THE CENTER FOR
OPEN DATA ENTERPRISE

Tracking Federal Spending:
An Open Data Roundtable with the
U.S. Department of the Treasury

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Special thanks to Amy Edwards for her initiative and ongoing support.

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FOREWORD

More than 225 years ago, the Department of the Treasury was established to collect, safeguard and disburse public money and account for its collections and payments. We published the first Monthly Treasury Statement in 1789 and over time we have expanded our work to include the Daily Treasury Statement and the Financial Report of the U.S. Government. And now Treasury is working to improve transparency for all federal spending through the implementation of the Digital Accountability and Transparency Act of 2014 (DATA Act).

The DATA Act provides a unique opportunity to unlock the spending data across the Federal government and access it in new ways that will create public value. Our long-term goal is to capture and make available financial data to enable the data consumers to follow the lifecycle of Federal spending – from appropriations to the disbursements of grants, contracts and administrative spending. Technology has advanced to allow us to provide more transparency than our founding fathers could have imagined – and our challenge is to connect this data and allow it to be exchanged to inform agency management decisions, stimulate innovation and provide greater transparency for the public. Better data leads to better decisions and ultimately a better government.

We were pleased to partner with the Center for Open Data Enterprise to co-host this roundtable in November 2015 to better understand the needs of the users of federal spending data. We have already acted on some of the terrific ideas offered by our data consumers and we look forward to reviewing all of the findings included this report.

David A. Lebryk
Fiscal Assistant Secretary
U.S. Department of the Treasury

ACRONYMS

ACT-IAC	American Council for Technology - Industry Advisory Council
API	Application Programming Interface
BEA	Bureau of Economic Analysis
BLS	Bureau of Labor Statistics
CBO	Congressional Budget Office
CDERL	Common Data Element Repository Library
DAP	(HHS) DATA Act Program Office
DATA Act	Digital Accountability and Transparency Act
DUNS	Data Universal Numbering System
EIN	Employer Identification Number
FAADS	Federal Assistance Award Data System
FBO	Federal Business Opportunities
FFATA	Federal Funding Accountability and Transparency Act
FFR	Federal Financial Reporting
FITARA	Federal Information Technology Reform Act
FOIA	Freedom of Information Act
FPDS (-NG)	Federal Procurement Data System (- Next Generation)
GAO	Government Accountability Office
GIG	Grants Information Gateway
HHS	Department of Health and Human Services
HSGAC	Homeland Security and Governmental Affairs Committee
IAC	Inter-agency Advisory Committee
IBIQ	Interstate Benefit Inquiries
JCT	Joint Committee on Taxation
LEI	Legal Entity Identifier
NASACT	National Association of State Auditors, Comptrollers and Treasurers
OMB	Office of Management and Budget
SAO	Senior Accountable Official
SAM	System for Award Management
TFM	Treasury Financial Manual
USAID	United States Agency for International Development
USSGL	United States Standard General Ledger

INTRODUCTION

On November 10, 2015, the U.S. Department of the Treasury and the Center for Open Data Enterprise co-hosted an Open Data Roundtable in Washington, DC. The Roundtable focused on federal spending data – information about how the federal government spends taxpayer funds – and the ways that this data can be made more accessible, discoverable, and usable. The Roundtable brought together experts within Treasury and the Office of Management and Budget (OMB) responsible for the release of federal spending data with a range of individuals and organizations that use federal spending data. These included NGOs that work on government transparency and accountability; analytical, consulting, and financial companies; state government representatives; and other data stakeholders.

This event was part of the Open Data Roundtable Series conducted by the Center for Open Data Enterprise to facilitate the use of open data from governments. Open data – free data, accessible online, that anyone can use and republish without restrictions – is being recognized as a major public resource. The Roundtables are action-oriented dialogues that bring together government agencies and the organizations that use their data.[1] These dialogues between data experts inside and outside of government are designed to help extract the value of each agency's data reserves.

This report combines participant observations, feedback, and suggestions on the topics discussed at the event. It is being released as a public document to encourage further input, dialogue, and improvements in open data. It is designed to be useful for officials at Treasury and other government agencies, users of federal spending data, and members of the media and the general public.

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1   The Open Data Roundtables were originally launched as an initiative of The GovLab at New York University.

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BACKGROUND: FEDERAL SPENDING DATA

The Roundtable was planned and held as part of a larger effort by the Department of the Treasury (Treasury) to increase awareness and understanding of federal spending data, to learn from the experiences of key data stakeholders, and to develop ongoing communication channels to help implement the Digital Accountability and Transparency Act (DATA Act). The DATA Act, which was signed by the President in May 2014, sets out extensive requirements for the reporting, standardization, and publication of federal spending data. By requiring all federal agencies to submit their spending data to Treasury in standardized, compatible formats – with a deadline of May 2017 – the Act aims to improve data quality. The Department of the Treasury and the Office of Management and Budget (OMB) are jointly responsible for administering the Act.

The DATA Act builds on earlier legislation, particularly the Federal Funding Accountability and Transparency Act of 2006 (FFATA). FFATA required that federal contract, grant, loan, and other financial assistance awards of more than $25,000 be displayed on a searchable, publicly accessible website, USAspending.gov, to give the American public access to information on how their tax dollars are spent. Federal agencies are required to report who received the award, their location, the amount of the award, and other information. In 2008, FFATA was amended to require recipients of federal funds to report details on their first-tier subcontractors and subgrantees as well.

The DATA Act goes further by requiring that federal spending be reported at the agency level, and by requiring that spending data be reported in a standardized form. At the same time, Treasury is developing USAspending.gov as a tool for spending transparency that will support the DATA Act. In 2014, OMB shifted responsibility for USAspending.gov to Treasury from the General Services Administration. Further information on federal spending data and the DATA Act can be found in Appendix A.

Better spending data can make the government more transparent and accountable, and help the public, watchdog organizations, journalists, government bodies, and academic researchers monitor how federal funds are used. Congress can monitor how actual expenditures by agencies track to the planned expenditures. Better data makes it possible to analyze unspent grants, data discrepancies, and sub-reporting issues.

Open federal spending data also helps current and potential recipients of federal funds, including the private sector, states, and nonprofits applying for grants. It helps contractors understand how government agencies are spending funds helps them understand their competitive position, which is especially important for small businesses competing for federal dollars. Grant applicants and nonprofits can see how federal grants are being awarded at the state and local level and understand the context for their proposals. Citizens can learn how federal dollars are spent on local services in their communities, such as disaster relief, housing, and programs for the elderly.

THE SPENDING TRANSPARENCY OPEN DATA ROUNDTABLE

The Roundtable included presentations on the application of federal spending data, updates on Treasury programs to improve open data, and group discussions.

A key goal for Treasury is to improve USASpending.gov, the public website that displays federal spending data. Treasury is building a new public website that will meet DATA Act requirements.

