



Assessment Information

[CoreTrustSeal Requirements 2020–2022](#)

Repository:

Roper Center for Public Opinion Research

Website:

www.ropercenter.cornell.edu

Certification Date:

07 April 2021

This repository is owned by:

Cornell University

CoreTrustSeal Board

W www.coretrustseal.org

E info@coretrustseal.org



Roper Center for Public Opinion Research

Notes Before Completing the Application

We have read and understood the notes concerning our application submission.

True

Reviewer Entry

Reviewer 1

Comments:

Reviewer 2

Comments:

CORE TRUSTWORTHY DATA REPOSITORIES REQUIREMENTS

Background & General Guidance

Glossary of Terms

BACKGROUND INFORMATION

Context

R0. Please provide context for your repository.

Repository Type. Select all relevant types from:

Domain or subject-based repository, Archive

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

Brief Description of Repository

The Roper Center for Public Opinion Research is a sustainable domain repository that has been reliably managing and providing access to public opinion data since 1947. The Center, a Delaware non-profit 501(c)(3) corporation, is home to public opinion surveys conducted in the United States and approximately 100 other countries; a searchable online database of over 780,000 individual questions asked in U.S. surveys from 1935 to the present; and more than 24,000 complete state, U.S., and international datasets. Since 2015, the Center has been hosted by Cornell University, which is contracted by the Board of Directors to manage Center operations.

Users access the Roper Center's data collection online through a search portal that facilitates discovery. Each year, users download more than 100,000 data and documentation files from the website, and users view more than 469,000 questions from the Roper iPoll database.

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

Brief Description of the Repository's Designated Community.

Roper Center has over 280 member institutions and serves a diverse community of users. Roper Center member institutions include academic institutions from high schools to doctoral-granting universities; non-profit organizations, including foundations, advocacy organizations and think-tanks; commercial research firms; government organizations; media; and others, including a few public library systems that access the question database only. Our community of users includes faculty, students, librarians, and non-academic researchers in the quantitative social sciences, as well as journalists, policy-makers and policy-influencers interested in public opinion.

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

Level of Curation Performed. Select all relevant types from:

B. Basic curation – e.g. brief checking; addition of basic metadata or documentation, C. Enhanced curation – e.g. conversion to new formats; enhancement of documentation, D. Data-level curation – as in C above; but with additional editing of deposited data for accuracy

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

Comments

Data-level curation is completed on nearly all submissions. A few datasets, primarily trend data created from existing data in the archive, studies provided by other data repositories that have been previously curated, or secondary reweighting files for existing studies, receive basic or enhanced curation.

After the Roper Center receives a Submission Information Package (SIP), data and all accompanying material are assessed with regard to content, structure, and format. The data are enhanced with metadata documenting methodological information, intellectual property, subject content, and essential data information. This information is captured, maintained, and stored in the descriptive metadata that is included in each Archival Information Package (AIP). Some metadata is entered by data processors; other pieces of metadata, such as file size and format, are detected by the system automatically, then verified by processors. Changes made to the data during processing include removal of variables that risk respondent confidentiality and in some cases recoding or labeling to improve usability. Documentation is compiled to provide users with the information necessary to use and understand the data. (Roper Center Data Curation and Architecture <https://ropercenter.cornell.edu/data-archiving/data-curation-and-architecture>, Accessed 7/28/2020) (<https://ropercenter.cornell.edu/sites/default/files/RoperDataProcessing2x.png>, Accessed 7/28/2020)

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

Insource/Outsource Partners. If applicable, please list them.

The Roper Center for Public Opinion Research is administratively housed within the Cornell Center for the Social Sciences (<https://socialsciences.cornell.edu/>, accessed 12/22/2020) as part of the Research Division of Cornell University. The Roper Center also receives support from Cornell's IT department. Cornell's Central IT Office manages the majority of the desktop computing equipment used by the Roper staff. Cornell Central IT also provides additional technical support including data storage, database management, and consultative services. Through a Cornell-Amazon contract, Amazon Web Services is used extensively by the Roper Center to power its suite of web-based applications as well as store replicated backup copies of the contents of the archive. Administrative support is provided by multiple Cornell departments, including human resources, purchasing, printing, and other services.

In addition, Roper Center benefits from input and expertise from across the Cornell community, including a group of faculty affiliates, members of the library staff, student workers, including graduate students, and designated Cornell faculty appointed to the Board of Directors.

Outside of Cornell, the Roper Center has used contractors for services including data entry (Digital Divide Data <https://www.digitaldividedata.com/> Accessed 7/29/2020), reading older tape material (Seismic Exchange, Inc. <https://www.seismicexchange.com/> Accessed 7/29/2020), project assistance in IT development (ZevRoss <https://www.zevross.com/>) and digitization of paper materials (Trigonix <https://www.trigonix.com/en/> Accessed 7/29/2020).

This chart provides a visualization of the allocation of responsibilities across Roper, Inc., and Cornell University (Roper Center Organization Chart, <https://ropercenter.cornell.edu/roper-center-organization-chart> Accessed 1/8/2021)

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

Summary of Significant Changes Since Last Application (if applicable).

Major improvements have been made to the user interface, including display of DOIs. The Archival Advisory Committee has been established and has provided their first report on recommendations for the archive. An acquisitions policy change created a new collection with entirely disclosure-based, not methodology- based, acquisition criteria.

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

Other Relevant Information.

The Roper Center is a core resource in the field of public opinion research (<https://www.re3data.org/repository/r3d100010331>, accessed 12/23/2020). The Center maintains a partial list of scholarly articles that cite the data in the archive (<https://ropercenter.cornell.edu/publishing-roper-center-data/bibliography> Accessed 12/23/2020). Google Scholar shows over 1,700 articles referencing Roper Center since 2015. In addition, every year Roper Center data are used in multiple media stories by major outlets including The New York Times, Washington Post, and National Public Radio.

Reviewer Entry**Reviewer 1**

Comments:
Accept

Reviewer 2

Comments:
Accept

ORGANIZATIONAL INFRASTRUCTURE

1. Mission/Scope

R1. The repository has an explicit mission to provide access to and preserve data in its domain.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry**Reviewer 1**

Comments:
4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:

4 – The guideline has been fully implemented in the repository

Response:

The Roper Center's mission is to collect, preserve, and disseminate public opinion data; to serve as a resource to help improve the practice of survey research; and to broaden the understanding of public opinion through the informed use of survey data in the United States and abroad. The Center is committed to assuring the Center's data producers and user base that the largest collection of polling and survey interview data in the world will be preserved and made accessible for the long term. The Roper Center's mission statement is released under the authority of the Roper Center Board of Directors (Roper Center: Mission Statement

<https://www.ropercenter.cornell.edu/about-center/roper-center-mission-statement> Accessed 7/28/2020) (Roper Center Board of Directors <https://ropercenter.cornell.edu/people/board-directors> Accessed 7/28/2020). The Roper Center's commitment to data preservation is formalized in the Center's Digital Preservation Policy (Roper Center Digital Preservation Policy, <https://ropercenter.cornell.edu/policies/digital-preservation-policy> Accessed 7/29/2020) and implemented throughout data processing procedures (Roper Center Data Curation-Processing Workflow <https://www.ropercenter.cornell.edu/data-archiving/data-curation-and-architecture#processing> Accessed 7/28/2020) and through the Center's participation in national digital preservation consortia, including the Data Preservation Alliance for the Social Sciences (Data-PASS) (Data-PASS website, About Data-PASS <http://www.data-pass.org/about.html#partners> Accessed 7/29/2020) and the National Digital Stewardship Alliance (National Digital Stewardship Alliance Members <https://ndsa.org/members-list/> Accessed 7/29/2020).

The Roper Center promotes its mission, collection, and services to many communities in a variety of ways. Staff participate in exhibits and presentations at conferences and professional association meetings like the American Association for Public Opinion Research (AAPOR) Annual Conference and the Annual Meeting of the International Association for Social Science Information and Technology (IASSIST). The Center also produces publications for academic, trade, and general audiences (Roper Center Issue Briefs: <https://www.ropercenter.cornell.edu/blog?category=5> Accessed 7/29/2020).

Reviewer Entry

Reviewer 1

Comments:

Accept

Reviewer 2

Comments:

Accept

2. Licenses

R2. The repository maintains all applicable licenses covering data access and use and monitors compliance.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:

4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:

4 – The guideline has been fully implemented in the repository

Response:

Ongoing data providers sign a data provider agreement letter (Roper Center Sample Data Provider Agreement <https://ropercenter.cornell.edu/sites/default/files/wp-content/uploads/2014/12/Roper-Center-Data-Provider-Agreement-sample.pdf> Accessed 12/23/2020) that outlines the ongoing relationship between the organization and the Roper Center and gives the

Roper Center the rights to archive and disseminate the data. Data deposit forms (Roper Center Data Deposit Form <https://ropercenter.cornell.edu/sites/default/files/pdf/DataDepositFormfillable2.pdf> Accessed 7/29/2020) are provided to these organizations to be included with data submissions and are also used by those organizations or individuals making single, individual submissions. Redundant digital versions of both of these agreements are maintained.

