

The Jobs and Employment Data Exchange

A model for public-private collaboration to improve private data quality, access, and reliability for reuse by national statistical agencies

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Committee on National Statistics
December 9, 2021

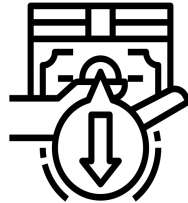


Understanding labor market dynamics is a critical area of focus for national statistics

Hiring & firing



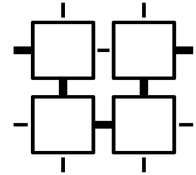
Changes in wages



In-demand skills



Occupational transition probabilities



Where We Find Data About Work



Surveys

Example Sources:

- National Compensation Survey
- OESS
- CPS
- O*NET DCP

Example Products:

- [Wage data by MSA](#)
- [O*NET KSAs](#)

Administrative Data

Example Sources:

- State Unemployment Insurance Records

Example Products:

- [LEHD](#)
- [LODES](#)

Private / Corporate Data

Example Sources:

- Applicant Tracking Systems
- Payroll platforms
- HR Information Systems
- Online worker profiles and job boards

Example Products:

- [O*NET Hot Technologies](#)

Relative Strengths & Limitations

Surveys

++ Design

- Uptake

- Precisely aligned to measurement concepts
- Increasing costs of collection
- Weak incentives for respondents
- Lack of local applicability / usability / value to respondents

Private / Corporate Data

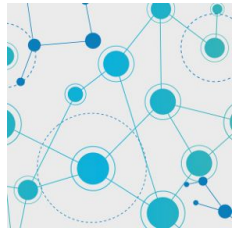
- Design

+ Uptake

- Operationally critical data sources--> automated collection, high fidelity, and high volume
- Not aligned to a measurement concept
- Not consistent across organizations or over time

Previous Public-Private Data Initiatives & Learnings

2014



Workforce Data Initiative

Current national statistical data products lack **granularity, timeliness, and dynamism** needed for many stakeholders & decisions

Public-private collaboration & **data reuse is possible** (e.g. OpenSkills API)

2018



Employers get **high value in creating and using more structured data** on jobs.

Unless the data standards are **built into their HR systems** the cost & lift of producing standardized data is too high for most employers

2021



Vendors **value and are willing to invest in standardization and enabling public benefit use cases** for private data

There is **regulatory precedent** for public-private data standard development and adoption

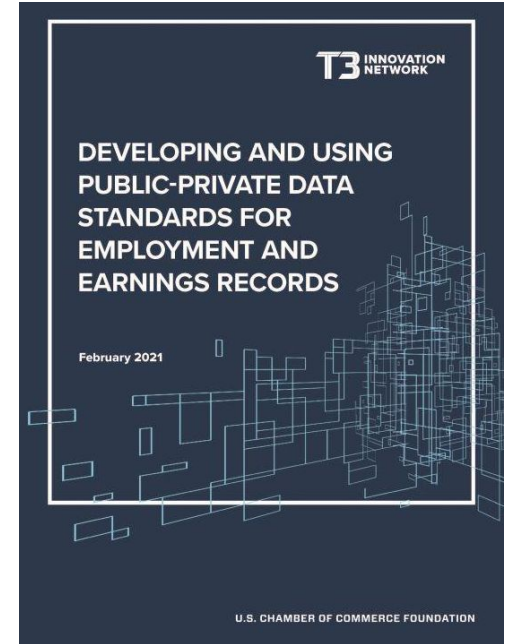
Can Data Standards Help?