At the Roundtable Christina Ho, Deputy Assistant Secretary, Accounting Policy and Financial Transparency, U.S. Department of the Treasury, presented the first public view of the beta version of the new federal spending website, OpenBeta.USAspending.gov, that will be fully launched in May 2017. Her presentation highlighted several features of this new website:

- Data: The priority is to make data accessible. Ultimately all the data available on USAspending will be accessible on the new site in fully downloadable formats.

- Search: One of the most important functions for users. Treasury would like feedback on the options currently provided: advanced search, live filters and keyword search, search builder, SQL search for more advanced users.

- Feedback: Users can provide feedback on the Community page with no registration required.

- Gallery: This provides a place for others to contribute visualizations of the data available. A few examples are already online: Federal Contract Explorer, Federal Grants Explorer.

- Developer page: Data is available through an API.

The Roundtable also included presentations from David Lebryk, Fiscal Assistant Secretary, U.S. Department of the Treasury, and Corinna Zarek, Advisor to the U.S. Chief Technology Officer, White House Office of Science and Technology Policy. Corinna Zarek stressed that improving federal spending data is a high priority for the White House: The U.S. National Action Plan for Open Government includes commitments to improve federal spending data through the DATA Act.

After the opening presentations, Roundtable attendees participated in discussion groups of eight to ten people each for two breakout sessions. During the first session, participants were asked to discuss key data challenges, successes, and opportunities for improvement. In the second session, participants were asked to identify next steps and potential strategies for overcoming data challenges.

FINDINGS

The following sections summarize observations on how Treasury is helping their "data customers" use open data, current challenges, and ways that Treasury can improve its data, based on user needs. They do not represent the views of all participants, the Department of the Treasury, or all users of Treasury data. They present a range of ideas for improving federal spending data, including current successes, challenges, and possible solutions.

SUCCESSES

The Roundtable presentations and group discussion identified a number of successes, in addition to the launch of the new website, that have already been achieved with federal spending data. Overall, participants noted that fiscal transparency has become a centralized, flagship effort for open government in the U.S. This commitment has included a growing effort to standardize reporting on federal spending, an essential step, mandated by the DATA Act, to make spending data clear and comparable across agencies. Treasury is moving towards implementing a common taxonomy (i.e., ensuring that any given data field means the same thing across agencies). The development of standards, which will apply to both federal agencies and possibly to the recipients of federal funds, has been highly participatory, with stakeholder engagement through town halls, outreach, and GitHub.[2]

CHALLENGES

During the Roundtables the Center for Open Data Enterprise has held with federal agencies, participants have identified several ways that government agencies can make their open data programs more user-centered. These strategies can make it easier for companies, nonprofit organizations, academic institutions, or other government agencies to use open government data. Both the challenges and solutions cover four basic areas:

> ❖ Making Data More Discoverable and Accessible
>
> ❖ Improving Data Quality and Relevance
>
> ❖ Making Datasets Interoperable (possible to compare and combine)
>
> ❖ Engaging with Data Users

Here are several challenges that Treasury faces and some possible solutions discussed at the Roundtable. The section on Next Steps at the end of this report describes progress that has been made on several of these issues since November 2015.

Making Data More Discoverable and Accessible

In general, access to federal spending data has improved through better user interfaces, more available data, and geographic displays. Application Programming Interfaces (APIs) are also available to connect spending data with other datasets such as Census data. Still, a number of challenges remain. Specific challenges included:

- **Making the data digestible to a range of different users.** Data could be provided in a way that makes it more useful to a wide range of audiences. Some will want access to the raw data, while others will want analytics/visualization platforms to work from.

- **Providing consistent access through APIs across all agencies.** While an increasing number of agencies have APIs for their data, these APIs could be developed with consistent best practices, and more APIs could be

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2   DATA Act Information Model Schema v1.0, Federal Spending Transparency Collaboration Space, *http://fedspendingtransparency.github.io/data-exchange-standard.*

developed. The Federal Procurement Data System (FPDS), for example, uses a data feed that only allows users to access a limited number of records at a time, rather than an API that would allow the use of data in greater volume. In addition, agencies could use their own APIs to make contract data available to the FPDS system, which would make it much easier to access and analyze data across agencies, or across bureaus within a single agency.

- **Ability to see displays by type of data.** While it is possible to track federal grant or payment information by type of recipient – a helpful feature – the use of overlapping sub-categories for "type of recipient," or "contractor type," results in confusing and inaccurate financial totals. For example, nonprofit organizations make up one sub-category for type of recipient, while higher education institutions are in a separate category, even though these sub-categories overlap. Similarly, overlapping sub-categories for "contractor type" include educational institutions, hospitals, sheltered workshops, minority institutions, historically Black colleges or universities, and nonprofit organizations.

Improving Data Quality and Relevance

Improving the accuracy and completeness of federal spending data is a key objective of the DATA Act. Better quality data will make it easier to search across agencies, and will help ensure that a query provides compatible results from different agencies' datasets. The agencies will also have an incentive to provide better data because they know the data will have a larger public audience. One caveat: changes under the DATA Act will improve the quality of federal data going forward, not retroactively. Specific challenges included:

- **Accurate, complete, and timely data input.** The federal spending database relies on input from agencies, which is prone to human error. In addition, many agencies do not post their data as comprehensively or rapidly as recommended.

- **Consistency of agency and centralized data.** Currently, data held by agencies does not match the data published on USASpending.gov. A major goal of the DATA Act is to ensure that agency data is submitted to Treasury in a consistent and centralized way.

- **Accuracy of reporting on the nonprofit sector.** USASpending.gov does not provide a clear and accurate picture of federal funding of the nonprofit sector. Nonprofits typically receive federal support through sub-awards from state and local governments to provide services to communities.The current system that reports sub-awards on USAspending.gov is incomplete and can be inaccurate, thus severely hampering the tracking of federal funding to the nonprofit sector.[3]

- **Granularity of data.** Federal spending data would need to be detailed at a more granular level to be as useful and relevant as possible. While agencies have procurement data at a line-item or "checkbook" level, that detail is not available in the FPDS. The centralized federal spending database does not make it possible to find data on sub-awards, drill down on what is meant by "management consulting," or drill down beyond NAICS codes (the standard classification system for businesses), which is necessary to fully identify services procured and identify overlaps.

- **Correcting data on projects tracked under multiple names.** In some cases, program managers may report expenditures on a single project under different project names in order to justify spending more money.

- **Clear data provenance.** Changes to historical data should be visible, including dates associated with uploads

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3   A 2009 report from the General Accounting Office found that almost 15% of nonprofits are misclassified in the FAADS and more than 25% are misclassified in the FPDS-NG. (See "NONPROFIT SECTOR: Significant Federal Funds Reach the Sector through Various Mechanisms, but More Complete and Reliable Funding Data Are Needed" (GA0-09-193).

or refreshes of the data and reasons for changes.

- **Improving geospatial data.** The data often reflect the headquarters of a company that has received federal funds, rather than the location where the funded work is conducted.

- **Providing actuals vs. obligations.** Budget numbers should be posted as well as actual expenditures to track expenses relative to expectations over time.