Member institutions of the Roper Center are required to sign a membership agreement that describes their rights and obligations, including information regarding distribution to third parties (Roper Center Membership Agreement <https://ropercenter.cornell.edu/sites/default/files/pdf/2019%20Full%20Membership%20Agreement.pdf> Accessed 7/28/2020). The Roper Center maintains redundant digital copies of these agreements and tracks member agreements in an internal database. In addition to institutional agreements, individual users at our member institutions are required to agree to terms and conditions of use (Roper Center Terms and Conditions <https://www.ropercenter.cornell.edu/roper-center-data-archive-terms-and-conditions> Accessed 7/28/2020) in order to download datasets from our website. Users who purchase individual datasets without membership are also required to sign a terms and conditions agreement before receiving purchased datasets.

Reviewer Entry

Reviewer 1

Comments:

Accept

Reviewer 2

Comments:

Accept

3. Continuity of access

R3. The repository has a continuity plan to ensure ongoing access to and preservation of its holdings.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:

4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:

4 – The guideline has been fully implemented in the repository

Response:

The Roper Center is hosted by Cornell University, which is contracted by the Roper Board of Directors to manage the operations of the Center. It is anticipated that the Roper Center for Public Opinion Research will remain at Cornell University for the foreseeable future. However, having conducted a successful migration of Roper Center operations from the University of Connecticut to Cornell University in 2015, the Board of Directors and Center staff are acutely aware of the importance of ensuring that strategic decisions made today are done so with both current and future contexts in mind. Under the terms of the current agreement between the Roper Center for Public Opinion Research and Cornell University, business operations will remain at Cornell University through at least November 7, 2020. The Board of Directors and Cornell University have recently reviewed and renewed this agreement through June 30, 2026.

Strategic planning and broad-based goals developed for the Center while at Cornell University focus on the needs of Roper Inc., in all of its potential iterations and must ultimately support the long-term mission of preserving and disseminating public opinion data. Decisions are made with due consideration for their long-term effects. This is especially true with respect to IT infrastructure as it relates to maintaining the archive and preserving the data within it. For example, archival metadata and administrative data, such as staff access information, are segregated in the database.

All intellectual property developed at Cornell University in relation to Center operations is owned by Roper, Inc. Ongoing support documentation is recorded to assist future administrators in replicating the form and function of the archive and the public interface.

As a member of Data-PASS and the National Digital Stewardship Alliance, the Roper Center demonstrates its commitment to preserving its collection through succession planning. If an event occurs which necessitates a transfer of responsibility for managing Roper Center holdings, the collection would be preserved by these partner organizations.

(Data-PASS Articles of Collaboration-10. Transfer

Protocols: <http://www.icpsr.umich.edu/files/DATAPASS/pdf/collaboration.pdf> Accessed 7/28/2020). The Roper Center's Digital Preservation Policy ensures that any actions necessary to ensure the long-term usability of

acquired data are incorporated throughout the curatorial workflow (Roper Center Digital Preservation Policy, <https://www.ropercenter.cornell.edu/policies/digital-preservation-policy> Accessed 8/18/2019) Further, aligning our metadata schema with the Data Documentation Initiative (DDI), Open Archival Information System (OAIS), and schema.org positions the archive to be easily adopted by partner organizations. (DDI <https://www.ddialliance.org/> Accessed 7/28/2020), (Roper Center Data Curation and Architecture <https://ropercenter.cornell.edu/data-archiving/data-curation-and-architecture>, Accessed 7/28/2020)

Roper Inc., is a 501(c)3 non-profit organization under the guidance and supervision of a long-standing, professionally advanced and diverse Board of Directors (Roper Center: Board of Directors <https://ropercenter.cornell.edu/people/board-directors> Accessed 7/28/2020). As part of the drafting of the relocation agreement between Cornell University and Roper Inc. in November of 2015, the following items were identified as essential to ensuring the Center's ability to adapt to long-term changes in circumstances. Vital provisions of the Roper Center/Cornell relationship include, but are not limited to:

Personnel

- Immediate appointment of key personnel
- Complete build-out of staff with the appropriate level of skills and abilities
- Development of training schedules and identification of gaps and procedures to rectify, if required
- Space and infrastructure
- Immediate provision of hosting infrastructure, providing uninterrupted user access
- Immediate provision of secure and redundant data backup systems
- Ample and reasonably comfortable work environments that sustain morale and output

Fiduciary

- Cash and capital expenditure (building retrofit, furniture, relocation) considerations
- Adequate and controlled financial processing procedures for both staff compensation (salary and benefits) and revenue and expense tracking and reporting
- Separate accounts for compensation and interdepartmental costs (Cornell) and direct billing for external services (external organization)
- Board and host institution accounts to be managed separately wherever possible
- Grant acquisition support, fund management and administrative support systems (recommended, not required)
- Maintenance of Roper Inc.'s non-taxable status
- Retention of professional bookkeeping services by Roper Inc. for Board fund(s) tracking and reporting, and for federal tax preparation
- Retention of a Certified Public Accounting firm by Roper Inc. to conduct the annual audit

These provisions, as well as others, will be addressed in the case of any subsequent relocations or transfers, as will many of the steps taken during the 2014-2015 migration from the University of Connecticut to Cornell University. Macro-level phases of this process included the creation of a relocation search committee consisting of members of the Board of Directors, a formal call for proposals, a thorough review of a number of viable host institutions, and a series of negotiations after a suitable host was selected. Based on the applicant pool from 2014-2015, Roper Inc. is confident that continuity of access is achievable long-term.

If an event occurs which necessitates a transfer of responsibility for managing Roper Center holdings, the Center has taken reasonable steps to ensure that the collection would be preserved by partner organizations (Data-PASS Articles of Collaboration-10. Transfer

Protocols: <http://www.icpsr.umich.edu/files/DATAPASS/pdf/collaboration.pdf> Accessed 7/28/2020).

Roper has completed a Cornell C-COOP Continuity Plan, which includes identification of essential services, stakeholders,

applications, facilities, records and resources, and planning for business continuity and disaster management. Roper reviews and updates this plan yearly.

Cornell's emergency management program is based on the framework of the four phases of emergency management: prevention-mitigation, preparedness, response, and recovery. All phases are highly interconnected; that is, each phase influences the other three phases. The EHS Emergency Management program provides guidance and tools for units to develop continuity strategies. More information on Cornell's emergency management program can be found at www.emergency.cornell.edu.

The university provides a robust, web-based continuity planning tool called C-COOP. The goal of the C-COOP tool is to provide a central data location that supports the university in recovery prioritization and resource alignment. C-COOP provides a platform to identify unit essential functions as well as continuity strategies for common disruptive events. Completing continuity plans in C-COOP ensures clarity and visibility during University recovery efforts.

The C-COOP system focuses on the core essential functions each unit performs and captures critical information about personnel, resources, technologies, and facilities that are necessary to continue essential unit functions. C-COOP plans inform and prioritize unit continuity planning strategies for common disruptions, including loss of facilities, reduced workforce, loss of utilities, and loss of technologies.

C-COOP is an important part of Roper Center's continuity planning, and includes the following:

- Identification of individual responsibilities and order of succession for decision-making in a crisis situation.
- Identification and prioritization of key services and the technology required to support them. Key services including preservation of digital and paper collections, user access to the archives through the iPoll portal, ingest processes for questions and datasets, and administrative management of membership.
- Assessment of likely impact of a possible crisis situation on facilities, technology, vendor services, and staffing. Identification of location and formats of vital records.
- Identification of and notification planning for external stakeholders, including Roper Center users, data providers, and Board of Directors.

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

4. Confidentiality/Ethics

R4. The repository ensures, to the extent possible, that data are created, curated, accessed, and used in compliance with disciplinary and ethical norms.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:

4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:

4 – The guideline has been fully implemented in the repository

Response:

Data producers are required to remove all information directly identifying research subjects before depositing Submission Information Packages (SIPs). They are requested to complete a Data Deposit Form, which specifically gives the Roper Center permission to modify, transform or remove any information that could be used in the identification of those research subjects (Roper Center Data Deposit Form

<https://ropercenter.cornell.edu/sites/default/files/pdf/DataDepositFormfillable2.pdf> Accessed 7/29/2020). This permission is also part of the Data Provider Agreement new organizations need to sign to become an ongoing contributor to the archive. (<https://ropercenter.cornell.edu/sites/default/files/pdf/Roper-Center-Data-Provider-Agreement-sample.pdf>, accessed 12/23/2020). Data deposit forms are required for all submissions from any organization that is not an ongoing contributor; therefore permission is provided on all entries. All SIPs are moved to permanent storage upon arrival, and only staff with specific security permissions has access to them. During the processing lifecycle, Roper Center staff review all materials to ensure the protection of research subjects (Roper Center Data

Curation and Architecture-Processing

<https://www.ropercenter.cornell.edu/data-archiving/data-curation-and-architecture#processing> Accessed 7/29/2020).