Employment and Earnings Records Standards (EERS) Project

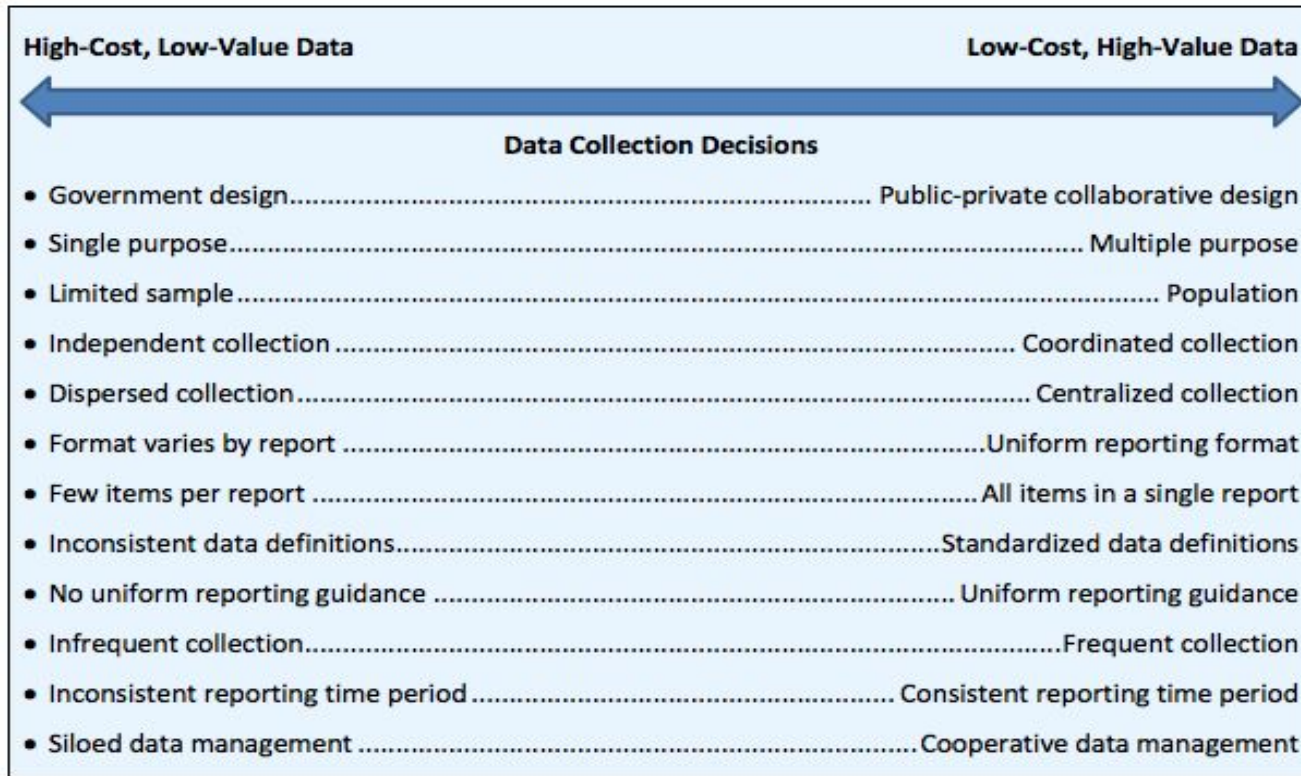
Timeline: June 2019 – December 2020

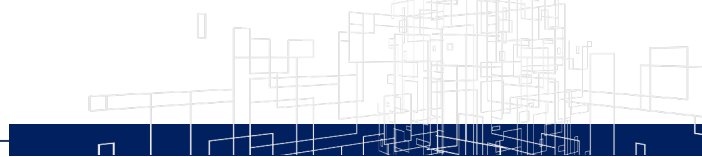
Objectives: Develop records standards (including data elements, definitions, and formats) with HR Open Standards Consortium for use in the public and private sectors. Explore the use of these standards in:

- Improving employer HR systems
- Enhancing state UI wage records
- Improving federal and state data collection



EERS Findings





JEDx Jobs and Employment Data Exchange

- What: A **public-private approach** for modernizing America's workforce data starting with **job and employment data** with rich, standardized, and timely information **directly from the source**.
- How: A **public-private data collaborative and APIs** that improve the collection and use of standards-based jobs and employment data from HR/ATS systems.
- Who: JEDx Advisory Committee includes 50+ members from **state and federal agencies, employers, HR technology service providers**, and other stakeholders