- **Fears of putting out imperfect data.** A culture change is needed to help agencies recognize that releasing imperfect data can improve data quality through feedback from industry and the public.

Making Datasets Interoperable

Datasets become much more useful when they can be combined with other kinds of data or compared with data on similar subjects from other sources. Data on federal spending can be standardized and published in ways that are designed to make combining and comparing datasets easier and more accurate. Specific challenges included:

- **Systems of identifiers.** Better, consistent, nonproprietary identifiers for legal entities can help users compare and combine data from different datasets. Consistent identifiers can ensure that all data on a given company is available and searchable by using a single company name.

- **Connecting agency financial systems with data on procurement/grants/awards.** Data can provide specific information about what federal agencies are purchasing. The data may now simply show which company received federal funding rather than what the funding was for – such as "Lockheed Martin" rather than "F-35." More specific data would also make it possible to track the benefits as well as the costs of federal spending.

- **Linking spending data to planning, performance, and outcomes.** Data could be improved to connect what an agency plans to spend on a program, actual expenditures, and programmatic outcomes. This would be of interest to both citizens and watchdog groups (to track whether a project is over budget, lagging behind schedule, etc.) and to current and potential contractors.

- **Consistency in data fields and data definitions.** Terms as basic as "expenditure" are not defined consistently across agencies. Data fields such as "as-of date," 'type of spending," and others could be made consistent as well.

- **Reporting and comparing data across multiple states/cities.** It is not currently possible to combine or compare data from different states. This makes it impossible to get a complete view of a multistate program (e.g. a federal highway project), or to compare similar programs in different cities or different states.

- **Overcoming "cultural challenges" and "silo-ing" within and between agencies.** In particular, agreements on common taxonomy/definitions will make "apples to apples" comparisons possible between agencies.

Engaging with Data Users

The Department of the Treasury is committed to making federal spending data as useful as possible, and plans to engage with stakeholders inside and outside of government to achieve that goal. Treasury hopes that the data will serve the needs of sophisticated data users, the general public, and federal agencies themselves. While GitHub is now a channel for engagement and input, it is not widely used by everyone. The new website will use visualizations to make the data accessible, and will have a moderator to encourage two-way dialogue. Specific challenges included:

- **Understanding complex data.** Visualizations that provide context can help interpret data.

- **Engaging state/local governments and empowering local communities.** Especially important for using analytics,e.g. calculating and comparing dollars/citizen between Alabama and Texas.

- **Defining success and communicating the plan for May 2017 and beyond.** Plus, managing public expectations for spending transparency data. The new standardized data reported to Treasury and OMB in May 2017 will only be one quarter's worth of reported information, and may not report all measures at first.

- **Clear messaging for agencies.** Agencies will need guidance on how to interpret and implement the DATA Act. Dialogue across government can help agency CFOs realize the benefits of improved data and encourage benchmarking across agencies.

- **Coordinating feedback across different platforms/channels and audiences.** While there are several ways to access federal spending data, there are only limited ways to give feedback on its quality and usability. Better coordination would improve Treasury's ability to benefit from user feedback.

- **Identifying successes/examples of use of federal spending data.** While spending data is widely recognized as critical government information, it is not always easy to know exactly how it is being used. More and better examples would help guide new users in applying this data.

- **Identifying data owners in government including Strategic Accountability Officers in federal agencies.**

PROPOSED SOLUTIONS

The following are proposals provided by different participants and working groups at the Roundtable.

Making Data More Discoverable and Accessible

1. **Standards for Application Programming Interfaces (APIs) by development and documentation**

    API's make it relatively easy for developers to access and use any federal agency's data. While Treasury has APIs for some of its data, they could be improved and more broadly applied.

    Proposal: Develop functional, well-documented, quality-checked JSON APIs that allow for bulk downloads, with automatic data updates. Key technical improvements would include an API for only new data/updates (can be completed in one year or less) and automated discovery tools.

    Desired impact: Improved quality of APIs and increased use of federal spending data in new applications.

2. **Improved data descriptions and definitions**

    Even basic financial terms are not used consistently throughout federal spending data. As a result, it can be difficult for users to understand the meaning of the data or access the most useful information in a dataset. Better, consistent data descriptions and definitions will help make the data easier to access and use.

    Proposal: Undertake an effort to improve key data descriptions and definitions.

    Desired impact: Make it easier for users to access and understand key data and present the data in a consistent context to help prevent misinterpretation.

Improving Data Quality and Relevance

3. **A Data Completeness Dashboard**

    Under the DATA Act, federal agencies are required to provide complete and accurate data to Treasury for

publication by May 2017. Several factors may keep agencies from providing complete data. Agencies may be resistant to cooperating. They may deal with classified datasets that pose challenges in public disclosure. Agencies may also have limited IT capacity to provide complete data in usable formats.

Proposal: To help agencies as they proceed, provide a visible dashboard using something like a "thermometer" graphic, or a needle, showing progress toward the goal of 100 percent complete data. Roundtable participants envisioned several options for action:

i. Treasury produces a dashboard publicly to increase accountability, showing agencies that don't provide complete data.

ii. Treasury produces a dashboard but only shares it privately with the agencies until May 2017. This would show agencies how they're progressing and provide a heads-up on the criticism they may receive after May 2017 if data is not complete when it is published, incentivizing and providing an opportunity for agencies to improve their data prior to publication.

iii. An NGO, such as the Sunlight Foundation or U.S. Public Interest Research Group (US PIRG), creates the dashboard.

There are models for this kind of dashboard. At the federal level, OMB has graded agencies on how they meet the requirements of the Federal Information Technology Reform Act (FITARA). While most agencies have received low grades, OMB acknowledges that the Act is still new and agencies are still working on programs for compliance.[4]

The dashboard would require leadership and technical work from Treasury and collaboration with federal agencies. While NGOs could create such a dashboard after agency data is made public, there are two reasons why it may be preferable for Treasury to lead this effort. First, by sharing the results of the dashboard with agencies privately, Treasury could help agencies improve their performance before data is made public in May 2017. And second, Treasury can ensure that agencies are evaluated neutrally and fairly.

Desired impact: Impetus for federal agencies to improve the completeness of the spending data they publish. Depending on how it is implemented, the dashboard could either provide a public incentive for agencies to improve their data, or could be a tool for Treasury to work with agencies in a less public way.

4. **Requirements for recipients of federal funds to report scopes of work (SOWs)**

Even with better data on federal spending and recipients of government contract and grants, it is difficult to understand exactly how money is being spent. To address this issue, federal agencies could have recipients publish their Scopes of Work. These are already considered public information, and are often provided by request through the Freedom of Information Act (FOIA), after redaction of confidential information.

Proposal: Make the SOW part of the reporting requirement for contractors, with some exceptions, and have the contractors redact the SOWs themselves at the time of publication. The SOWs would be linked to solicitation documents, grant programs, and other relevant information. The solution would include linking allocations to solicitation documents.