During this review, staff specifically trained in disclosure methods use reasonable efforts to identify any item(s) that may directly or indirectly compromise the confidentiality of a research subject. When an item(s) is identified, staff will employ the following practices: de-identification, statistical disclosure control, and/or usage restriction (Data Preservation Alliance for the Social Sciences (Data-PASS Confidentiality Policies

<http://www.data-pass.org/sites/default/files/confidentiality.pdf> Accessed 7/29/2020). The Center's Digital Preservation Policy states that the Center cannot guarantee that such efforts will be 100% effective, and disclaims all warranties, expressed or implied, with respect to the protection of respondent confidentiality Policy (Roper Center Digital Preservation Policy, <https://www.ropercenter.cornell.edu/policies/digital-preservation-policy> Accessed 7/29/2020). These item(s) and all disclosure practices employed are logged and stored within permanent storage. Archival Information Packages (AIPs) and Dissemination Information Packages (DIPs) are stored in separate areas in accordance with our security procedures.

The Roper Center has one restricted-use study within its collection. This study requires special permission for researcher access. Researchers must complete an application detailing their research objectives, specific use cases of these restricted variables, time period of their use, and a data protection plan (Roper Center Restricted Use Data for the Social

Capital Community Benchmark Survey

<https://ropercenter.cornell.edu/sites/default/files/wp-content/uploads/2015/04/Confidentiality-Agreement-Seguro1.pdf> Accessed 7/29/2020). Applications are reviewed by the Executive Director of the Roper Center, and access to restricted studies is only given to approved applications. The U.S. National Election Pool Exit Poll, formerly made available only by application, has been made unrestricted to Roper users with permission from the NEP and Edison Research.

The Roper Center provides access to its holdings through memberships. Each membership institution is required to complete a contract detailing the responsibilities of each party and that must be signed by a duly authorized institutional official (Roper Center Membership Agreement

<https://ropercenter.cornell.edu/sites/default/files/pdf/2019%20Full%20Membership%20Agreement.pdf> Accessed 7/28/2020). Individual users must also agree to a standard Terms and Conditions contract to access all individual-level data or analysis services through the Roper Center website (Roper Center Terms and Conditions

<https://ropercenter.cornell.edu/roper-center-data-archive-terms-and-conditions> Accessed 7/29/2020). These agreements, both institutional and individual, describe the practices and techniques used to ensure the confidentiality of research subjects. In the case of occasional purchase of access to a single dataset, the purchaser is also required to sign the terms and conditions of use.

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

5. Organizational infrastructure

R5. The repository has adequate funding and sufficient numbers of qualified staff managed through a clear system of governance to effectively carry out the mission.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:

4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:

4 – The guideline has been fully implemented in the repository

Response:

HOST INSTITUTION

Cornell University, a privately endowed, Ivy League university and the land-grant university for New York State, is the host institution for the Roper Center for Public Opinion Research. Cornell's mission is to discover, preserve, and disseminate knowledge; produce creative work; and promote a culture of broad inquiry throughout and beyond the Cornell community. Cornell also aims, through public service, to enhance the lives and livelihoods of our students, the people of New York, and others around the world. The distinct focus on research, cross-disciplinary collaboration, and social sciences at Cornell make it an ideal location for long-term sustainability of the archive at the Roper Center (Cornell University Mission <http://www.cornell.edu/about/mission.cfm> Accessed 7/29/2020).

Roper Center resides administratively within the Research Division at Cornell as part of the Cornell Center for the Social Sciences (CCSS). The Research Division enables and advances the university's research priorities as well as research activities of Cornell colleges, schools, and research centers, laboratories, and institutes.

Roper Inc. was established as the official non-profit which operates under the direction of a Board of Directors. Roper Inc. contracts with Cornell University to manage the day-to-day operations of the Center, subject to the general oversight of the Board. The operations staff work across numerous departments and institutions across the Cornell campus to establish collaborations with professors and faculty affiliates, contract for services such as cybersecurity and backup protections, or to co-host conferences and events. Currently housed across seven professional offices and a large collaborative workspace, the facilities made available to the Center by the Research Division at Cornell are adequate.

The Roper Center is aligned with the Cornell Institute for Social and Economic Research and the Survey Research Institute, strategically providing mutual support and expertise for data operations. The CISER Director serves on the Roper Board of Directors as an ex-officio member and also serves the Roper Center as an advisor. As one of the oldest university-based social science data archives in the United States, CISER has demonstrated its commitment to the long-term preservation and access of data for scientific research. The fundamental purpose of CISER's Data Archive is to select, preserve and make available for use primary and secondary data, documentation and metadata, in discipline recognized digital formats that remain suitable for research in perpetuity. The data preservation and storage policy is guided by a variety of community-driven standards, (e.g. Open Archival Information Systems (OAIS) reference model, CoreTrustSeal, Data Documentation Initiative (DDI)), that represent an international body of knowledge and expertise pertaining to various issues within digital preservation.

FUNDING

The Roper Center is intended to operate on a self-sustaining financial basis, requiring little to no long-term assistance from Cornell University. While financial transactions are administratively housed within Cornell's Division of Financial Affairs financial accounting system and abide by the same controls and policies, parallel financial systems tracking receivables and monthly and annual income and expense reporting is shared with the Board of Directors and its bookkeeping service provider.

Externally audited financials and three and five-year financial projections present a solid case for long-term sustainability based on sensible membership growth, grant-supported special projects, and cost containment. Currently, annual income for regular operations is derived primarily from the support of individual member organizations who pay an annual service subscription fee. With over 280 members in academic and non-academic or "affiliate" categories (government, non-profit, individuals, media, etc.), the outlook for continued operation of the Center up to and beyond 5 years is positive (Roper Center List of Members <https://ropercenter.cornell.edu/membership/list-members> Accessed 7/29/2020).

Additionally, grant and other sponsored projects have increasingly become a focus at the Center and will continue to play a role moving forward. Securing funding that will strengthen the archive and promote the Center to new membership prospects will increase revenue expectations, as well as offset project-related costs. In the past two years, the Roper Center has received funding from five grants. The largest, a \$1.4 million, three-year grant from the Robert Wood Johnson Foundation, supports the creation of a portal into the Roper Center's substantial collection of data related to health. This portal will offer enhanced search capabilities, trend information, and demographic crosstabs. The other grants provided funding for the digitization of the papers of pollster Andy Kohut, the conversion of early British polling data to modern formats, the ingest of a collection of public opinion data from Uruguay, and the ingest of datasets and question-level curation for a collection of survey research experiments.

STAFFING & TRAINING

The staff consists of individuals who have a deep understanding of the social science data lifecycle. The staff belong to one of three teams: Administration, Technology, and Data and Archiving. The Center maintains 17 FTE positions, as well as part-time appointments for select individuals and student staff, and will occasionally support strategic projects with supplemental contract agents. This staffing structure is comparable to archives similar in structure, breadth, and depth, and is appropriate for the operations currently taking place.

ADMINISTRATION

Executive Director, Board and Cornell reporting

Associate Director, Business Administration

Technology

Technical Lead, manages IT projects and system design
Software Engineer(s), software development and analyst
Systems Administrator, software/hardware systems and technology infrastructure management
Quality Assurance Analyst, quality control management and testing
Project director (1): Special project management

Archive and Data Operations

Dir. Data Operations & Data Communications, Metadata planning, archival operations, data acquisitions Roper iPoll Acquisitions Manager, Development and expansion of Roper iPoll, maintaining data quality
Data Curators (5-6), Data provider relations, ingest of data, protection of respondent privacy, and quality checks
Graduate Students (2-3), Roper Center Public Opinion Fellows, Higher level processing and file conversion
Undergraduate Students (8-12), Research Assistants, Roper iPoll ingest, various other tasks related to processing

(Roper Center Staff, <https://ropercenter.cornell.edu/staff/roper-staff> Accessed 7/28/2020), (Roper Center Student Staff <https://ropercenter.cornell.edu/roper-student-community> Accessed 3/31/2021), (Roper Center Graduate Student Fellows <https://ropercenter.cornell.edu/staff/mitofsky-graduate-research-fellows/> Accessed 7/28/2020)

Training is required of all employees of the Roper Center. In addition to the wide variety of high-caliber trainings and educational assets offered to employees of Cornell University through the CU Learn program, members of the staff attend many professional conferences (domestic and international), trainings, and workshops to develop both personally and professionally.

