

# U.S. Federal Data Strategy

*The U.S. **Federal Data Strategy (FDS)** provides a common set of data principles and best practices. The 2020 Action Plan identifies milestones that are essential for establishing processes, building capacity, and aligning existing efforts. This initial plan builds a solid foundation that will support implementation of the strategy over the next decade. This page will showcase progress, measurements, and metrics collected and reported on 65 milestones from 20 actions. We will track progress on the 2020 Action Plan milestones continuously throughout the year. As milestones are completed, information will be uploaded to this page. Once this page is fully operational, you will be able to check agency activity on every milestone. <https://strategy.data.gov/progress/>*

## Principles

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*The Federal Data Strategy Principles serve as motivational guidelines. They underlie a comprehensive strategy that encompasses federal and federally-sponsored program, statistical, and mission-support data. They inform the Practices and Action Plan.*

## Ethical Governance

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1. **Uphold Ethics:** Monitor and assess the implications of federal data practices for the public. Design checks and balances to protect and serve the public good.
2. **Exercise Responsibility:** Practice effective data stewardship and governance. Employ sound data security practices, protect individual privacy, maintain promised confidentiality, and ensure appropriate access and use.
3. **Promote Transparency:** Articulate the purposes and uses of federal data to engender public trust. Comprehensively document processes and products to inform data providers and users.

## Conscious Design

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4. **Ensure Relevance:** Protect the quality and integrity of the data. Validate that data are appropriate, accurate, objective, accessible, useful, understandable, and timely.
5. **Harness Existing Data:** Identify data needs to inform priority research and policy questions; reuse data if possible and acquire additional data if needed.

6. **Anticipate Future Uses:** Create data thoughtfully, considering fitness for use by others; plan for reuse and build in interoperability from the start.
7. **Demonstrate Responsiveness:** Improve data collection, analysis, and dissemination with ongoing input from users and stakeholders. The feedback process is cyclical; establish a baseline, gain support, collaborate, and refine continuously.

## Learning Culture

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8. **Invest in Learning:** Promote a culture of continuous and collaborative learning with and about data through ongoing investment in data infrastructure and human resources.
9. **Develop Data Leaders:** Cultivate data leadership at all levels of the federal workforce by investing in training and development about the value of data for mission, service, and the public good.
10. **Practice Accountability:** Assign responsibility, audit data practices, document and learn from results, and make needed changes.

## Practices

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*The Federal Data Strategy's Practices are designed to inform agency actions on a regular basis, to be continually relevant, and to be sufficiently general so as to broadly apply at all federal agencies and across all missions. The Practices represent aspirational goals that, when fully realized, will continually challenge and guide agencies, practitioners, and policymakers to improve the government's approach to data stewardship and the leveraging of data to create value.*

## Building a Culture that Values Data and Promotes Public Use

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1. **Identify Data Needs to Answer Key Agency Questions:** Use the learning agenda<sup>1</sup> process to identify and prioritize the agency's key questions and the data needed to answer them.
2. **Assess and Balance the Needs of Stakeholders:** Identify and engage stakeholders throughout the data lifecycle to identify stakeholder needs and to incorporate stakeholder feedback into government priorities to maximize entrepreneurship, innovation, scientific discovery, economic growth, and the public good.
3. **Champion Data Use:** Leaders set an example, incorporating data in decision-making and targeting resources to maximize the value of data for decision-making, accountability, and the

public good.

