings IT Services (IP)

Associate Administrator for Government-wide Policy (M)

Chief Financial Officer (B)

Deputy Chief Financial Officer (B)

Office of Audit Management and Accountability (BA)

Assistant Inspector General for Auditing (JA)

Deputy Assistant Inspector General for Acquisition Program Audits (JA)

Deputy Assistant Inspector General for Real Property Audits (JA)

Director, Audit Planning, Policy, and Operations Staff (JAO)