Professional mentoring, coaching and general networking is encouraged for those in leadership positions and is encouraged daily through the support provided by members of the Board of Directors, senior management, and across affiliations, associations, committees, and professional conference attendance and participation at AAPOR, IASSIST, APSA, ACRL/ALA, ASA, Data-PASS, and NADDI/EDDI.

EXTENDED PROFESSIONAL NETWORK

The Roper Center is deeply connected to the data archives community through professional affiliations, memberships, and strategic partnerships, particularly with those organizations listed above. Data preservation partnerships and metadata harvesting are considered to be integral to the mission and vision of the Center. The Roper Center works collaboratively with organizations that provide continuity in data preservation, including the Data Preservation Alliance for the Social Sciences (Data-PASS) and the National Digital Stewardship Alliance (Data-PASS Articles of Collaboration-10. Transfer

Protocols: <http://www.icpsr.umich.edu/files/DATAPASS/pdf/collaboration.pdf> Accessed 7/28/2020), (NDSA Members <https://ndsa.org/membership/members/> Accessed 8/5/2020. Metadata harvesting and/or sharing is a supported practice in partnership with data repository search portals such as Dataverse (Roper Harvested Dataverse <https://dataverse.harvard.edu/dataverse/roper> Accessed 7/28/2020) and Datacite

(<https://search.datacite.org/members/roper> Accessed 3/31/2021).

Metadata at the Center are structured using the Data Documentation Initiative (DDI)'s controlled vocabularies group and built on Lifecycle standard, version 3.2. (DDI Lifecycle 3.2 <http://www.ddialliance.org/Specification/DDI-Lifecycle/3.2/> Accessed 7/28/2020). After 20 years of facilitation, DDI has established itself as a leader in describing and documenting data intended for digital preservation and will continue to evolve to meet the needs of members of the social science research community. Metadata also aligns with schema.org vocabulary to allow use by partner organizations, like Google Dataset Search.

Roper Center's processing and preservation practices are based on the reference model for an Open Archival Information System (OAIS), designed to ensure that the largest collection of polling data in the world will be preserved and made accessible for the long-term, withstanding the impacts of changing technologies and user communities, and including support for new media and data formats. (Roper Center Data Curation and Architecture

<https://ropercenter.cornell.edu/data-archiving/data-curation-and-architecture> Accessed 7/28/2020)

In addition, the Board of Directors for the Roper Center consistently serve to position the Center at the forefront in their respective fields, including public opinion research, political science, communications, market research, higher education, and repositories and archiving (Roper Center Board of

Directors <https://ropercenter.cornell.edu/people/board-directors> Accessed 7/28/2020). New members of the Board are nominated by the Nominating Committee and voted on by the full Board. Members are selected to represent leaders in public opinion research across the commercial, academic, and nonprofit sectors, as well as to provide additional expertise in important areas like data archiving or law. Board members serve overlapping three-year terms, with no limit on renewals. The Board is managed by a Chair, Vice Chair and Secretary/Treasurer, and a number of committees engage in activities in support of the Center. The full Board meets twice a year, while committees meet as necessary.

At the June 2017 meeting of the Roper Board, the Center was encouraged to develop a plan for an Archival Advisory Committee. This Committee is drawn from leading figures in data archiving, digital preservation, and data librarianship, and provides regular guidance to the Center for ongoing development of technology and archival procedures. One member of the Board sits on the Committee and serves as liaison between the Committee and the Board. The Committee met for the first time at the May 2018 IASSIST conference and visited the Roper Center in April 2019, where the staff provided presentations on the collection, the archival process, technology, and strategic planning. The Committee presented the Board of Directors with a report on their recommendations for the archive.

(<https://ropercenter.cornell.edu/roper-archive-advisory-committee> Accessed 7/29/2020)

The Center is also a member of the Data Preservation Alliance for the Social Sciences (Data-PASS).

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

6. Expert guidance

R6. The repository adopts mechanism(s) to secure ongoing expert guidance and feedback (either inhouse or external, including scientific guidance, if relevant).

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:

4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:

4 – The guideline has been fully implemented in the repository

Response:

The Roper Center's Board of Directors serves a central role in advising on survey research best practices, determining policies, and supporting staff efforts to improve the archive (Roper Center Board of Directors <https://ropercenter.cornell.edu/people/board-directors> Accessed 1/8/2021). The Board meets twice a year, but key members of the Board provide regular guidance to staff via phone calls and email over the course of the year. In particular, members of the Archiving and Technology Committee provide essential guidance for archival planning. The Committee consults regularly with the data archive team through email, phone calls, and in-person meetings. In addition, the Transparency and Acquisitions Committee serves an essential role in guiding acquisition policy based on the evolving needs of the polling community served by the archive, in particular by setting minimum requirements for methodology disclosure. Members of the Board are nominated by the Nominating Committee and voted on by the full Board. Most Board members are drawn from the top ranks of leaders in polling research representing the commercial, academic, and non-profit sectors, while additional Board members are chosen to provide needed expertise in specific areas, like data archives or law.

At the June 2017 meeting of the Roper Board, the Center was encouraged to develop a plan for an Archival Advisory Committee. This four-person Committee is drawn from leading figures in data archiving, digital preservation, and data librarianship, and provides regular guidance to the Center for ongoing development of technology and archival procedures. One member of the Board sits on the Committee and serves as liaison. The Committee met for the first time at the May 2018 IASSIST conference and visited the Roper Center in April 2019, where the staff provided presentations on the collection, archival process, technology, and strategic planning. The Committee presented the Board of Directors with a report on their recommendations for the archive. (<https://ropercenter.cornell.edu/roper-archive-advisory-committee> Accessed 7/29/2020)

The staff also actively seeks advice and guidance from the larger data archives community through participation in conference events, listserv discussions, and other means. Direct conversations with key leaders in data archiving regularly provide the Center with helpful guidance, particularly members of the DDI Alliance and IASSIST. In addition, Roper benefits from input and expertise from across the Cornell community, including a group of faculty affiliates who provide the Center with expert user feedback and expertise in their broad-ranging fields of research. (Roper Center Faculty Affiliates <https://ropercenter.cornell.edu/people/faculty-affiliates> Accessed 7/28/2020) Cornell Central IT also provides additional technical support and consultation. The Center also relies upon the advice and expertise of members of the library staff, student workers, including graduate students, and designated Cornell representatives on the Board of Directors.

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

DIGITAL OBJECT MANAGEMENT

7. Data integrity and authenticity

R7. The repository guarantees the integrity and authenticity of the data.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:
4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:
4 – The guideline has been fully implemented in the repository

Response:

The Roper Center generates MD5 Checksums on all files in archival storage upon ingest. Checksums are stored as part of the metadata for the archived file from which they are generated. The integrity of data and metadata can be verified at any time by scanning the archive and generating new MD5 Checksums and comparing them against the values in the database. In every processing step where a digital file is transferred between systems, checksums are computed prior to and after the transfer to validate the file integrity during transmission. In addition, a custom-built application scans the entire archive and validates all files against the recorded checksums in the metadata and reports on any discrepancies. The guarantee of data integrity can also be provided to the end user upon the downloading of data files. After a download is completed, a user can use any available tool to generate an MD5 Checksum for the downloaded file and verify its integrity by comparing it to the expected checksum of the file.

The Roper Center has implemented a version control protocol based at the study level. Each Submission Information Package (SIP) at ingest is moved into archival storage and is assigned a baseline level version designation. Any modifications to an existing file and/or files created during a processing event will constitute an incremental version number increase. These processing events may include file migration, normalization, digitization of analog materials, corrections, and/or any value-added metadata/file modifications. Each study level version is stored in archival storage (Roper Detailed Data Processing Diagram

https://ropercenter.cornell.edu/sites/default/files/wp-content/uploads/2014/12/RoperDataProcessing_v2.png Accessed 7/28/2020). The Roper Center provides web access only to the most recent study version and its associated files through its member portal (Roper Center Roper iPoll <https://ropercenter.cornell.edu/ipoll/> Accessed 3/31/2021), (Roper Center Version Control <https://ropercenter.cornell.edu/blog/study-level-version-control> Accessed 7/28/2020). Formerly published versions are maintained in the archive and are available to users by request to the Data Services email account. DOIs are assigned at the study level.

Provenance information, including depositor, affiliation, method of data transfer, and other items, is collected as metadata associated with the files. Currently, the Roper Center accepts datasets only from approved data providers with whom the Center has ongoing relationships or who provide individual deposit forms. The Center offers a data submission portal which ongoing data providers can use to submit data files. Only approved data providers are given accounts on this system, adding another layer of security for submissions.