JEDx and Federal Agencies



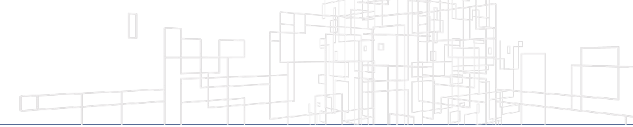
- **End State**

- (ISO) data standards for jobs and employment data
- data sharing/exchange mechanism
- an ecosystem supporting the format and exchange standard for private and public use

- **Potential impact on economic statistics**

- ↑ Coverage, ↓ collection costs, ↓ response burden, ↑ Survey targeting
- ↑ Data quality
 - Accuracy and consistency
 - Granularity
 - Timeliness and frequency
- ↑ Usefulness of data for worker and employer use cases
- ↑ input from agencies & ↑ trust from private stakeholders through shared forum

Rich Data



Category	Job Overview	Competency-Related Information	Credentialing and Other Hiring Requirements	Compensation and Work Hours	Job Postings
Term	<ul style="list-style-type: none"> • Application Location Requirement • Employer Overview • Employment Unit • Formatted Description • Hiring Organization • Identifier • Industry • Industry Code • Job Agreement • Job Location • Job Location Type • Job Schedule • Job Term • Occupation Category • Title 	<ul style="list-style-type: none"> • Assessment • Competency • Responsibility 	<ul style="list-style-type: none"> • Minimum * • Physical Requirement • Preferred * • Required * • Security Clearance Requirement • Sensory Requirement • Special Commitment • Alternative * • Citizenship Requirement • Equivalent * 	<ul style="list-style-type: none"> • Base Salary (incl. range) • Currency • Estimated Salary • Incentive Compensation • Job Benefit • Work Hours <p style="text-align: right; margin-top: 20px;">*Credential, Education, Experience</p>	<ul style="list-style-type: none"> • Date Posted • Valid Through • Number of Jobs

In validated, predictable formats across employers that are already in use

Employer Address

123 Acme Way

Employer Identifier

456-A

Employer Overview

Blake Lee founded the company in Seattle in 1989. Since then we have become a state of the art cybersecurity company with a culture of responsibility. We have 6,000 employees working every day to promote the security in a forward-thinking, innovative, sustainable way. Find out more about our global operations.

Primary Economic Activity

Software design and deployment including cybersecurity.

Industry Code

541512

Occupation Code

15-1112.00

Job Summary

ACME Cyber, inc. is looking for junior level cybersecurity specialist to support corporate and client contracts in our Herson, VA locations. You will be a critical member of a highly-skilled, adaptive cyber team that carries out defensive vulnerability research.

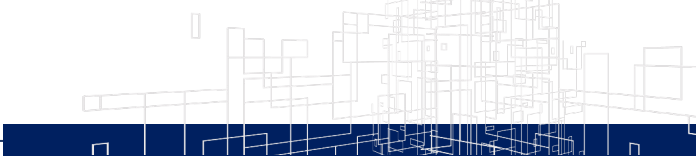
Job Location

Seattle, WA

Job Location Type

```
{
  "@context": "http://jobdataexchange.org/jdxcontext.json",
  "@graph": [
    {
      "@id": "https://jobdataexchange.org/jdx/pp/resource/f0a23159-e3c3-43df-94da-b15c749599d0",
      "@type": "jdx:Organization",
      "email": "info@acme.com",
      "hasJobPosting": "https://jobdataexchange.org/jdx/pp/resource/b9fc49d4-1344-4cb4-8e3d-21247887b77e",
      "jdx:employerOverview": {
        "en-US": "Blake Lee founded the company in Seattle in 1989. Since then we have become a state of the art"
      },
      "jdx:industryCode": {
        "@type": "AnnotatedDefinedTerm",
        "termCode": "541512",
      },
      "schema:address": {
        "@type": "schema:PostalAddress",
        "schema:streetAddress": "",
        "streetAddress": "123 Acme Way"
      },
      "schema:legalName": {
        "en-US": "ACME Cyber"
      },
      "schema:occupationalCategory": {
        "@type": "AnnotatedDefinedTerm",
        "termCode": "15-1112.00"
      },
      "schema:telephone": "(406) 234-0987",
      "url": "https://acme.com",
    },
    {
      "@id": "https://jobdataexchange.org/jdx/pp/resource/9542b372-6436-4fc1-a5b6-8ca8d3ba04e6",
      "@type": "JobPosting",
      "jdx:applicantLocationRequirement": {
        "@type": "schema:Place",
        "name": "No location requirement but no relocation expenses paid."
      },
      "jdx:citizenshipRequirement": {
        "@type": "AnnotatedDefinedTerm",
        "name": {
          "en-US": "US Citizen"
        }
      }
    }
  ]
}
```