4. **Use Data to Guide Decision-Making:** Effectively, routinely, transparently, and appropriately use data in policy, planning, and operations to guide decision-making; share the data and analyses behind those decisions.
5. **Prepare to Share:** Assess and proactively address the procedural, regulatory, legal, and cultural barriers to sharing data within and across federal agencies, as well as with external partners.
6. **Convey Insights from Data:** Use a range of communication tools and techniques to effectively present insights from data to a broad set of audiences.
7. **Use Data to Increase Accountability:** Align operational and regulatory data inputs with performance measures and other outputs to help the public to understand the results of federal investments and to support informed decision-making and rule-making.
8. **Monitor and Address Public Perceptions:** Regularly assess and address public confidence in the value, accuracy, objectivity, and privacy protection of federal data to make strategic improvements, advance agency missions, and improve public messages about planned and potential uses of federal data.
9. **Connect Data Functions Across Agencies:** Establish communities of practice for common agency data functions (e.g., data management, access, analytics, informatics, and user support) to promote efficiency, collaboration, and coordination.
10. **Provide Resources Explicitly to Leverage Data Assets:** Ensure that sufficient human and financial resources are available to support data driven agency decision-making, accountability and the ability to spur commercialization, innovation, and public use

## Governing, Managing, and Protecting Data

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11. **Prioritize Data Governance:** Ensure there are sufficient authorities, roles, organizational structures, policies, and resources in place to transparently support the management, maintenance, and use of strategic data assets.
12. **Govern Data to Protect Confidentiality and Privacy:** Ensure there are sufficient authorities, roles, organizational structures, policies, and resources in place to provide appropriate access to confidential data and to maintain public trust and safeguard privacy
13. **Protect Data Integrity:** Emphasize state-of-the-art data security as part of Information Technology security practices for every system that is refreshed, architected, or replaced to address current and emerging threats; foster innovation and leverage new technologies to maintain protection.
14. **Convey Data Authenticity:** Disseminate data sets such that their authenticity is discoverable and verifiable by users throughout the information lifecycle, consistent with open data practices, and encourage appropriate attribution from users.
15. **Assess Maturity:** Evaluate the maturity of all aspects of agency data capabilities to inform priorities for strategic resource investment.
16. **Inventory Data Assets:** Maintain an inventory of data assets with sufficient completeness, quality, and metadata to facilitate discovery and collaboration in support of answering key agency questions and meeting stakeholder needs.
17. **Recognize the Value of Data Assets:** Assign value to data assets based on maturity, key agency questions, stakeholder feedback, and applicable law and regulation to appropriately

prioritize and document resource decisions.

18. **Manage with a Long View:** Include data investments in annual capital planning processes and associated guidance to ensure appropriated funds are being used efficiently to leverage data as a strategic long-term asset.
19. **Maintain Data Documentation:** Store up-to-date and comprehensive data documentation in accessible repositories to facilitate use and document quality, utility, and provenance in support of informing key agency questions and meeting stakeholder needs.
20. **Leverage Data Standards:** Adopt or adapt, create as needed, and implement data standards within relevant communities of interest to maximize data quality and facilitate use, access, sharing, and interoperability.
21. **Align Agreements with Data Management Requirements:** Establish terms and conditions for contracts, grants, cooperative agreements, and other agreements that meet data management requirements for processing, storage, access, transmission, and disposition.
22. **Identify Opportunities to Overcome Resource Obstacles:** Coordinate with stakeholders to identify mutually-acceptable cost recovery, shared service, or partnership opportunities to enable data access while conserving available resources to meet user needs.
23. **Allow Amendment:** Establish clear procedures to allow members of the public to access and amend federal data about themselves, as appropriate and in accordance with federal laws, regulations and policies, in order to safeguard privacy, reduce potential harm from inaccurate data, and promote transparency.
24. **Enhance Data Preservation:** Preserve federal data in accordance with applicable law, regulation, policy, approved schedules, and mission relevance.
25. **Coordinate Federal Data Assets:** Coordinate and share data assets across federal agencies to advance progress on shared and similar objectives, fulfill broader federal information needs, and reduce collection burden.
26. **Share Data Between State, Local, and Tribal Governments and Federal Agencies:** Facilitate data sharing between state, local, and tribal governments and the Federal Government, where relevant and appropriate and with proper protections, particularly for programs that are federally funded and locally administered, to enable richer analyses for more informed decision-making.