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

8. Appraisal

R8. The repository accepts data and metadata based on defined criteria to ensure relevance and understandability for data users.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:

4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:

4 – The guideline has been fully implemented in the repository

Response:

Criteria for acquisitions of data are delineated in the Acquisitions Policy. The Acquisitions, Standards and Processing Committee of the Roper Center Board of Directors evaluates new methodologies and recommends changes to the Acquisition Policy to be approved by the full Board. The Roper Center's Acquisition Policy defines accepted sampling design and data collection methodologies allowed for submission, as well as minimum disclosure requirements, and provides guidance in prioritization of collection development. (Roper Center Acquisition and Transparency Policy <https://ropercenter.cornell.edu/roper-center-transparency-and-acquisitions-policy> Accessed 7/29/2020.)

In May 2018, the Roper Center announced a change to its acquisitions and transparency policy. The new policy created two collections: Longstanding Methods and Recently Developed Methods. The Roper Center accepts public opinion survey research data in the Longstanding Methods Collection if the studies are based on probability-based sampling procedures with sample sizes of a minimum of 100 and live interviewers, if conducted by telephone. Exceptions to the probability sampling requirements are made in a few cases, such as important historical collections from the early years of polling or studies of comparative populations conducted in conjunction with an acquisition-criteria-compliant public opinion survey. Submissions must also meet minimum disclosure requirements as outlined by the American Association for Public Opinion Research (AAPOR) Disclosure Standard

<https://www.aapor.org/Standards-Ethics/AAPOR-Code-of-Ethics/Survey-Disclosure-Checklist/Disclosure-Standards.aspx> Accessed 8/5/2019).

In comparison, the Recently Developed Methods Collection is open to surveys that aim to provide representative samples, regardless of methodology. All studies in this collection must provide all core disclosure elements of the Roper Center Transparency Project, which were developed by the Acquisitions and Transparency Committee of the Roper Board of Directors and align closely with the highest disclosure levels recommended by the American Association for Public Opinion Research.

Although some studies currently preserved at the Center would not meet the most updated disclosure or methodological requirements for either collection, no studies have been removed from the archive as a result of the policy changes. Retroactive implementation would be at odds with the reality of changing methodologies and changing disclosure standards in the field.

Regardless of the collection, Roper Center prioritizes U.S. national polls, followed by US state-level polls, then non-U.S. polls. Roper Center collects both individual-level datasets and marginal/topline data and reports. For the Recently Developed Methods Collection, datasets must be provided for marginal/topline data and reports to be accepted. Collections must be of current value or potential historical interest and salient to the Center's mission to facilitate research on public opinion; surveys conducted purely for marketing purposes are not accepted. The Roper Center monitors national and state-level public opinion polls in the U.S. in order to maintain a list of possible acquisitions; outreach is conducted regularly to organizations that conduct acquisition-policy-compliant polls to encourage archiving. In addition, Roper Center users sometimes alert the Center to possible public opinion surveys of interest to the research community.

Once data has been received, compliance with acquisition policy is verified by data processors within the dataset ingest system as part of the submission review. Their appraisal is saved in the system for both accepted and rejected submissions (Detailed Data Processing

https://ropercenter.cornell.edu/sites/default/files/wp-content/uploads/2014/12/RoperDataProcessing_v2.png Accessed 7/29/2020). The Center requires that any Submission Information Package (SIP) contain the documentation necessary for ensuring required disclosure standards are met for deposited data, e.g., a methodology report, questionnaires, and interviewer instructions (Roper Center Data Deposit Form

<https://ropercenter.cornell.edu/sites/default/files/pdf/DataDepositFormfillable2.pdf> Accessed 7/29/2020). The ingest process mandates a minimal completion of necessary metadata regarding methodology, sponsorship, and other critical information before the study can be assigned to the catalog. Submissions which include insufficient information are put on hold and attempts made to secure complete information from the data provider. The Center also provides a data portal for submissions by approved data providers. This portal requires completion of fields related to essential information for assessing quality and understanding data and, in order to strongly encourage disclosure expected by the survey research community, indicates which fields are mandatory for compliance with AAPOR transparency standards (AAPOR Disclosure Standards

<http://www.aapor.org/Standards-Ethics/AAPOR-Code-of-Ethics/Survey-Disclosure-Checklist/Disclosure-Standards.aspx> Accessed 7/28/2020). Data providers are encouraged to complete the submission form with information on the survey or surveys in the deposit, including universe, field dates, sampling, weighting, response rates, mode, publications, and the organizations and individuals involved in the development, fieldwork or funding for the surveys. Short definitions of fields guide depositors in completing the form and other information is provided to assist in accurate entry. For example, the six standard American Association for Public Opinion Research standard response rate definitions are provided for reference. Data producers are provided a full list of recommended data formats on the Center's website (Roper Center Become a Data Provider <https://ropercenter.cornell.edu/data-highlights/become-data-provider> Accessed 7/28/2020) and on the Data Deposit Form (Roper Center Data Deposit Form

<https://ropercenter.cornell.edu/sites/default/files/pdf/DataDepositFormfillable2.pdf> Accessed 7/29/2020) and Data Portal (authorized user access only, see attachment for sample screenshots). The Center's preferred data formats include ASCII, SPSS, .CSV, SAS, and/or Stata.

In the rare instance of a submission in a non-preferred format, the data provider is first contacted to determine if the data can be made submitted in a preferred format. The Roper Center does acquire data formats outside of its preferred list on occasion in accordance with the Center's Acquisition and Transparency Policy (Roper Center Acquisition and

Transparency Policy <https://ropercenter.cornell.edu/roper-center-transparency-and-acquisitions-policy> Accessed 7/29/2020). These files are generally categorized as being at-risk in the public opinion and survey research fields.

Reviewer Entry

Reviewer 1

Comments:

Accept

Reviewer 2

Comments:

Accept

9. Documented storage procedures

R9. The repository applies documented processes and procedures in managing archival storage of the data.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:

4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:

4 – The guideline has been fully implemented in the repository

Response:

Documentation of processes and procedures is done with a combination of Microsoft Word documents and the use of Atlassian's Confluence, an internal wiki-like document repository, provided by Cornell University. Things such as user manuals are created with Word, while technical documentation (database diagrams, system configuration manuals, etc.) are held within Confluence. Confluence has built-in version control for changes made to documentation. Word documents are versioned by date. Updates are made to these documents if and when the applications change. User manuals are updated when something on the user interface or general functionality affecting the user changes.

Technical documentation is updated when configuration of the system changes or the database changes, as well as when overall workflow changes.

The instructions are available to all Roper Center staff members through the Center's centralized knowledge bases in

Confluence and SharePoint, a web-based document management and storage system that integrates with Microsoft Office. For example, each step of the dataset ingest processing, from data provider onboarding to publication, is detailed. Specific information about major collections is also maintained. The architecture of Roper is also described in detail, with Confluence entries on iPoll versions, Authentication State in the iPoll Front End, AWS CloudFront, AWS Deployment Process, Database, Project Dependency Layout, and Quality Assurance & Testing, etc. IT information sections in Confluence included information about servers, Cornell workstations and systems, and more.

In order to access the internal application managing the archive, a person must be a member of Cornell University and be given access to the internal application via the application's management console. Access to the archive for writing is only granted to the internal application, while users that have been added to the Roper Center group have read access only. This functionality is supported by the Roper Center's on-staff system administrator as well as Cornell's Information Technology (CIT) group.

The data preservation policy addresses the primary strategies for data storage. The Roper Center employs proactive security, redundancy, and backup measures to maintain and protect its digital assets. All core system resources are firewalled and actively monitored to prevent unauthorized or inadvertent access. Physical infrastructure security is delegated to both Cornell University and Amazon as the hosts of our technology environment. All critical pieces of our digital architecture are replicated and contain one or more copies running in parallel to reduce points of failure and ensure continuous access. To ensure the security and integrity of our data, each database is backed up nightly and backups are preserved for roughly one month for data recovery. The core data of the archive is managed via several layers of protection and replication. The master copy is restricted to be only modifiable by our internal management software. A read-only copy is created nightly to be accessed by our member users through the iPoll website. To protect against site-level data loss, additional copies of the archive data is sent nightly to both Amazon's short- and long-term cloud storage services, with multiple copies residing in datacenters in both North America and Europe.

The OAIS standard provides the central architecture design for the data processing workflow. (Roper Center Data Curation <https://ropercenter.cornell.edu/data-archiving/data-curation-and-architecture> Accessed 7/28/2020) The archive is within Cornell's managed server farm, thus deterioration of storage media is monitored and handled by CIT.