Developed in the open with broad participation



Search or jump to... Pull requests Issues Marketplace Explore

HROpen / Recruiting Private Unwatch 21

<> Code Issues 7 Pull requests Actions Projects 8 Wiki Security Insights

development Recruiting / json / PositionProfileType.json Go to file ...

pkiegithub version changed from "version": "4.2.0" to "version": "4.3.0" in json... Latest commit 55a8a6f on Mar 22 History

7 contributors

520 Lines (520 sLoc) | 27.2 KB Raw Blame

```
1 {
2   "$schema": "http://json-schema.org/draft-04/schema#",
3   "version": "4.3.0",
4   "title": "PositionProfileType",
5   "description": "A profile of a job or position opening that is available at an organization.",
6   "type": "object",
7   "allOf": [
8     { "$ref": "#/definitions/BasePositionProfileType" },
9     { "$ref": "../../common/json/base/LocalizationInclusion.json#" }
10  ],
11  "properties": {
12    "profileName": {
13      "description": "The name given to the profile. Often used in systems where multiple versions of a PositionProfile may be managed.",
14      "type": "string"
15    },
16    "positionPeriod": {
17      "description": "The start and end date for the position.",
18      "type": "object",
19      "properties": {
20        "start": {
21          "$ref": "../../common/json/base/FormattedDateTimeType.json#"
22        },
23      }
24    }
25  }
26 }
```

Shared automatically through the systems employers already

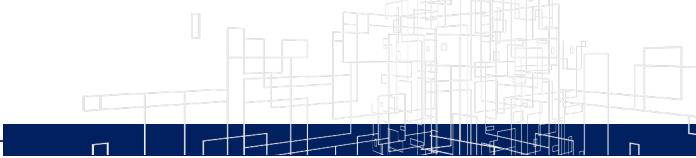
The grid is organized into several functional categories:

- Recruiting:** Talent Discovery (JOPWELL, ATIPICA, PIVOT, boon, WeFind, Stella, twine, entelo, workable, PROSKY, SpringRole, phenom, textio, Resource, RolePoint, HIPERPOOL, SHASHFLY, RESTLESS DART, remote, Clinch, Chemistry, WorkAmerica), Job Markets (workpop, Tackl, handshake, JOBBIO, WayUp, PowerFly, TalentSky, Hireology, jobilico, burningglass, WorkAmerica, PURPLE GOBBLES), Technical Sourcing (VETTERY, source(d), TRIPLEBYTE, HIRER, underdog.io, talented, LYTMUS, interviewing.io), Interview Tools (LearnUp, plum, iiti, Criteria, interviewed, pymetrics, HireVue), Workflow Management (LEVER, JazzHR, Unitive, TextRecruit, SmartRecruiters, greenhous, breezy, recruitee).
- Flexible Hiring:** OnShift, jobbatical, OneSpace, jobandtalent, SWIFT SHIFT, workgeni.us, CATALANI, toptal, skedulo, Andela, Wonele, cornerJob, PERCOLATA, shiftgig, Crew, upwork, Lystable, ximble.
- Onboarding:** Checkr,rippling, onfido, envoy, OnboardIQ, yoi, Click Boarding.
- Quantified Workforce:** humanize, Theatro, hiQ, HEADS UP.
- Recognition & Rewards:** O.C.TANNER, Achievers, perkbox, globaforce, Bonusly, BlueBoard.
- Performance Management:** logi:serve, Reflektive, Lattice, BetterWorks, GameEffective, sixQ, imprise, engagedLY, WIDEANGLE, workboard, AMBITION, ZUGATA, Si, Small Improvements, LIGHTHOUSE.
- Learning & Development:** paysa, Pathgather, Jhana, Axonify, Landit, udeMY, LearningSpaces, go, themuse, Glassbreakers, BetterUp, degreed, Joanko, TASYTT, WORKRAMP, CAPABILITY, edcast, CommercialTribe, NovoED.
- Employee Engagement:** Culture Amp, CULTUREIQ, Telmetrix, BetterCompany, TembaSocial, Hyphen, Qualtrics, questback, SalaryFinance, RoundPegg, Rallyware, HighGround, KOAN, workform, simplipr, wisetail, officevibe, GLINT, TINYpulse, COMPARABLY.
- Integrated Management Suites:** PLANSOURCE, GUSTO, InvestPro, homebase, EVERWISE, air, charlie, starting, GuideSpark, Sympa, people, GREYTTIP, VISIER, shiftmessenger, Humi HR, Namely, collage, When I Work, HeavenHR, Think, bob, sapho, payfit, Plandy.
- Compensation & Benefits:** forusall, SimplyInsured, CompIQ, Lumity, JUSTWORKS, Maxwell Health, BeneStream, URBANBOUND, PEOPLEJOY, Espresa, benevity, EMPYREAN, MOVE GUIDES, ANY PERK, allay, Wellbit, Lifeworks.