Desired impact: Improve the quality and completeness of procurement and grant spending data. This would have the additional benefit of saving time and effort for FOIA officials.

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4   Majority of agencies get D or lower on first FITARA report card, Fedscoop, November, 2015, _http://fedscoop.com/majority-of-agencies-get-d-or-lower-on-first-fitara-report-card._

Making Datasets Interoperable

5. **Utilize accounting software providers to help improve consistency and comparability of spending data**

    Agencies frequently use different, often customized software platforms.

    <u>Proposal</u>: Incentivize the major software providers to work with government financial officials to standardize key information and fields as a condition for their next contract(s). Standardizing elements of these platforms would improve efficiency while making it easier to compare different agencies' data. There are only three significant Enterprise Resource Planning (ERP) providers for federal spending data.

    Participants recommended using the State of Ohio as a model. Ohio ensured the comparability of city data in the following way:

    - The state built a cloud-based platform that local governments could use cost-free to upload, manage, and make public their spending data.

    - The state worked with accounting software vendors and local governments to make sure their varied accounting systems mapped the fields of interest into the state-level system. Local governments were not all required to use the same accounting system, but were required to provide data fields that the state needs.

    - The availability of data began to factor into local elections (e.g., voters would want to see spending data on the state's site before voting to pass a bond for the school board).

    - The state has run this program with a focus on stakeholder engagement and measurement of success. State officials have engaged fiscal officers and providers of Enterprise Resource Planning systems in the platform and are working to engage universities and pension funds as well. The state is also conducting a survey to see whether public records requests have been reduced in the wake of these financial data being available online.

    <u>Desired impact:</u> Compatibility and comparability of data across agencies; more efficient management of federal spending data, in a technically sound way.

6. **A mapping of identifiers, developing a new system onto which the Data Universal Numbering System (DUNS) identifiers are charted**

    The DUNS numbers, provided by Dun & Bradstreet, are used to identify entities that do business with the federal government. This proprietary system has a significant cost and is not completely accurate.

    <u>Proposal</u>: Develop an open source alternative identifier system, led by government, and a process for transitioning current and historical data to that system. The open source approach is important not only to save money, but because it will avoid the risk of "locking in" a proprietary system that may become obsolete, or could become unusable after the government contract with a software supplier runs out.

    Treasury and OMB have committed to evaluating different approaches to a new identifier system,[5] including the Legal Entity Identifier (LEI)[6] system now being used by many countries. The agencies committed to solicit ideas from private companies, nonprofits, and federal government providers, among others, and are expected

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5   Elements: Awardee/Recipient Unique Identifier, Awardee/Recipient Legal Entity Name, Ultimate Parent Unique Identifier Number, Ultimate Parent Legal Entity Name, Federal Spending Transparency Collaboration Space, *http://fedspendingtransparency.github.io/whitepapers/unique-id-business-name.*

6   Legal Entity Identifier (LEI), Office of Financial Research, *https://financialresearch.gov/data/legal-entity-identifier.*

to complete the analysis of options by the fall of 2017. Whichever identifier system is ultimately chosen, it needs to be developed in a way that makes it possible to transition data from the current DUNS.

Rather than building the new system on top of DUNS and removing DUNS later, the new system should be built separately with a plan for mapping data from the DUNS system to the new one. It could be started as a pilot program and treated as a research project. (The Virginia State Corporation Commission is a possible model.) The new system should be able to show relationships between parent entities, subsidiaries, and other aspects of corporate hierarchy.

Desired impact: A transition to consistent entity identifiers, a key part of data interoperability, in a cost-effective and efficient way.

Engaging with Data Users

7. **Multiple feedback channels.**

Data users now access federal spending data through a number of channels, but can only give feedback on the data through one section of USAspending.gov.

Proposal: Develop mechanisms to allow users to provide feedback across multiple channels, and integrate these on OpenBeta.USASpending.gov with the current USAspending site. Treating feedback as a user-experience and content-strategy challenge will ensure the most effective ways to encourage, gather and process feedback. Treasury could leverage experts on content strategy and user experience, including from 18F.

Note: Participants estimated that it should be possible to complete this project within three months.

Desired impact: Increased amount of feedback received.

8. **Develop the new website as a multi-use platform for different audiences**

The new federal spending website should serve a wide variety of stakeholders and goals, yet Treasury does not have a complete understanding of all the needs of current federal spending data users. There are also limited resources to develop the website. Treasury could undertake a project to create new technical capacities and tools to meet the needs of its data users.

Proposal: Treasury can develop a multi-stage project to address different audiences through its website. The Department would first need to determine:

- Who the major kinds of "customers" are for federal spending data.

- Which users Treasury needs to serve directly, and which ones can use the larger open data ecosystem that Treasury can help create.

- What the platform needs to be useable by key stakeholders.

Participants suggested the following key user groups, and related data experiences:

- Third parties/businesses/developers: APIs.

- Members of the public: website and visualization.

- Internal government: data download in Excel and CSV formats.

Desired impact: Increase the use of federal spending data as a public resource by more audiences, in more effective ways.

9. **Data visualizations**

   Proposal: Integrate flexible, customizable data visualizations into the OpenBeta.usaspending.gov website.

   Desired impact: Public has a rapid understanding of complex data; reduced likelihood of misrepresentation/misinterpretation; increased traffic to the website as users explore federal spending data.

10. **Use Challenges to engage developers**

   Proposal: Use two week long challenges as a carrot for the developer community to build tools that would prove useful for agencies, with the understanding that a large procurement might come out of the challenge. (Model: Open FDA challenge.)

   Desired impact: Development of tools useful for federal data stakeholders.

Cross-cutting solutions

11. **Develop a clear governance process or processes to deal with ongoing changes to standards or approaches to data management.** Beyond providing a channel for feedback, citizens and organizations with an interest in the data need to know how to propose changes and how new changes will affect them.

12. **Develop a strategy to promote culture change within agencies to support the release of open data.**

   Many agencies have seen the federal Open Data Policy as an unfunded mandate. Specific issues include: lack of incentives, fear of making potentially imperfect data public, compliance costs, and general lack of collaboration among agencies to develop shared solutions.

   Proposal: Participants suggested the Department of the Treasury could encourage culture change through a number of strategies:

   - Promote benefits of open data to government, including better agency decision-making through a more integrated view of agency operations.

   - Identify potential procurement savings through economy of scale: Agencies can work together to coordinate purchasing. Involve procurement/acquisition officers and CFOs.

   - Challenge agencies to improve accuracy and timeliness of spending data. Define success metrics and use a scorecard or other method to recognize and celebrate success.

   - Develop shared best practices for agencies, with participation of Chief Data Officers and Chief Operating Officers. Publish best practices and hold workshops between agencies for knowledge sharing and training.

   Desired impact: A culture that promotes open data, especially federal spending data across government.