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

10. Preservation plan

R10. The repository assumes responsibility for long-term preservation and manages this function in a planned and documented way.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:

4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:

4 – The guideline has been fully implemented in the repository

Response:

The Roper Center's Digital Preservation Policy informs and supports the Center's planning for the long-term preservation of digital assets (Roper Center Digital Preservation Policy

<https://ropercenter.cornell.edu/policies/digital-preservation-policy> Accessed 7/28/2020). The data preservation and storage policy is guided by a variety of community-driven standards, (e.g. Open Archival Information Systems (OAIS) reference model, CoreTrustSeal, Data Documentation Initiative (DDI)), that represent an international body of knowledge and expertise pertaining to various issues within digital preservation. The policy formalizes the Center's commitment to addressing the challenges of changing technology and user needs .

Specifically, the Technological and Procedural Suitability section defines normalization and migration procedures as the primary strategies to address the challenges of file format obsolescence (Roper Center Data Curation-Processing <https://www.ropercenter.cornell.edu/data-archiving/data-curation-and-architecture#processing> Accessed 7/28/2020). Additionally, file format obsolescence monitoring is a component of the Data Preservation Alliance for the Social Sciences (Data-PASS) technology responsiveness program whose purpose is to ensure the integrity and availability of social science research data (Data Pass Data Security <http://www.data-pass.org/sites/default/files/DataSecurity.pdf> Accessed 7/28/2020).

A central priority of the Center's Digital Preservation Policy is that any actions necessary to ensure the long-term usability of acquired data are incorporated throughout the curatorial workflow (Roper Center Digital Preservation Policy <https://ropercenter.cornell.edu/policies/digital-preservation-policy> Accessed 7/28/2020). The Center uses reasonable efforts to fulfill this objective by employing robust, interoperable metadata management strategies that help to ensure that data will be provided to users while remaining readable, meaningful, and independently understandable in perpetuity (Roper Center Data Curation-Processing <https://www.ropercenter.cornell.edu/data-archiving/data-curation-and-architecture#processing> Accessed 7/28/2020). The Center establishes and maintains connections between data files, documentation, marginal data, and secondary

publications based on provenance. To enable the Center to retain the ability to regenerate distribution formats over time, the Center archives the original digital content received, the normalized versions of files, and superseded versions of files that have been distributed. Data files are provided in ASCII, SPSS portable, and .csv formats, and recommended formats for submission are provided to data depositors (<https://ropercenter.cornell.edu/data-highlights/become-data-provider>, Accessed 12/23/2020)

No assurance can be made, however, that such measures will be completely effective. The Center's participation in the Data-PASS consortium helps to ensure the long-term preservation of digital assets even in a case where the Center is no longer able to retain archived material (Data-PASS website, About Data-PASS <http://www.data-pass.org/about.jsp#partners> Accessed 7/28/2020).

The data provider agreement cosigned by the Roper Center and its data providers clearly provides the Center with the authority and rights to meet the obligations of its preservation policy in terms of transforming, storing, preserving and disseminating the data (Roper Center Sample Data Provider Agreement <https://ropercenter.cornell.edu/sites/default/files/wp-content/uploads/2014/12/Roper-Center-Data-Provider-Agreement-sample.pdf> Accessed 7/28/2020).

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

11. Data quality

R11. The repository has appropriate expertise to address technical data and metadata quality and ensures that sufficient information is available for end users to make quality-related evaluations.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:
4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:
4 – The guideline has been fully implemented in the repository

Response:

Quality assurance on each dataset is achieved through thorough review by data processors to ensure that sufficient documentation is provided for user understanding and that the data adheres to the quality standards of the acquisitions policy. Quality assurance at a data provider level is determined by a review process conducted by the Center with, when appropriate, input from the Board of Directors.

The Center requires that any Submission Information Package (SIP) contain the documentation necessary for appraising the quality of deposited data, e.g., a methodology report, questionnaires, and interviewer instructions (Roper Center Data Deposit Form <https://ropercenter.cornell.edu/sites/default/files/pdf/DataDepositFormfillable2.pdf> Accessed 7/29/2020). All data providers should provide each of the full disclosure elements as outlined by the American Association for Public Opinion Research (AAPOR) standard (AAPOR Disclosure Standards

<http://www.aapor.org/Standards-Ethics/AAPOR-Code-of-Ethics/Survey-Disclosure-Checklist/Disclosure-Standards.aspx> Accessed 7/28/2020). Compliance with this standard is strongly encouraged by the Center. In addition, to help users learn more about data provider organizations, information about each current data provider is given on the Roper Center website, including information about whether the data provider is part of the AAPOR Transparency Initiative. (Roper Center Data Providers <https://ropercenter.cornell.edu/membership/our-data-providers> Accessed 7/28/2020). General information about polling methodology and survey quality is provided in the support section of the Roper Center website to assist users with making quality evaluations (Roper Center Polling Fundamentals <https://ropercenter.cornell.edu/polling-and-public-opinion/polling-fundamentals> Accessed 7/28/2020).

In 2020, the Roper Center expanded its holdings to include a new collection of Recently Developed Methods polls. (<https://ropercenter.cornell.edu/ipoll/> Accessed 12/23/2020) The minimum disclosure requirements for these polls, particularly disclosure regarding methodology, is set at a very high level, in accordance with the new Roper Acquisition and Transparency Policy (Roper Center Acquisition and Transparency Policy <https://ropercenter.cornell.edu/roper-center-transparency-and-acquisitions-policy>). Every incoming dataset to this collection – and every dataset from surveys fielded after 1/1/2019, regardless of collection – will also be scored based on level of adherence to a set of disclosure elements, both required and encouraged. The score and a checklist of the disclosure items is visible to users. As part of this initiative, Roper Center will be collecting additional metadata on each survey, so that the provided information for as many of the disclosure elements as can feasibly be displayed will be offered to users on screen at the point of use, as well as included in the downloadable documentation. The additional methodological information is intended to give users the tools needed to make judgments about quality.

The mechanism for metadata and data quality review is the dataset ingest system, which is used to review, clean, and process incoming data, apply metadata, implement version control, track changes, and move files into archival storage. The system was based on a plan created by Ann Green of Digital Lifecycle Research & Consulting (Roper Center Project Overview: A Review and Redesign of Roper Center Infrastructure 2014 <https://ropercenter.cornell.edu/blog/project-overview-review-and-redesign-roper-center-infrastructure>

Accessed 7/28/2020). Jeremy Iverson and Dan Smith of Colectica reviewed the system for adherence to data archival standards. (Colectica <https://www.colectica.com/> Accessed 4/1/2021) These reviews have ensured that the required metadata and documentation is sufficient for end users to find, understand and utilize the data. The metadata entered into the internal database has been improved, becoming more expansive and more granular. Some of this information is now visible on the website; additional items will be added soon in accordance with the Transparency and Acquisitions Policy. In the meantime, this information is available in the PDF documentation provided for each new dataset.

Roper Center solicits feedback from the designated community on the website, through attendance at academic conferences, via the Archival Advisory Committee and through involvement with professional organizations.

Reviewer Entry

Reviewer 1

Comments:

Accept

Reviewer 2

Comments:

Accept

12. Workflows

R12. Archiving takes place according to defined workflows from ingest to dissemination.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:

4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:

4 – The guideline has been fully implemented in the repository

Response:

Roper Center's data curation program is aligned with the Open Archival Information System (OAIS) Reference Model (Roper Center Data Curation <https://ropercenter.cornell.edu/data-archiving/data-curation-and-architecture> Accessed 7/29/2020). The Center's processing workflow describes the sequence of actions that occur from submission of materials (Submission Information Packages--SIP) to their distribution (Dissemination Information Packages--DIP) including all

movements to archival storage (Archival Information Package--AIP) (Roper Detailed Data Processing Diagram https://ropercenter.cornell.edu/sites/default/files/wp-content/uploads/2014/12/RoperDataProcessing_v2.png Accessed 7/29/2020).

The Center's archive staff creates and maintains detailed instructions about all practices and procedures that occur during each phase of processing throughout the data life cycle. The instructions are available to all Roper Center staff members through the Center's centralized knowledge bases in Confluence, an internal wiki-like document repository, and SharePoint, a web-based document management and storage system that integrates with Microsoft Office. Detailed instructions and background information are provided in each of the following sections: Acquisition and Initial Ingest, File Creation and Upload, Metadata Ingest, Reviewing and Publishing Studies, iPollPlus (demographic normalization for displayed crosstab tool), File Format Migration, Recently Developed Methods Collection, Transparency (information about scoring process), Restricted Datasets, Special Data Projects, Data Provider Onboarding, Organizations Page (information about methodologies used, data formatting, or other information specific to particular data organizations), Controlled Vocabularies, Citations, Manual DOI Assignment, iPoll Question-level Entry Training Guides, iPoll Question-level Preparation and Metadata Entry Training Guides, and iPoll Acquisition Process.