JEDx



Under specific, compliant, and well governed conditions of reuse



Use Case 1

Streamlined UI
Reporting using
Augmented
Wage Records

Now

Use Case 2

Enriched Labor
Market
Information &
Workforce
Analytics

Future



Use Case 3

Worker/Learner
Empowerment
Through Trusted
Records

Use Case #1: Improving Federal and State Reporting

Project Work Tasks and Milestones

- Establish project steering group to finalize work plan, roles, and commitments
- Determine jobs and employment data collection priorities
 - UI wage record enhancement priorities
 - Other federal and state reporting requirements
- Develop a comprehensive report
- Develop a standards-based, enhanced, and shared UI wage reporting system
- Establish a testbed for assessing the viability of the standards-based enhanced UI wage reporting system
- Demonstrate value: reduced reporting costs, improved data quality and timeliness, and improved workforce analytics



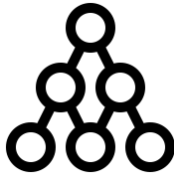
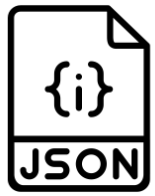
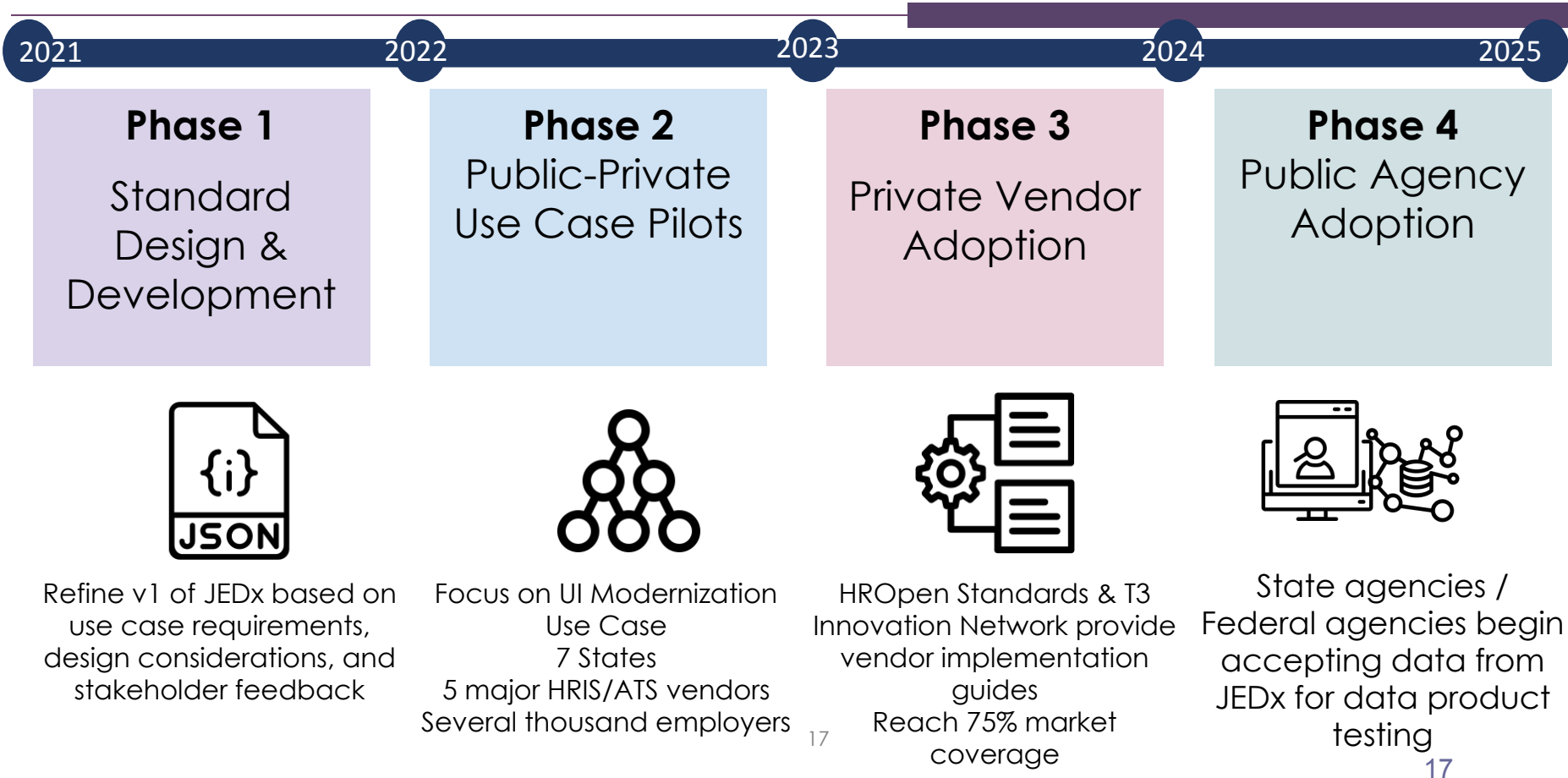
Use Case #1: Improving Federal and State Reporting

Public and Private Partners

- Employers and HR technology service providers
- Data and technology standards organizations
- State agencies receiving data from employers including state workforce agencies administering UI reporting
- Federal agencies receiving data from state agencies or directly from employers
- Public and private workforce analytics providers
- Other partners



JEDx Timeline



JEDx as a Model



- The approach JEDx has taken to date can **serve as an illustrative model** for statistical agencies in other priority areas needing better public-private collaboration to improve national statistics
 - **Non-governmental intermediary** supported by philanthropy as a neutral convener for public and private actors
 - **Open forum** for surfacing needs, use cases, and challenges, with national statistics being one of many
 - **Balanced participation** between data producers, data consumers, data systems, and data intermediaries
 - **Build on existing industry standards** and practices wherever possible
 - **Identifying incentive compatible use cases** that require minimal new policy intervention to gain adoption that can support
 - **Test with a minimum viable coalition** to prove out feasibility, statistical validity, etc.
 - **Allow industry to drive adoption** over time based on the strength of the use case
 - **Support enabling policy & guidelines** when necessary

Role of Statistical Agencies in Public-Private Collaboration

- **Participate**
 - Bring Federal statistical priorities and roadmaps to the standards process
 - Inform the roadmap
 - Acknowledge that Federal statistical priorities may not always be put first
- **Innovate**
 - Many agencies may not have data infrastructure, capacity, or policies that allow for the reuse of large volumes of private data shared under governed conditions
 - Innovation teams, CDOs, and PIFs can play a critical role in Agency innovation and digital transformation
- **Adopt**
 - Agree to be bound by public-private standards process and data governance policies in the use of new private data
 - Add new data product development & testing to relevant agency roadmaps when feasible

Thank You

JEDx Webpage: <https://www.uschamberfoundation.org/JEDx>

Questions?