Addressing issues in nonprofit data

The Roundtable prompted members of the Nonprofit Data Project, which had a representative in attendance, to develop proposed solutions to the issues regarding nonprofit organizations that the Roundtable identified. The Nonprofit Data Project includes The Aspen Institute, Foundation Center, GuideStar, Indiana University, Johns Hopkins University, and the Urban Institute. Their proposals address challenges in making data more discoverable and accessible and improving quality, relevance, and interoperability. A memo from the Nonprofit Data Project written in response to the Roundtable is included as Appendix B.

NEXT STEPS

Since the November 2015 Roundtable, the federal government has taken steps to address some of the challenges and potential solutions that were flagged at the event. On November 18, the Department of Defense, General Services Administration, and NASA proposed a new rule that would remove the requirement for federal agencies to use the DUNS number as an identifier in procurement.[7]

Most significantly, on April 29, 2016, OMB and Treasury issued the DATA Act Information Model Schema (DAIMS) v1.0. The DAIMS "gives an overall view of the hundreds of distinct data elements used to tell the story of how federal dollars are spent. It includes artifacts that provide technical guidance for federal agencies about what data to report to Treasury including the authoritative sources of the data elements and the submission format. The DAIMS also provides clarity on how the public can better understand the inherent complexity of the data."[8]

The DAIMS addresses many of the needs identified by participants in this Roundtable, including:

- Ensuring that agencies submit their data to Treasury in a consistent way.

- Making it possible for agencies to post their data more accurately and comprehensively.

- Facilitating the posting of agency budget numbers as well as actuals for greater transparency.

- Connecting agency financial systems with data on procurement, grants, and awards.

- Providing more consistent definitions of major data fields.

- Continuing to improve key data descriptions, especially for program activities.

In addition to DAIMS, Treasury officials have taken several steps to follow up on the findings of this Roundtable. As Roundtable participants suggested, Treasury redesigned the Federal Spending Collaboration Space (Github) site to make it easier to find key information and to provide input on Treasury's federal spending data and the future USASpending.gov site. This improved feedback can help strengthen user engagement and improve data quality.

The Roundtable successfully launched OpenBeta.USASpending.gov and provided immediate input into this critical new resource. This launch included opening the Community section of the site, which has become a robust forum for discussion of OpenBeta.USASpending.gov and ways to improve it. The website allows the public to make suggestions on site design, review the progress of the development team, and comment on components of the site as they are developed.

The Department of the Treasury has invited any interested parties inside or outside of government to suggest ways to improve the quality, publication, and dissemination of spending transparency data. In addition to inviting comment on OpenBeta.USAspending,gov, Treasury has worked with OMB to develop the Federal Spending Transparency Collaboration Space[9] which publishes proposed definitions for data standards and the DATA Act Schema to collect public input. The site is being used to solicit feedback from external stakeholders and to better understand how the proposed standards may impact state and local governments and other government partners.

With the mandate of the DATA Act and a May 2017 deadline, Treasury and the agencies that provide spending data will continue to build this important national data resource. Better federal spending data is critical for NGOs that

7   Federal Acquisition Regulation; Unique Identification of Entities Receiving Federal Awards, Federal Register, November 2015, *https://www. federalregister.gov/articles/2015/11/18/2015-29414/federal-acquisition-regulation-unique-identification-of-entities-receiving-federal-awards*.
8   DATA Act Information Model Schema v1.0, Federal Spending Transparency Collaboration Space, *https://fedspendingtransparency.github.io/ data-model.*
9   Federal Spending Transparency Collaboration Space, *https://fedspendingtransparency.github.io.*

monitor government spending and accountability, several of whom were represented at the Roundtable. It will be important for state governments and other recipients of federal funds. And it will have high value for a wide variety of companies in the private sector.

APPENDIX A:
ABOUT FEDERAL SPENDING TRANSPARENCY DATA

FEDERAL SPENDING DATA: USASPENDING.GOV

All the prime recipient transaction data on USAspending.gov is reported by the federal agencies making contract, grant, loan, and other financial assistance awards. Sub-recipient transaction data is reported by the prime recipients.

What data is displayed on USAspending.gov?

- All prime recipient contract transactions of more than $3,000.

- All grant, loan, and other financial assistance transactions of more than $25,000.

- First-tier sub-recipient contract, grant, and loan transactions of more than $25,000.

- Micro-purchases of less than $3,000 made with a federal credit card are collected by the General Services Administration and displayed monthly in a SmartPay spreadsheet.

What data is not displayed on USAspending.gov?

- Federal salaries and compensation

- Individuals' names receiving direct assistance payments, such as benefits or entitlements

- Award information that could result in a security risk to the recipient

- Tax credit data

- Appropriation amounts

Data Sources

- Federal Procurement Data System – Next Generation (FPDS-NG) -- Prime contract transaction data may be submitted through agency contract financial system to FPDS-NG to be published on USAspending.gov. FPDS-NG is operated by the General Services Administration (GSA).

- Award Submission Portal (ASP) – Financial assistance transactions on awards of more than $25,000 are reported to the ASP by the agencies via file upload. The files are often created from the agencies grant systems. Data is then uploaded to USAspending.gov. The ASP is operated and managed by the Department of the Treasury's Bureau of the Fiscal Service (Fiscal Service).

- Federal Funding Accountability and Transparency Act Subaward Reporting System (FSRS) -- Prime recipients are required to report awards to first-tier sub-recipients to FSRS for display on USAspending.gov. FSRS is operated and maintained by GSA.

- SmartPay – Data for micro-purchases using a federal credit card is collected by GSA and provided to Fiscal Services monthly in an Excel spreadsheet.

Types of Awards

- Contracts – Federal awards that include the following types. For definitions, see the Glossary.

- ▸ Competitive or non-competitive
- ▸ Firm-fixed price
- ▸ Cost no fee
- ▸ Cost plus incentive
- ▸ Cost plus fixed fee
- ▸ Fixed price with economic price adjustment

- Grants – Federal awards that require an application process and include payments to non-federal entities for a defined purpose in which services are not rendered to the federal government. Also, includes indirect payments to individuals and insurance.

- Loans – Federal awards that the borrower will eventually pay back to the government. Guaranteed loans require the federal government to pay the bank and take over the loan if the borrower defaults.

- Other Financial Assistance – Includes direct payments to individuals (such as Medicare and food stamps), insurance payments (such as, unemployment benefits, flood insurance), and other types of assistance payments (such as, reimbursements for prescriptions for veterans).

Timing

The data on USAspending.gov is updated daily. Agencies are required to submit data files within 30 days after making an award or after making a modification/transaction to an award, except for the Department of Defense which delays its submission by 90 days to protect operations. However, when specific records are displayed on USAspending.gov depends on when the agency submits files to the data source sites and the processing time required by that site. There could be a latency of one to three days before the files are processed and uploaded to USAspending.gov.

If an agency reports a modification/transaction to an award made in a previous fiscal year, the modification/transaction data is displayed in the fiscal year in which the modification/transaction was made, not in the fiscal year that the original award was made.

SmartPay data is updated monthly.

Background on the DATA Act

In May 2014, President Obama signed the Digital Accountability and Transparency Act of 2014 (DATA Act) (P.L. 113-101) into law. Once implemented, the DATA Act will make Federal spending data more accessible, searchable, and reliable. It will not only make it easier to understand how the Federal government spends taxpayer dollars but will also serve as a tool for better oversight, data-centric decision-making, and innovation both inside and outside of government. The U.S. Department of the Treasury (Treasury) and the Office of Management and Budget (OMB) are leading the government-wide implementation of the DATA Act.

There are several components to the DATA Act:

Setting Data Standards

The overall data standardization effort consists of two parallel, yet related efforts:

1. Setting data standards that improve the quality of Federal spending data; and,

2. Creating a standard data exchange (the way data is submitted) to codify this data in standard computer readable formats.

On August 31, 2015, OMB and Treasury, after consulting with Federal and non-Federal stakeholders, finalized the

definitions of 57 standardized data elements. OMB and Treasury leveraged inter-agency councils to identify data elements and standardized definitions deemed useful across the Federal government. Furthermore, OMB and Treasury used GitHub, a publicly accessible website, to solicit feedback from all non-Federal stakeholders. After rigorous review in inter-agency councils, each data element was posted for a 3-week public input period on Github to ensure that all stakeholders had an adequate opportunity to provide valuable feedback during the data element standardization process the final data standards are posted online.

While these data standards will help to ensure that information will be consistent and comparable, a standard data exchange will make financial management data accessible and reusable. By May 2017, all Federal agencies will provide data for posting on USAspending.gov using a standard data exchange called the "DATA Act Schema." Information on the standard data exchange can be found here DATA Act Schema Summary.pdf

Agency Implementation

On May 8, 2015, OMB issued a memorandum (M-15-12), "Increasing Transparency of Federal Spending by Making Federal Spending Data Accessible, Searchable, and Reliable." This memorandum outlines how Federal agencies will implement the new DATA Act requirements and their ongoing reporting responsibilities for USAspending.gov.

To assist agencies with implementation, OMB and Treasury have also created a playbook of eight recommendations that, if followed together, will help agencies fulfill the requirements of the DATA Act by leveraging existing capabilities and streamlining implementation efforts. As Federal agencies begin implementation, Treasury and OMB will continue to refine the playbook. Information on the playbook can be found here Summary of DATA Act Playbook.pdf.

Collaboration

Successful implementation of the standardized data elements is of the utmost importance to both Federal and non-Federal stakeholders. To help ensure successful implementation of the DATA Act, we rely on feedback from stakeholders inside and outside the Federal government. We've created a collaboration space to foster two-way communication and the open exchange of ideas between Federal and non-Federal stakeholders.

Links to Resources/Addional Information

USAspending.gov (USAspending.gov): This public website was launched in 2007, and already features robust access to federal spending data mandated by the Federal Funding Accountability and Transparency Act of 2006.

Open Beta (openbeta.usaspending.gov): This is the public beta site to collect public input for the next release of USAspending.gov. It includes data that allows the public to test out features and give us feedback on designs and visualizations.

Federal Spending Transparency Collaboration Space: This collaboration space is designed to openly share the process for meeting the new data transparency requirements of the DATA Act, and to engage the public and federal agencies in decision-making along the way.

APPENDIX B:
COMMENTS SUBMITTED BY THE NONPROFIT DATA PROJECT

The following are recommendations developed by the Nonprofit Data Project—an effort of the Aspen Institute's Program on Philanthropy and Social Innovation to bring together the major nonprofit research and data providers in the United States. These key suggestions will address several of the challenges raised in the Roundtable Report, including Making Data More Discoverable and Accessible; Improving Data Quality and Relevance; and Making Data-sets Interoperable.

PROPOSED SOLUTIONS

1. **Match EINs with the IRS Business Master File**

   As the 2009 GAO report, "NONPROFIT SECTOR: Significant Federal Funds Reach the Sector Through Various Mechanisms, but More Complete and Reliable Funding Data are Needed," cited USASpending.gov fails to provide a complete and accurate picture of federal funding in the nonprofit sector. The report detailed how both FAADS and FPDS-NG inaccurately identify nonprofit organizations, with 15% of organizations misclassified as FAADS and more than 25% misclassified in FPDS-NG (pp 16-17).

   Proposal: Matching EINs with the IRS Business Master File, and tagging those entities as tax exempt throughout the USASpending.gov system would be a simple, cost effective validation technique.

   Desired Impact: The approach, recently used by the Bureau of Labor Statistics (BLS) to identify tax-exempt participants in the Quarterly Census of Employment and Wages, would remedy data inaccuracies on the site. BLS worked closely with researchers from Johns Hopkins Center for Civil Society Studies, who originated this approach and demonstrated the value of this methodology for high-quality research results.

2. **Create Data Linkages**

   The potential for USASpending.gov to link to other, rich data sources is great, and would improve the site's usefulness to the public and policymakers.

   Proposal: Include EINs of all tax-exempt entities in the public display and API so that members of the general public, government officials, researchers and policymakers could readily link USA spending to other important data sources.

   Desired Impact: Providing public access to tax-exempt EINs would link that data to a host of sources, which could help policymakers and the public understand the role that federal government funding plays in the overall finances of the nonprofit sector, as well as within different nonprofit sub-fields and specific geographic regions. These data sources include:

   - More than 50 years of data that Foundation Center has collected on more than 80,000 U.S. foundations;

   - Detailed National Tax Exempt Entity (NTEE) and North American Industry Classification System (NAICS)

   - GuideStar's 15 years of digitized IRS Form 990 data and Urban Institute's 30 years of digitized Form 990 data

- IRS' Business Master File, the Statistics of Income File, Return Transaction Files and other key datasets from census.gov and data.gov

3. **Prevent overlap in categories for contractor/grant recipient "types"**

The use of overlapping sub categories for "types of recipient" or "contractor type" on USASpending.gov results in confusing and inaccurate financial totals.

Proposal: USASpending.gov should continue to provide helpful information on contractor and recipient "types," however, address misclassification issues that appear to run throughout the site by distinguishing between "organizational structure" and "organizational ownership" (for nonprofit, for-profit, government, other), "industry" (e.g. hospitals, universities) and "sub-industries" (e.g. historically black universities)

Desire Impact: This, coupled with the matching process described above in the first suggestion, should result in a much more accurate display of data for the nonprofit sector.

APPENDIX C:
ABOUT THE OPEN DATA ROUNDTABLES

DESCRIPTION

The Open Data Roundtables (opendataenterprise.org/convene) developed by the Center for Open Data Enterprise are action-oriented dialogues that bring together government agencies and the organizations that use their data. By hosting the Roundtables, the Center offers a low-tech solution to a high-tech problem. The Roundtables are designed to:

- Identify high-value datasets so agencies can address them as a priority;

- Develop solutions to make data more accurate, complete, and easy to work with; and

- Connect data providers and users for ongoing collaboration

The Center develops the agenda for each Roundtable in collaboration with the agency. Preparation includes research and questionnaires to stakeholders inside and outside government. Each Roundtable combines presentations from agency officials and staff with breakout sessions that bring government and data customers together in groups of eight to ten.

After each Roundtable, the Center for Open Data Enterprise issues a public report summarizing the participants' discussion of data challenges and opportunities, their proposals for solutions, and agencies' commitments to action. The Open Data Roundtables were originally launched as an initiative of the GovLab at NYU and are now run by the Center for Open Data Enterprise.

PREVIOUS ROUNDTABLES

U.S. Department of Commerce and White House Office of Science and Technology Policy

U.S. Department of Agriculture and the White House Climate Data Initiative

U.S. Patent and Trademark Office

U.S. Department of Transportation

U.S. Department of Energy

U.S. Department of Veterans Affairs

PARTICIPANTS

The Roundtable aims to bring together the agency's key data stakeholders, including representatives from companies, nonprofits, academic institutions, other government agencies using their data. Representatives include decision-makers with technical and/or business understanding of how the organizations use government data.

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APPENDIX D:
THE SPENDING TRANSPARENCY ROUNDTABLE

AGENDA

8:30 a.m.	Registration, Coffee and Refreshments
9:00 a.m.	Welcome and Opening Remarks
	David A. Lebryk, Fiscal Assistant Secretary, U.S. Department of the Treasury
9:20 a.m.	Structure of the Day
	Joel Gurin, President, Center for Open Data Enterprise
9:25 a.m.	Overview and Updates on Spending Transparency Improvements
	Christina Ho, Deputy Assistant Secretary, Accounting Policy and Financial Transparency, U.S. Department of the Treasury
10:10 a.m.	Discussion of Spending Transparency Improvements
10:25 a.m.	Break
10:40 a.m.	Session 1: Data Use and Quality
11:40 a.m.	Session Table Reports
12:00 p.m.	Group Discussion: Responses to Table Reports
12:15 p.m.	Networking Lunch
1:00 p.m.	Federal Spending and the Open Government National Action Plan
	Corinna Zarek, White House Office of Science and Technology Policy
1:15 p.m.	Session 2: Solutions to Data Barriers: The DATA Act and Other Approaches
2:15 p.m.	Session Table Reports
2:30 p.m.	Break
2:40 p.m.	Next Steps
	Christina Ho, Deputy Assistant Secretary, Accounting Policy and Financial Transparency, U.S. Department of the Treasury
3:00 p.m.	Group Discussion: Responses to Day's Discussion and Closing
3:45 p.m.	Adjourn

LIST OF PARTICIPANTS

Government Agencies and Offices

U.S. Department of the Treasury

Treasury promotes economic growth through policies to support job creation, investment, and economic stability. It also oversees the production of coins and currency, the disbursement of payments to the public, revenue collection, and the funds to run the federal government. Treasury reaches out to businesses large and small to articulate the benefits of its policies and programs, and to directly engage on the Administration's agenda for supporting business growth and job creation. The Treasury Department works with financial institutions to encourage economic growth and promote the stability of the broader United States financial system.

David A. Lebryk – Fiscal Assistant Secretary, U.S. Department of the Treasury

Christina Ho - Deputy Assistant Secretary for Accounting Policy and Financial Transparency

Amy Edwards - Senior Advisor, Financial Transparency

Mindy Levit - Senior Policy Analyst

Renata Maziarz – Director for Data Transparency

Bill Radford - Director, Advisory and Consulting Services

Jim Rolfes - Deputy Assistant Commissioner for Information Service

Vince Sprouls - Assistant Director Financial Assistance Policy and Oversight for DHS on detail to the DATA Act PMO

Emily White – Program Analyst

Kristina Yeh – Program Analyst

Ross Williford – Program Analyst

Office of Management and Budget

The Office of Management and Budget (OMB) assists the President in the development and execution of his policies and programs and in meeting certain requirements in law such as preparation of an annual Federal budget.

Rehana Muhammad - Presidential Management Fellow

18F

18F is a civic consultancy for the government, inside the government, consisting of a team of designers, developers, and product specialists inside the General Services Administration, headquartered at 18 and F streets in Washington, D.C.

Kaitlin Devine - Developer

Shashank Khandelwal - Director of Data and Technical Architecture

Commonwealth of Virginia

The APA serves Virginia citizens and decision-makers by providing information and recommendations to improve accountability and financial management of public funds.

April Cassada - Data Analysis

The National Association of State Auditors, Comptrollers and Treasurers

The National Association of State Auditors, Comptrollers and Treasurers (NASACT) is an organization for state officials tasked with the financial management of state government. NASACT's membership is comprised of officials who have been elected or appointed to the offices of state auditor, state comptroller or state treasurer in the 50 states, the District of Columbia, and the U.S. territories.

Cornelia Chebinou - Washington Office Director

Ohio Treasurer's Office

The Treasurer of State is the state's cash manager and chief investment officer with the duty of managing and collecting public funds.

Seth Unger - Senior Policy Advisor for Public Affairs

U.S. Digital Service, White House, Executive Office of the President

The United States Digital Service provides consultation services to federal agencies on information technology. The US Digital Service is the creator of: A Digital Services Playbook, for improving digital government and the TechFAR Handbook, on federal contracting and procurement.

Mary Lazzeri

U.S. House Committee on Appropriations

The United States House Committee on Appropriations is responsible for passing appropriation bills along with its Senate counterpart. The bills passed by the Appropriations Committee regulate expenditures of money by the government of the United States.

Colin Samples - Staff Assistant

U.S. House Committee on Oversight and Government Reform

The main investigative committee in the U.S. House of Representatives.

Maggie Childs

U.S. Senate Committee on Homeland Security and Governmental Affairs

The Committee on Homeland Security and Governmental Affairs is the chief oversight committee of the U.S. Senate. Formerly known as the Committee on Governmental Affairs, it took on primary oversight responsibility for the Department of Homeland Security in 2003.

Brian Papp - Legislative Aide

The White House Office of Science and Technology Policy

The Office of Science and Technology Policy (OSTP) advises the President and others within the Executive Office of the President on the effects of science and technology on domestic and international affairs. It also leads interagency efforts to develop and implement science and technology policies and budgets, and works with the private sector, state and local governments, the science and higher education communities, and other nations toward this end.

Corinna Zarek - Senior Advisor

Companies, Nonprofit, Academic and Research Organizations

540

Technology consulting geeks who help government and business clients innovate like start-ups.

Christopher Bock - Chief Operating Officer

ACT-IAC

The American Council for Technology (ACT) - Industry Advisory Council (IAC) is a non-profit, public-private partnership dedicated to improving government through the application of information technology. ACT-IAC provides a forum where government and industry communicate, collaborate and learn.

Herschel Chandler - Project Co-Lead

Amazon Web Services

Amazon provides cloud computing services through Amazon Web Services to a range of clients.

Erik Franklin - Account Manager, Treasury & IRS

Ariel Gold - Program Manager, World Wide Public Sector

The Aspen Institute – Program on Philanthropy and Social Innovation

The Aspen Institute is an educational and policy studies organization based in Washington, DC. Its mission is to foster leadership based on enduring values and to provide a nonpartisan venue for dealing with critical issues.

Cinthia Schuman Ottinger - Deputy Director for Philanthropy Programs

Booz Allen Hamilton

Booz Allen Hamilton is a provider of management consulting, technology, and engineering services to the US government in defense, intelligence, and civil markets, and to major corporations and not-for-profit organizations

Yolanda McMillian - Senior Associate

Bryce Pippert - Principal

CATO Institute

The Cato Institute is a public policy research organization dedicated to the principles of individual liberty, limited government, free markets and peace. Its scholars and analysts conduct independent, nonpartisan research on a wide range of policy issues.

Jim Harper - Senior Fellow

The Center for Open Data Enterprise

The Center for Open Data Enterprise develops smarter open data strategies for governments, businesses and nonprofits by focusing on data users.

Audrey Ariss - Research & Design

Joel Gurin - President

Katherine Garcia - Communications

Lorinc Thurnay - Intern

Civic Innovation Project

The Civic Innovation Project provides government leaders and their citizens with monthly innovation galleries featuring tools, resources and ideas that help governments innovate instantly, featuring real government challenges and themes uncovered via its research.

Lourdes German - Director

Data Transparency Coalition

Representing the private sector and the public interest, the Data Transparency Coalition advocates the publication of government information as standardized, machine-readable data.

Jessica Yabsley - Communications Associate

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Democracy Apps

Democracy Apps supports communities' ability to engage in civic conversation and to collaborate in making vital decisions through tools and services that help local governments to deliver effectively on open government principles and encourage and enable citizen participation and oversight.

Eric Jackson - CEO & CTO

GovTribe

GovTribe provides software to help in competing in the federal contracting market by providing access to every federal contract opportunity and market profiles for every agency, office, contracting officer and vendor as well as a web-based software that helps in the management of federal capture processes.

Nate Nash - CEO

Kearney & Company

Kearney & Company provides auditing, accounting, and consulting services to Federal agencies and offices across the country, specialized in solving Government-specific problems.

Sherry Weir - Partner

Lincoln Institute

The Lincoln Institute of Land Policy is a resource for issues concerning the use, regulation, and taxation of land. Providing education and research, the Lincoln Institute strives to improve public dialogue and decisions about land policy.

Lourdes German - Fellow

Open Contracting Partnership

The Open Contracting Partnerships opens up public contracting through disclosure, data and engagement.

Ruairi Macdonald - Senior Manager, Procurement Policy

Open Corporates

Open Corporates is an open database of companies with over 84 million companies, used by journalists, anti-corruption investigators, civil society, as well as banks, financial institutions, business information aggregators and governments.

Chris Taggart - CEO

Project on Government Oversight

Project On Government Oversight is a nonpartisan independent watchdog that investigates corruption, misconduct, and conflicts of interest.

Sean Moulton - Open Government Program Manager

PricewaterhouseCoopers

PricewaterhouseCoopers is a network of firms in 158 countries that delivers assurance, tax and advisory services.

Jim Dreyer - Director

Smartronix

Smartronix is an information technology and engineering solutions provider specializing in cloud computing, cyber security, health IT, network operations, and mission-focused engineering.

Alice Siempelkamp - Enterprise Solution Architect

Sunlight Foundation

The Sunlight Foundation is a nonpartisan nonprofit organization that was founded in April 2006 with a goal of increasing transparency and accountability in the United States Congress, the executive branch, and in state and local governments.

Matt Rumsey - Senior Policy Analyst

Teradata Teradata offers data platforms, marketing and analytic applications, and consulting services.	**Rick Harmison** - Senior Industry Consultant, Data Driven Finance
Urban Institute The nonprofit Urban Institute conducts research to understand and solve real-world challenges in an urbanizing environment to improve the effectiveness of the public sector.	**Tracy Gordon** - Senior Fellow

Sponsors

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Open Data Partner

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PricewaterhouseCoopers is a network of firms in 158 countries that delivers quality in assurance, tax and advisory services. PWC helps federal agencies meet the challenge of integrating financial and performance systems to help make decisions and improve accountability. Clients look to the PricewaterhouseCoopers Public Sector Practice to bring direct hands-on knowledge of federal standards for systems, internal controls, and financial reporting. The Practice assists clients through creating interactive data, developing an agile reporting and analytic framework, and identifying and implementing improvements to the data and information supply chain. To find out more, visit *www.pwc.com/publicsector.*

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Booz Allen Hamilton provides management and technology consulting and engineering services to leading Fortune 500 corporations, governments, and not-for-profits across the globe. Booz Allen partners with public and private sector clients to solve their most difficult challenges through a combination of consulting, analytics, mission operations, technology, systems delivery, cybersecurity, engineering, and innovation expertise. For more information, visit *www.boozallen.com*.

Teradata provides analytic data platforms, marketing and analytic applications, and consulting services to organizations around the world. Teradata helps organizations collect, integrate, and analyze all of their data so they can know more about their customers and business and do more of what's really important. Visit *www.teradata.com* for details.

APPENDIX E:
ABOUT THE CENTER FOR OPEN DATA ENTERPRISE

The Center for Open Data Enterprise is an independent nonprofit organization that develops smarter open data strategies for governments, businesses, and nonprofits by focusing on data users. Our mission is to maximize the value of open data as a public resource. We work to unleash this value through a better understanding of open data users and greater engagement of stakeholders.

What We Do

Our user-centered approach aims to improving the open data ecosystem in three ways. We **map** the uses of open data from around the world; **convene** data users and providers to identify challenges and opportunities; and **implement** solutions driven by user input.
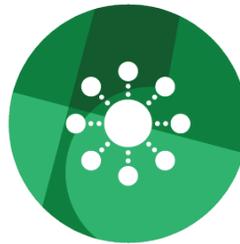
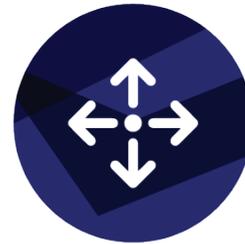| We MAP.	We CONVENE.	We IMPLEMENT.
The first global view of the uses of open data.	Action-oriented dialogues for government agencies & their data users.	Improving the management & quality of open data.
The Open Data Impact Map is a searchable, sortable database of the uses of open data, providing a deeper understanding of the demand for this resource.	Our Open Data Roundtables in the U.S. and abroad help identify high-value datasets, find solutions to data problems, and establish new collaborations.	We work with public and private sector partners to develop solutions to key data challenges informed by user feedback.

Contact Us

For general inquiries, contact Katherine Garcia at katherine@odenterprise.org.

For partnership opportunities, contact Laura Manley at laura@odenterprise.org.

Learn more at opendataenterprise.org.