The Roper Center also provides similar instructional material for outside users through its website including basic file format migrations (Roper Center website, Bring ASCII Data File into Stata: <https://www.ropercenter.cornell.edu/bring-ascii-data-stata> Accessed 7/29/2020).

A conceptualized overview of the data life cycle, its phases, and processing workflows is available for data producers, academics, and other researchers on the Roper Center's website (Roper Center Data Curation <https://ropercenter.cornell.edu/data-archiving/data-curation-and-architecture> Accessed 7/29/2020). This informs our various stakeholders of the effort incurred to enhance studies with meaningful information, making them as complete as possible, usable, and independently understandable for future researchers.

The data deposit process is described fully on the Roper website and examples of the Data Deposit Form and Data Provider agreement provided (Roper Center Deposit Data (Roper Center Sample Data Provider Agreement <https://ropercenter.cornell.edu/sites/default/files/wp-content/uploads/2014/12/Roper-Center-Data-Provider-Agreement-sample.pdf> Accessed 7/29/2020), (Roper Center Data Deposit Form <https://ropercenter.cornell.edu/sites/default/files/pdf/DataDepositFormfillable2.pdf> Accessed 7/29/2020).

In accordance with the Roper Center Acquisition Policy, some data submissions are accepted in non-preferred formats that require additional processing. Some non-preferred formats, such as multi-punched column binary, are internally migrated to preferred formats and normalized for long-term preservation. In the case of non-preferred file formats that fall outside of the staff's expertise, Center will seek professionals outside of the organization with specific knowledge of those formats to perform recovery and migratory operations.

Details of all aspects of processing are maintained in Confluence and duplicated a series of manuals. For example, comprehensive manuals for file format conversion from ASCII and column binary, for question entry into the iPoll

database, and dataset curations procedures are provided to new employees and regularly reviewed and updated. Any changes to workflow are reviewed by the Roper data archivist, with input from archival experts on the Roper Board and in the Archival Advisory Committee.

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

13. Data discovery and identification

R13. The repository enables users to discover the data and refer to them in a persistent way through proper citation.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:
4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:
4 – The guideline has been fully implemented in the repository

Response:

The Roper Center offers rich discovery tools for the data in its collections. Abstracts are written to describe the topical coverage in each dataset. Datasets can be accessed by search functions on title, abstract keyword, organization, country, sample, and dates. For datasets from national U.S. populations, users can also search the question-level Roper iPoll database by keyword within the text of the question, organization, controlled-language topic, and dates. Once a question of interest is found, the user can easily download the documentation and individual-level data, as well as any supporting materials available, such as topline reports or data tables.

Data citations are provided to end-users at the question-level for questions in the Roper iPoll database, and at the study level for all studies in the archival catalog. The study citations indicate the study title, producer, distributor, version number, access date, and the archive number, a unique identifier. The Roper iPoll question citations indicate the study

title, producer, distributor, access date, and the question number, a unique identifier.

The Center assigns DOIs at the study level for all studies. (Roper Detailed Data Processing Diagram https://ropercenter.cornell.edu/sites/default/files/wp-content/uploads/2014/12/RoperDataProcessing_v2.png). Roper Center DOIs point to publicly accessible summary pages for studies in the archival catalog and serve as the permanent link for individual study records.

Metadata for the collection is also provided to Dataverse, an open source web application to share, preserve, cite, explore, and analyze research data widely used by researchers to find data

(<https://dataverse.harvard.edu/dataverse/roper> Accessed 7/28/2020) and OCLC/WorldCat, a global catalog of library collections (https://help.oclc.org/Library_Management/EZproxy/Database_stanzas Accessed 4/1/2021) to enhance discovery. The Center has also added schema.org metadata on dataset study records this year to facilitate use by Google Dataset Search (<https://datasetsearch.research.google.com/search?query=roper%20center%20&docid=bO4ux3oo7Hr6ISJgAAAAAA%3D%3D> Accessed 7/28/2020) and other search engines. The Roper Center maintains a selected bibliography of publications based on Roper Center data (<https://ropercenter.cornell.edu/publishing-roper-center-data/bibliography> Accessed 7/28/2020).

Information about cataloging and describing the Roper Center archive is provided to membership representatives at member institutions, to encourage these institutions to make finding Roper Center data easy for their users. This includes new membership packages that offer descriptive text and cataloging information and online and paper promotional and educational materials (<https://ropercenter.cornell.edu/membership/promoting-roper-your-institution> Accessed 12/23/2020). Links to member institution EZProxy logins are also made available on the Roper Center website (Roper Center-List of Members <https://ropercenter.cornell.edu/membership/list-members>, accessed 7/28/2020). Many academic institutions include information about Roper in their resource lists for social science or public opinion data; for example, Princeton University (Princeton University Library Public Opinion and Survey Research Data Source, <https://libguides.princeton.edu/politics/opinion> Accessed 7/28/2020) and Indiana University Bloomington (<https://libraries.indiana.edu/roper-center-public-opinion-research> Accessed 7/28/2020).

Information about publications can now be recorded in the archival ingest system. Long-term planning recognizes the importance of preserving and sharing not only primary datasets, but datasets created by researchers through merging, reweighting, or otherwise enhancing existing datasets. Roper Center already holds a large number of such datasets in its collection, including the Berinsky-Schickler collection of reweighted early polling data, Robert Putnam's Social and Political Trends from Roper Organization polls, and the Most Important Problem Dataset, which normalizes responses to this open-ended question to allow tracking of issues over time. The Center has plans to create links between Roper-archived, researcher-created datasets based on original data in the Roper Center system and the primary datasets on which they are based to aid researchers in finding and utilizing both the enhanced and the original datasets.

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

14. Data reuse

R14. The repository enables reuse of the data over time, ensuring that appropriate metadata are available to support the understanding and use of the data.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:

4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:

4 – The guideline has been fully implemented in the repository

Response:

Dataset files are only made available to use if sufficient documentation can be provided to ensure that the data can be used and understood. The Center requires that any Submission Information Package (SIP) contain the documentation necessary for ensuring the long-term usability of deposited data, e.g., a methodology report, questionnaires, and interviewer instructions (Roper Center Data Deposit Form

<https://ropercenter.cornell.edu/sites/default/files/pdf/DataDepositFormfillable2.pdf> Accessed 7/28/2020). As outlined in the Transparency and Acquisitions Policy, the minimum required disclosure elements at Roper Center are based closely on the American Association for Public Opinion Research (AAPOR) standard (AAPOR Disclosure Standard <http://www.aapor.org/Standards-Ethics/AAPOR-Code-of-Ethics/Survey-Disclosure-Checklist/Disclosure-Standards.aspx> Accessed 7/28/2020). Based on a set of methodological criteria, new submissions are categorized as Longstanding Methods Collection or Recently Developed Methods Collection studies. These two collections have differing sets of requirements. Fulfillment of these standards is intended to ensure data can be understood and reused over time.

This information is then provided to end users via the member portal, a searchable metadata catalog (Roper Center catalog <https://ropercenter.cornell.edu/ipoll/> Accessed 7/28/2020). Catalog entries on the Roper Center website provide essential metadata about the survey title, sponsors, survey organization, study dates, sample, sample size, variables, weighting, as well as usage and sampling notes when necessary. Additional metadata will be added as part of the Roper Transparency Project in 2021. This information is also duplicated in the downloadable PDF documentation, which also includes information on interview method and other methodological information, a full questionnaire, a dataset X-ray, and the column location for ASCII files. This documentation can also provide more extensive methodological information and a

complete codebook. Further documentation is provided whenever possible, including topline and survey reports, presentations, charts, banner books, or other materials. This documentation, including the necessary metadata information, is provided in a downloadable PDF file or files.

All datasets that can be downloaded from the website are available in ASCII format for long-term preservation. Most downloadable datasets, and all new incoming datasets, are also made available as SPSS portable files and .csv. These are archival formats that ensure long-term usability with appropriate documentation. For the sake of greater reuse, the Center is also providing datasets in Stata. The Center is planning to develop a system for conversion to other formats at the point of download for ease of reuse by a broader range of users, although the timeline for this change remains open-ended.

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

TECHNOLOGY

15. Technical infrastructure

R15. The repository functions on well-supported operating systems and other core infrastructural software and is using hardware and software technologies appropriate to the services it provides to its Designated Community.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:
4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:
4 – The guideline has been fully implemented in the repository

Response:

The Roper Center's archival processes follow the OAIS reference model, a International Standardization Organization (ISO) standard. (Roper Center Data Curation and Architecture

<https://ropercenter.cornell.edu/data-archiving/data-curation-and-architecture> Accessed 7/28/2020) The Roper Center maps its archival metadata to the DDI standard. The Data Documentation Initiative (DDI) is an international standard for describing the data produced by surveys and other observational methods in the social, behavioral, economic, and health sciences. (DDI <https://www.ddialliance.org/> Accessed 7/28/2020) The Roper Center uses the ISO 3166-1 alpha-2 standard for geographical metadata information. Web applications produced by the Roper Center follow HTTPS protocols and transfer data using JSON.