## Promoting Efficient and Appropriate Data

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27. **Increase Capacity for Data Management and Analysis:** Educate and empower the federal workforce by investing in training, tools, communities, and other opportunities to expand capacity for critical data-related activities such as analysis and evaluation, data management, and privacy protection.
28. **Align Quality with Intended Use:** Data likely to inform important public policy or private-sector decisions must be of appropriate utility, integrity, and objectivity.
29. **Design Data for Use and Re-Use:** Design new data collections with the end uses and users in mind to ensure that data are necessary and of high enough quality to meet planned and future agency and stakeholder needs.

30. **Communicate Planned and Potential Uses of Data:** Review data collection procedures to update and improve how planned and future uses of data are communicated, promoting public trust through transparency.
31. **Explicitly Communicate Allowable Use:** Regularly employ descriptive metadata that provides clarity about access and use restrictions for federal data, explicitly recognizes and safeguards applicable intellectual property rights, conveys attribution as needed, and optimizes potential value to stakeholders to maximize appropriate legal use.
32. **Harness Safe Data Linkage:** Test, review, and deploy data linkage and analysis tools that use secure and privacy-protective technologies to address key agency questions and meet stakeholder needs while protecting privacy.
33. **Promote Wide Access:** Promote equitable and appropriate access to data in open, machine-readable form and through multiple mechanisms, including through both federal and non-federal providers, to meet stakeholder needs while protecting privacy, confidentiality, and proprietary interests.
34. **Diversify Data Access Methods:** Invest in the creation and usability of multiple tiers of access to make data as accessible as possible while minimizing privacy risk and protecting confidentiality.
35. **Review Data Releases for Disclosure Risk:** Review federal data releases to the public to assess and minimize the risk of re-identification, consistent with applicable laws and policies, and publish reviews to promote transparency and public trust.
36. **Leverage Partnerships:** Create and sustain partnerships that facilitate innovation with commercial, academic, and other partners to advance agency mission and maximize economic opportunities, intellectual value, and the public good.
37. **Leverage Buying Power:** Monitor needs and systematically leverage buying power for private-sector data assets, services, and infrastructure to promote efficiency and reduce federal costs.
38. **Leverage Collaborative Computing Platforms:** Periodically review and optimize the use of modern collaborative computing platforms to minimize costs, improve performance, and increase use.
39. **Support Federal Stakeholders:** Engage with relevant agencies to share expert knowledge of data assets, promote wider use, improve usability and quality, and meet mission goals.
40. **Support Non-Federal Stakeholders:** Engage with industry, academic, and other non-federal users of data to share expert knowledge of data assets, promote wider use, improve usability and quality, and advance innovation and commercialization.

## Actions

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## Agency Actions

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<i> <ol start=1> <li>Identify Data Needs to Answer Priority Agency Questions</li> <li>Constitute a Diverse Data Governance Body</li> <li>Assess Data and Related Infrastructure Maturity</li> <li>Identify Opportunities to Increase Staff Data Skills</li> <li>Identify Priority Data Assets for Agency Open Data Plans</li> <li>Publish and Update Data Inventories</li> </ol> </i>

## Community of Practice Actions

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<i> <ol start=7> <li>Launch a Federal Chief Data Officer Council</li> <li>Improve Data and Model Resources for AI Research and Development</li> <li>Improve Financial Management Data Standards</li> <li>Integrate Geospatial Data Practices into the Federal Data Enterprise</li> </ol> </i>

## Shared Solution Actions

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<i> <ol start=11> <li>Develop a Repository of Federal Enterprise Data Resources</li> <li>Create an OMB Federal Data Policy Committee</li> <li>Develop a Curated Data Skills Catalog</li> <li>Develop a Data Ethics Framework</li> <li>Develop a Data Protection Toolkit</li> <li>Pilot a One-Stop Standard Research Application</li> <li>Pilot an Automated Tool for Information Collection Reviews that Supports Data Inventory Creation and Updates</li> <li>Pilot Enhanced Data Management Tool for Federal Agencies</li> <li>Develop Data Quality Measuring and Reporting Guidance</li> <li>Develop a Data Standards Repository</li> </ol> </i>

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