The Roper Center has a comprehensive plan for infrastructure development based on a Robert Wood Johnson Foundation-funded project titled The Review and Redesign of Roper Center Infrastructure (Redesign of Infrastructure <https://ropercenter.cornell.edu/blog/project-overview-review-and-redesign-roper-center-infrastructure/> accessed 12/23/2020). A complete rebuild of the Roper Center architecture began in 2016 and a new internal ingest system implemented in stages throughout 2018 and early 2019. All systems used currently to receive and archive files, write metadata to the database, track workflow and versioning, and publish studies, as well as all external search tools, were developed internally for Roper Center by its IT software development team working primarily in Java. The new public-facing user portal was released in summer 2019 and member institutions migrated to the new system starting in fall of 2019, with full migration completed in fall 2020. Planning for this development project and ongoing improvements to the systems are managed with a combination of Microsoft Project for high level scheduling of tasks and Atlassian's Jira for execution and implementation of those tasks. During implementation, the Roper Center follows the Agile methodology with work being done in two-week segments. Areas for infrastructure development have included, but are not limited to: internal data ingest workflows, external user access allowing users to search for questions and datasets that exist within the Roper Center archive, and an API for large-scale data access.

Among the projects still in development are export of metadata in a DDI and other standardized formats, enforcing consistency checks for dataset files, including checking for missing data, checking for confidential data, and checking for out-of-range codes, and on-demand usage reports by member representatives. Roper has postponed the development of this member portal due to low demand in comparison to other stakeholder and user requests.

A data ingest system has been built to automate workflows that were previously tracked and managed by hand. The main implementation of this system was completed in August of 2017. This system enforces and tracks proper ingest workflows, enforces entry of required metadata fields, and automatically versions metadata and files. DOI generation was implemented in 2018 and functionality for entering question-level metadata to support Roper iPoll question search in early 2019.

The unification of the two databases for dataset catalog entries and questions/releases has resulted in a more structurally sound basis for the development of new user tools. A new external search has been built, and all member organization were transitioned to the new system by fall of 2020. The older system was then decommissioned.

DDI will be the standard format through which external systems can access Roper data. As a part of the curation process, DDI-compliant (Lifecycle version 3.2) XML files will be generated automatically and archived alongside its corresponding data in the next year. This project was originally slated for earlier in the development process, but additional priorities led

to a delay in implementation of automatic generation of these files.

Software inventory for the Roper Center is maintained by Cornell's Endpoint Management via Microsoft System Center Configuration Manager (SCCM). System Documentation is readily available via Roper's instance of Confluence. In addition, Microsoft OneNote is used to manage documentation for IT Internals.

Most software used by the Roper Center is not community-supported. However, Python 2.6 is installed on Roper Center systems for use in facilitating ASCII file conversions to SPSS, SAS, and Stata formats. The software developed internally by the Center makes large use of open source code and platforms.

The provision of around-the-clock connectivity to public and private networks is at a bandwidth sufficient to meet the global responsibilities of the repository. Roper has designed an internal benchmark test app that checks our load times and notifies IT staff internally if speeds fail our threshold. Roper has notifications enabled on all AWS resources. If anything is failing their designed health checks, automated recovery is first attempted through AWS CloudWatch before falling back on manual intervention.

All entities that are in the archive have a checksum produced when they are originally archived and when they are versioned to ensure consistency across archival copies. The Roper Center performs daily validation of the checksums against the files both in the archive and the various backup locations.

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

16. Security

R16. The technical infrastructure of the repository provides for protection of the facility and its data, products, services, and users.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:
4 – The guideline has been fully implemented in the repository

Reviewer 2

Comments:
4 – The guideline has been fully implemented in the repository

Response:

Roper Center has multiple systems in place to ensure swift recovery of essential services in the case of outage.

Twice-daily backup services are run to replicate the archive on multiple servers within Cornell as well as to multiple AWS S3 locations. The web application is comprised of multiple servers load-balanced to handle a large volume of users and prevent against a server going down. The web database uses AWS's Relational Database Service (RDS) and makes use of RDS' replication feature. (Amazon Web Services RDS <https://aws.amazon.com/rds/> accessed 7/28/2020) The use of AWS has further allowed for load balancing, the capacity to spin up another server when the load is high (i.e. during an election period), and the opportunity to have multiple instances/locations of the database for recovery purposes. CIT's database group also assists with patching and backups of the database.

The Roper servers are located in the CIT server farm, an environmentally controlled secure Data Center, 757 Rhodes Hall, at Cornell University, Ithaca, NY. A proximity card reader secures the 757 Rhodes Hall Data Center. Access to the Data Center is granted by an authorized proximity card (Cornell University ID card) issued only to Cornell staff with the required credentials according to Cornell University Policy 8.4 -- Management of Keys and Other Access Control Systems. Entrance and exits to the Data Center are automatically logged and monitored by Cornell Information Technology staff. The Roper Center has EC2 Instances in the CIT controlled Amazon Web Services Cloud. These systems are controlled by a direct connect Virtual Private Cloud (VPC) back to Cornell's 10-space network along with special security to only allow traffic that is needed between the systems and servers being hosted at Rhodes Hall CIT server farm.

Data in the Roper Center archive is stored on two servers within Cornell's managed server farm, and each server is backed up to Cornell's EZ-Backup solution. (Cornell IT Managed Servers <https://it.cornell.edu/managed-servers> Accessed 7/28/2020), (Cornell IT EZ Backup <https://it.cornell.edu/ez-backup> Accessed 7/28/2020) EZ-Backup allows several versions of the same files to be kept for as long as the user requires and is deemed viable for long-term storage. As files change, previous backup versions are retained within EZ-backup for a limited time (six months). The data entrusted to the EZ-Backup service is also copied to a secure off-campus location in New York City.

In addition, the Roper Center archive is replicated to Amazon Web Services' (AWS) Simple Storage Service (S3) product in both the United States and in Europe (Amazon Web Service S3

https://aws.amazon.com/s3/?sc_channel=PS&sc_campaign=acquisition_US&sc_publisher=google&sc_medium=s3_b&sc_content=s3_e&sc_detail=aws%20s3&sc_category=s3&sc_segment=192085379926&sc_matchtype=e&sc_country=US&sc_kwcid=AL!4422!3!192085379926!e!!g!!aws%20s3&ef_id=V1GITAAABfp-5bqk%3A20170809174358%3As, Accessed 8/5/2019). For replications made to S3, the files do not expire.

Multiple data storage locations, including in the

U.S. and Europe, ensure that the data archive is protected from local disaster. Data is backed up and replicated to these locations three times a day, while the Roper iPoll question-level database is backed up and replicated twice a day.

Under normal circumstances, Roper staff are located on the 6th floor of Rhodes Hall at Cornell University. In Rhodes Hall the offices are keyed access. Under COVID-19, the Center staff will work remotely from home most likely through the fall of 2020, if not longer.

The Roper Center has completed a Written Information Security Plan (WISP) as a Cornell Unit. This process helps Cornell units to close gaps, mitigate risks, and improve its IT operations, and covers the following areas: Confidential data; Human Resource Security; Physical and Environmental Security; Data hygiene; System Security Practices; Reporting Electronic Security Incidents; Asset and System Management; Awareness and training ; Communication and Outreach; Identity and

Access Management; Authentication and Group Management; Login; Directory; Applications; Risk Assessment Process; Technology and Service Life Cycle; Data Governance; Backup and Recovery; Regulatory Compliance/Regulatory Domains and Other Obligations. Roper has completed and conducts yearly review to update a Cornell C-COOP Continuity Plan, which includes identification of essential services, stakeholders, applications, facilities, records and resources, and planning for business continuity and disaster management. Key security personnel include the Systems Administrator and the Technical Lead Software Developer.

Risk analysis tools in use by the Roper Center include Nessus Scans (System Vulnerability Scans) and AppSpider (Security Analysis of Web Applications).

Reviewer Entry

Reviewer 1

Comments:
Accept

Reviewer 2

Comments:
Accept

APPLICANT FEEDBACK

Comments/feedback

These Requirements are not seen as final, and we value your input to improve the CoreTrustSeal certification procedure. Any comments on the quality of the Requirements, their relevance to your organization, or any other contribution, will be considered as part of future iterations.

Response:

Reviewer Entry

Reviewer 1

Comments:

Reviewer 2

Comments: